Digital Identities in Tension

**Innovation and Responsibility Set**

coordinated by
Robert Gianni and Bernard Reber

Volume 5

# Digital Identities in Tension

*Between Autonomy and Control*

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*with the collaboration of*

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Andrew Feenberg
Gabriel Périès

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# Contents

# Foreword

This book is a timely addition to the Innovation and Responsibility set[1], as it is published shortly after the implementation of the European Union General Data Protection Regulation (GDPR)[2]. It can be said that this regulation, which places Europe at the highest level of data protection, illustrates and contributes to the broader notion of "innovation and responsibility", which almost all the books in the two sets mentioned explain in different ways. The book that follows deals very carefully with the problem of identities in the light of certain digital developments, particularly those of massive data processing (Big Data). It therefore goes far beyond the protection of personal data, which until now has been collected and, in particular, exploited without clearly informing the users. Similarly, it shifts our focus from discourses about technologies, as in Armin Grunwald's case[3], to the technologies themselves, even though they are discreet and difficult to grasp for users.

The approach here is also original, since the central chapter, Chapter 2, is by a researcher with a double competence in engineering

1 Which follows up on the books published in the Responsible Research and Innovation set.

2 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). Available at: https://eur-lex.europa.eu/eli/reg/2016/679/oj.

3 Grunwald, A. (2016). *The Hermeneutic Side of Responsible Research and Innovation*. ISTE Ltd, London, and John Wiley & Sons, New York.

sciences and human and social sciences (Armen Khatchatourov). This central part is supplemented by three contributions – by two socio-philosophers (Pierre-Antoine Chardel and Andrew Feenberg) and by a political scientist (Gabriel Périès) – which constitute theoretical reactions to the theses advanced therein. Three of the authors are professor-researchers at the Institut Mines-Télécom Business School and members of the Chair of Values and Policies of Personal Information[4]. They are therefore familiar with the technologies and debates relevant to these issues. Andrew Feenberg is famous in the United States, France and Canada for his analyses of the evolution of technological societies and his ambition to develop a critical theory of technology.

In the context of the growing importance that companies and governments grant to our digital identities, their monitoring or their management, it is important to consider the effects that these changes have on processes of subjectivation, on the becoming subject, and on the free will that we can exercise in digital environments.

In the central part of the book, Chapter 2, Armen Khatchatourov deals with the ambivalence that digital technology brings in this respect: if in some respects it constitutes an opening and an "encapacitation", in others, by redistributing differently the play between constraints and resistances, it leads to greater malleability of subjects. This chapter therefore examines the concrete ways in which new regimes of subjectivity are constituted, examining the question of identity both in its historical record and in the most recent forms of digital technologies (Electronic Identity Management Systems, Big Data and the Internet of Things, "the Quantified Self"). Armen Khatchatourov returns to the notion of the person, at the heart of the protection of data that is precisely qualified as "personal", as well as to the identity as a repetition of the same (*idem*) and authentic transformation of the self (*ipse*), according to Paul Ricœur's[5] formulation. The author does not

4 This research chair involves researchers from three engineering and management graduate schools of Institut Mines-Télécom (IMT), namely Télécom ParisTech, Télécom SudParis and Institut Mines-Télécom Business School. Available at: https://cvpip.wp.imt.fr/.

5 These reflections are an echo of the fields opened by Virgil Cristian Lenoir (2019) in the same set: *Ethically Structured Processes*. ISTE Ltd, London, and John Wiley & Sons, New York.

just show how these perspectives may allow us to understand from afar what is at stake in digital technology. Knowing the technologies in question, he shows almost *in situ*, and in any case in context, the processes according to which this "identification", with all the ambiguity that accompanies it, is constructed.

In addition, Khatchatourov strongly resituates the debate on privacy in theoretical relationship with Altman and Mead's interactionist approaches. The individual and his or her private life are negotiated in social interactions. This private life does not simply involve a personal choice to escape surveillance. He therefore vigorously revisits the terms of the debate on privacy and the injunction to defend it as individual or simply economic values, these values being the theoretical underpinning of the consent-based approach.

Borrowing from Foucault and even more from Deleuze, Armen Khatchatourov shows the ambiguities of the consent paradigm at a time when our society seems to correspond to what the two philosophers saw as control societies. They would undoubtedly be amazed to see how far the means of control have extended today, especially with the complicity, implicit or explicit, of those who claim to be liberal. Beyond a hidden technological power, another novelty is undoubtedly the coexistence of the injunction of data protection and the social imperative of visibility.

Armen Khatchatourov also questions current legislative approaches, such as the GDPR regulation, which are ambiguous, for example because of their desire to guarantee data portability throughout Europe. Certainly, it is practical; it is even said that it will give more control to the user by means of interoperable formats. However, at the same time, the door is opened to the exchange of this same data by many other actors, thereby reducing the real autonomy of individuals.

He then convincingly invites us to move from the concept of autonomy – the counterpart of traditional modes of governance that now seem to be giving way to "algorithmic" governance – to what he calls "modulated autonomy". Indeed, the "overdetermination of the

private domain" (to use the author's expression) – and therefore the scope of the subject's autonomy – depends on legislative or commercial variations and fluctuations, and therefore can lead to the strengthening of surveillance and control over the individual. Once again, there is the risk of the expropriation of individuations, in the strong sense given to the term of individuation by the philosopher of technology Gilbert Simondon.

Pierre-Antoine Chardel's chapter, Chapter 1, places the issue of identity in the context of broader ethical questions. He questions the digital as an experience that makes its effects indistinguishable from a phenomenological point of view, since complex technological environments are beyond the immediate understanding of users. Moreover, digital technology creates contradictory injunctions[6], because what emancipates the users is at the same time what can constrain them. In these new conditions, ethical questions relating to autonomy and free will are posed with strength and necessity.

Pierre-Antoine Chardel connects these questions to discourses on transhumanism, connected objects, what is often carelessly referred to as "artificial intelligence", biometric control or facial recognition. He warns against reducing identity to a sum of objective and partial digital traces, and calls for its permanent reconstruction. If a body can be recognized by its biological characteristics, this is not the case for a subject in constant evolution. Identity includes "gaps", does not retain everything in memory and is constantly being rebuilt; hence the importance of a certain right to opacity. This is all the more necessary as a trend towards that which Armen Khatchatourov calls "memorial exhaustiveness" is made possible by the ease of data collection; even more so if the data were reused for both economic and political purposes. In this chapter, authors who have not been covered much so far in this set are examined: Henri Bergson's principle of change, Gilles Deleuze's definition of ethics and Zygmunt Bauman's description of contemporary society, known as "liquid".

6 We can refer to Jérôme Béranger's book (2016), *Big Data and Ethics: The Medical Datasphere*. ISTE Press, London and Elsevier, Oxford.

Drawing on other resources, such as that of Wiener, Gabriel Périès' chapter (Chapter 3) continues the reflection in a more political and sociological way, opening up a broader spectrum, in order to grasp systemic aspects of the construction of individual identities in the new management of cities called "intelligent" or "interactive" (smart cities). It provides a political perspective on the management of digital identities by public and private authorities, exploring the new forms of normativity that are at stake. It discusses new concepts such as "electronic" citizens or citizenship, which are emerging in the territorial and urban management of digital identities.

In Chapter 4, Andrew Feenberg offers a complementary and different point of view. This chapter re-examines the question of "control societies" as analyzed by Foucault and Deleuze and contrasts them with an examination of the social processes of recent decades and the emancipation that may be at work there. Andrew Feenberg considers, contrary to the predominant view, that the control society is merely a continuation, by new means, of the unidimensionality that the Frankfurt School denounced through Marcuse, whose work he knows particularly well. The problematic questions that Armen Khatchatourov and Pierre-Antoine Chardel ask him during this interview put to the test the resources of critical theory in the context of our new digital environments.

This book completes the Innovation and Responsibility set by going into the depths of the digital infrastructures of information exchange which, because they are difficult to grasp, require knowledge that has not previously been mobilized to ask ethical and epistemological questions. We must be able to decipher our information machines and especially the normative systems that organize them, without falling into blind technophobia.

Between autonomy and control, the title of the book takes up the important themes of responsibility, which appears in several different ways in debates in moral philosophy. Autonomy and freedom can be the conditions for responsibility, as Robert Gianni has defended[7].

7 Gianni, R. (2016). *Responsibility and Freedom: The Ethical Realm of RRI*. ISTE Ltd, London, and John Wiley & Sons, New York.

Mastery of one's actions may be a condition of responsibility for many moral philosophers. However, the problem arises all the more acutely when we are dealing with processes over which we have only very partial mastery. It is then that we must re-discuss, in the new digital conditions, the various conceptions of responsibility, both individual (as capacity to act or virtue) and organizational (as transparency, auditability and accountability). We have a strong feeling that crucial issues for ethics of the future lie in the renewal of these questions.

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# 1

# Identity as an Issue of Constraint and Recognition: a Question of Fundamental Ethics

## 1.1. Introduction

We have a strong feeling that technological innovations that are spreading throughout our individual and collective lives, in our most basic everyday lives, raise ethical questions about who we are and what we want to become. This is the case, for example, with the expansion of connected objects that create significant risks of the dissemination and exploitation of personal data. On another level, if we think about the progress made in the field of biotechnology, we know that humanity can be the subject of increasingly bold interventions. Such possibilities of intervening in biological reality are likely to transform our ideas of the human, amplifying their capacities exponentially, thus renewing the modern dream of self-mastery. In this respect, we recall that, for René Descartes, the desired mastery of nature (of which it was a question of "making oneself master and possessor") had to follow the movement of an ego becoming ever more self-confident. The destiny of modernity was deeply marked by the idea that the mathematization of nature and the coronation of the subject would be mutually reinforcing (Waldenfels 2005, p. 329).

Chapter written by Pierre-Antoine CHARDEL.

*Digital Identities in Tension: Between Autonomy and Control,*
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Resonating with such an ideal, the advent of transhumanism would allow humanity, according to some ideologues, to free itself from its limits by increasing its potentialities, almost to infinity. A major challenge for the representatives of this current – which has attracted considerable scientific, industrial and financial investment – would be, no more and no less, to free humans from changes in their bodies, their organs, aging and even death itself (Besnier 2009; Benasayag 2016). If we seem to be referring in this way to the great modern utopias that have advocated the principles of controlling and controlling the hazards of the human condition and nature, these are now overwhelmed by fantasies – even extrapolations – that call into question the ideal borne by the spirit of the Enlightenment. Because this ideal had as its horizon the harnessing of technology to the service of a project of emancipation and societal realization. Technoscientific advances were indeed supposed to serve political and social progress. In the alliance between scientists and industrialists, freedom of research was supposed to "satisfy a principle of social utility" (Taguieff 2001, p. 92).

However, there is a current tendency to favor technological progress that is devoid of any extrinsic purpose. It tends to act outside any regulatory norm that would be able to intervene to promote the common good or living together[1]. Transhumanism generates an outdated conception of humanity, its identity being itself susceptible to being reduced to a set of digital traces and information. While the clearly ideological dimensions of these extrapolations are beginning to be well identified and analyzed, the fact remains that the development of digital technologies as a whole sometimes gives rise to this kind of fetishism of progress.

## 1.2. Digital ethics in context

In view of the multitude of questions raised by our hypermodern environments, a whole set of social representations, visions of man and discursive logics must be interpreted. This is in relation to the

1 Juliette Faure shows in this respect that we are witnessing a major epistemological rupture between humanist positivism and that of transhumanism (Faure 2018).

moral values that are supposed to guide our actions, on the assumption that not everything that is technologically possible is always humanly or socially desirable.

Such an exercise requires, on the one hand, questioning the societal, political and industrial contexts in which these representations emerge. On the other hand, it requires identifying criteria for evaluating new technologies – along with the ideals that support them – without making any unambiguous reference to what the "authentic" human being or "human nature" should be. This is because the impasse of essentialism or any kind of moral panic must be avoided. It is therefore up to us to ask ourselves what values we intend to preserve at a time when the term "intelligence" is flourishing in many spheres of industrial innovation. Our homes, cars or cities are referred to as "intelligent". A city that is designated as such, for example, ideally makes it possible to have better control over information at the same time as a more fluid and predictive flow of urban traffic. As Fabio La Rocca has pointed out, the image of the hypermodern metropolis is therefore analogous to the world of the Web. Metropolitan territoriality is no longer experienced by creating a separation between physical space and Web space:

> "On the contrary, this vision becomes a single feature, a co-fusion, a constellation of lines of flight that intertwine and erase the barriers, the borders erected between the Real and the so-called Virtual". (La Rocca 2013, p. 271)

The benefits of digital deployment across cities are important from an informational and ecological point of view.

However, it is necessary to make it possible to question these trends in terms of ways of life, as well as their existential meanings, which come into play through these dynamics of innovation which are never without a backlash. New constraints are always likely to emerge. As Mark Hunyadi has said in this regard, we are, for example, accustomed in our daily lives to having to respond to machines

in most areas of life, follow their instructions and acquire the multiple cognitive and practical skills that enable us to interact with them:

> "There is in this development an inextricable combination of systemic factors – economic, technical, industrial, commercial – all of which result from individual initiatives without any agreed plan in advance". (Hunyadi 2014, p. 42)

In this way, we are collectively engaged in ways of life that we do not choose, nor do we comprehend the technical constraints that these entail. These constraints are all the more insidious because they do not say their names and are often even perfectly undetectable.

In addition, we are dealing with modes of technological development that are most often accompanied by discourses of valorization ("techno-discourses") that most often act to extinguish our critical vigilance. We are told about intelligent environments, "open data", the "Cloud", search engines in "natural language", etc., all terms that suggest that we would now have access to absolutely fluid, flexible and open universes, capable of offering us ever more comfort, well-being and security. We are thus confronted with systems of representation and discursive logics that do not encourage the development of critical thinking, that is, thinking that would have the task of questioning the symbolic, social and existential challenges of our technological environments.

Several analyses of the social consequences of modern technology have highlighted how individual freedoms, in the context of hyperindustrial societies, can be reduced to symbolically controlled lifestyles, helping to create a form of habituation, such that we do not experience our progressive loss of freedom as the work of a "hostile" or "foreign" force (Marcuse 2008). By following such an angle of analysis, we can admit that if, for example, the so-called "intelligent" city poses (among other things) important problems in terms of transparency, traceability and respect for privacy, an instrumental rationality tends to prevail in the acceptance of such a model of urban development. The dominant order, once instituted, blurs our perception of technological innovations and their consequences, by

making any criticism inappropriate: "Nothing nowadays discredits someone more quickly than to be suspected of criticizing machines" (Anders 2002, p. 17). Above all, there is a current tendency to equate criticism with reaction. However, by presenting from the outset any such criticism as "reactionary" or "reactive", we limit the scope of analysis of the ways of life entailed by our hypermodern environments.

Another factor restricting the development of a "techno-critique" is the fact that in our daily lives we increasingly deal with devices that would probably seem unacceptable to us in their material forms. Critical analysis of a dematerialized device, such as a biometric technology, is by no means obvious and immediate. The digital age accentuates an experience of undetectability while at the same time producing completely paradoxical dynamics:

> "Digital technology creates contradictory injunctions on all sides, which consequently have specific ethical implications for information and communication technologies". (Béranger 2016, p. 25)

What emancipates us is at the same time what constrains us, especially in complex technological environments that are beyond our immediate understanding. We thus often see ourselves returned to the Promethean shame once described by Günther Anders to emphasize the powerlessness that we often feel in the face of the "*omnipotence*" of machines, which causes us to be subjugated by them, without giving us the means to question them:

> "No expression more clearly expresses what shame is than '*I can do nothing about it*'. For what 'I can do nothing about' is what I cannot do, that is, what escapes my freedom, the dimension of *fatum*, that of things that are 'fatal' in every respect, that of 'powerlessness' in the broadest sense of the word. Shame arises from the contradiction between the claims of freedom and what is 'fatal', from the contradiction between power and lack of power. It is the shame of not being able". (Anders 2002, p. 88)

Even though, to return to this example, the functions of anthropometry and those of biometrics are not the same, the impression of reification of the human being is much more likely to be induced by the sight of an anthropometric identification measure, by consulting archival photos of judicial anthropometry for example. On the contrary, a critical approach to a less visible device (such as a biometric identification technology of which only the interface is perceptible) is not self-evident. We are dealing with a device that is difficult to understand from a phenomenological point of view. In addition, biometrics is also helping to make everyday life more comfortable. At the very least, this is what the *doxa* (common opinion) most often reveals when we talk to users about it. For example, biometrics provides more instantaneous – and supposedly more secure – access to certain features or sectors (e.g. on a company's premises). However, the more comfort becomes a pre-eminent criterion in guiding our technological choices, the more vigilance must be increased as to the effects of such an imperative on the exercise of our reflexive judgment. Indeed, the reflexive judgment tends to diminish as the criterion of comfort is emphasized.

## 1.3. Identification, corporality and recognition issues

In the current context of the development of identification technologies, it is the body that often expresses itself for the subject. The latter is no longer considered only as a speaking being, but is identified in the disclosure of their social and political behavior (Chardel and Périès 2009, p. 37). Remote facial recognition systems make permanent identification possible, which puts us at risk of freezing identity in its very essence. All the devices that allow an ever-tighter profiling of our activities have the characteristic of integrating the act of signifying in a very specific way: they "signify" for us, at a distance, without us having to manifest ourselves through speech, as beings endowed with language.

Between RFID chips and the data collected by connected objects, many industrial developments are currently moving in this direction on a massive scale. We can also easily mention the fascination generated by technological progress, which leaves us overall without

any control. It goes without saying that deciphering our information machines and the normative systems that organize them is particularly difficult to grasp. This is particularly what justifies, among other things, a detour through the history of the devices themselves to contribute to developing a sufficiently adequate and creative critical apparatus, by committing ourselves to questioning the worldviews and conceptions of identity at stake through digital technologies. In this respect, the desire to introduce a single identifier to simplify certain administrative procedures is far from being insignificant from an existential point of view. Armen Khatchatourov will return to this point in Chapter 2.

Ethical questioning of our digital age is generally made difficult by the very fact that these technologies bring us ease in our activities, bring us speed, and bring us immediacy. As we have been able to point out, a new formal landscape, in the hypermodern era, seems to be promised to us, that of the disappearance of technological materiality, where everything would become a vector of the digital environment and where our smallest actions would be digitized (Avenati *et al*. 2016, p. 13). Thus, in the futuristic film *Her* (2014), Spike Jonze imagines that each person is able to develop an intimate and privileged relationship with the digital environment:

> "In the film, everyone enters into a verbal dialogue with a global computer entity that manifests itself in the form of a voice (in this case, in the film, Scarlett Johansson's voice), an intelligence, which is bought as a product and personified according to one's desires, with the feeling of having the other always at hand, as close as possible to oneself. This intelligence, in this scenario, then observes each individual, becomes attentive like a mother, available like a friend, devoted like an assistant, loving like an ideal companion". (Avenati *et al*. 2016)

In this situation described by Spike Jonze, humanity in a digital environment can no longer clearly distinguish the boundaries between our thoughts, the self, the other, the imaginations we produce and the digital operations by which we are stimulated. Humanity seems to have merged with the digital space to which we are subjected without

being fully aware of it, at least in the first part of the film (Avenati *et al*. 2016). From a more global perspective, the uncertainties that thrive at different levels of our social, moral, economic and political lives mean that the devices with which we interact, and which identify us, provide us with a certain sense of recognition. We feel that these devices are integrated into a large system, which is all the more reassuring in times of crisis of the reference points of meaning as we know them (Agamben 2012, p. 79).

Forms of recognition and integration into the social norm are clearly at stake. A simple way to illustrate this is that we cannot do without our smartphones, even though we know, to varying degrees, how they "never shut up". We no longer think about abandoning our personal tools in order to restore some autonomy and protection from the supervisory authorities. The fascination of individuals in "democracy" for technology, our blind trust, the fetishization of our prostheses, the approval of the submission of our very body to the machine realize and embody the "docile body" that Michel Foucault used to describe radical forms of social control (Chardel *et al*. 2016). However, this possible control is the "unspoken" part of our digital societies, which justifies engaging in a process of revealing the structural effects that intervene in the functioning of technologies: there are standards and architectures at work in any technology, which are not without impact on the process of subjectivation.

A major problem with identification technology such as biometrics (to take just one example) is that identity is reduced to something objective. What emerges in the case of a biometric identification device is that it is the constancy of the body that is in play. On an anthropological level, as Antoine Garapon and Michaël Fœssel have clearly shown, the inertia of the body is required as a defense against strategies of dissimulation. However, what is questionable in the generalization of control procedures to all movements "is the temptation to construct *dynamic* parameters (the identity of an acting subject) from *stable* data (that of its objective body) as if the future were always deduced from the past" (Garapon and Fœssel 2006, p. 172). And this, despite the very nature of the human which is to become, to be oneself as another. Because an individual's history does

not stop at their objective and objectified traces: because if a body refers to stable biological characteristics, a subject cannot be reduced to unalterable data, but essentially refers to the fact that one is always likely to change, to advance in time, having the feeling that our history does not stop at our objective traces. Jean-Luc Nancy proposes in this respect to consider identity as an inscription from which leads a trail that can open up the most distant, the most bypassed, tangled and blurred paths, even though it is always traced beginning from a point:

> "A point and a labyrinth: this is the secret of an identity. From one to the other, permanent contact and permanent dehiscence. We are therefore doomed either to lose one or to lose ourselves in the other. Undoubtedly, there is no shortage of landmarks that mark out a continuity, that make it possible to speak of an 'identity' – but it is understood a *priori* that we will never reduce the infinitesimal character of the point or the rigorously figurative character of the trail". (Nancy 2010, p. 43)

Identity can be said to have holes in it; it is constantly being built and deconstructed by the very fact of not keeping everything in memory, thus assuming a right to be forgotten. In this respect, it is possible to identify an ambiguity of the hypermodern era based on the fact that the digitization and development of databases could quite quickly prevent us from forgetting, by forcing us to remember, by forcing us to confess by the traces we leave behind as we carry out our activities. However, from a fundamental ethics point of view, we can formulate the following questions: what kind of memory does our digital identity cover? Basically, from what memory is our identity digitized in all but name?

## 1.4. Digital metamorphosis, subjectivation and liquid societies

The processes of the construction of subjectivity are subject to major changes in the digital age. This is a metamorphosis stemming from the very fact that digital technologies produce new ways of being with oneself and others, new worldviews and new social norms.

What the term *metamorphosis* strongly expresses, particularly in its biological sense, is the idea of a process: metamorphosis is a change in shape that an animal undergoes before reaching an adult stage (it is the story of the larva that becomes a caterpillar, then becomes a chrysalis). That which resonates in the idea of metamorphosis is a process. In regard to our object of reflection, we are talking about a process of subjectivation, that is, the production of a way of life that "cannot be confused with a subject, without depriving it of any interiority and even of any identity. Subjectivity has nothing even to do with the 'person': it is an individuation […]. This is a specific dimension without which we could neither go beyond knowledge nor resist power" (Deleuze 1990a, p. 135). With online social networks, we tend to develop our subjectivity (which refers to the character of what is personal, what is unique to a person), not only according to stable criteria, established once and for all, but also according to the possibilities offered by digitization that multiply our ways of being in the world (Khatchatourov and Chardel 2016, pp. 3–10). If we think, for example, of the various identities that we are likely to maintain through online social networks, we do see this trend at work:

> "From the personal Web pages mobilized during the 1990s up to the most recent blogs and social networking sites, the development of the Internet has been accompanied by the emergence of devices more specifically dedicated to the production of the self and whose ordinary uses have provided fertile ground for the study of what is commonly called digital identity". (Denouël 2011, p. 75)

We are thus living in an era of fragmented and multiple identities, a time of multitudes.

From a sociological point of view, we note that digitization means that we are increasingly exposed simultaneously to a multitude of communities of ideas and principles: "A coherent, unified and stable identity would be a burden, a constraint, a restriction on freedom of choice" (Bauman 2010, p. 75). It is this fact that motivates Zygmunt Bauman to interpret our modernity as "liquid", as opposed to previous modes of social organization that were more defined by permanent

anchors. Nowadays, an entire economy of affect is organized around the valuation of what does not last, individuals being constantly encouraged to prefer change to constancy, evanescence to sustainability: "In the liquid state, nothing has a fixed form, everything can change" (Bauman 2010, p. 78). In describing this trend, Zygmunt Bauman intends to encourage us to question the evolution of a world where our positions, decisions and responsibilities are perpetually susceptible to devaluation, in favor of change and innovation. These trends would be accentuated over time by undermining the frameworks of modernity known as "solid". This was because modernity referred – for better or for worse – to a world of principles and firmly anchored objects:

> "All identities, as well as differences, contradictions and antagonisms, were *glebae adscripti*. They all displayed, either as a sign of honour or as a shameful mark, fixed and registered addresses, themselves inventions of the emerging modern idea of administration". (Bauman 2005, p. 311)

However, our time is dominated by a valorization of the passage from one place to another, from one mode of being or appearing (of presenting oneself) to another.

## 1.5. Narrative identities and self-expressions

For many researchers, the devices of production of the self, of content and of publics have fully contributed to the "expressivist movement of the Web", by promoting the emergence of a plural and fragmented self (Allard and Vandenberghe 2003).

We also see the development of what Serge Tisseron calls the "desire for extimity"[2], defining it as the process by which each person

2 As Serge Tisseron explains: "While Jacques Lacan gave a topical definition of this word, using it to mean that nothing is private or public, and that everything depends on the point of view we adopt, I proposed to consider it as a process that enters a dynamic." (Tisseron 2001).

is encouraged to present to others certain facets of themselves, hitherto kept secret, in order to make themselves "validated" by those around them, and to re-appropriate these facets in a way that strengthens their self-esteem. Thus, if the right to privacy is essential to lay the foundations of self-esteem, it is constantly nourished by the desire for extimity:

> "The desire for extimity has always existed, but the Internet has considerably broadened its scope and challenges. It has opened up spaces for expression and exchange on subjects previously reserved for conversations in quiet corners, or even totally taboo. On the Internet, subjects that circulated very poorly in the traditional public space find spaces of expression in which it is possible to share and discuss". (Weaver 2017)

What emerges from the construction of online public spheres is an openness to a more horizontal way of being, which tends to thwart territorial and symbolic boundaries. The intersubjective links that develop there even create modes of socialization for populations that may have been marginalized before the rise of digital technology. This is the case, for example, for people with eating disorders (EDs)[3] who find in social networks a way to create bonds of solidarity and thus maintain a bond with themselves. Networks have something in common with the culture of the self, insofar as they act as modes of subjectivation in which virtuality participates in a certain construction of the self. The radicality that characterizes the practices of the communities studied should not prevent us from discerning the fact that with technological mediations, we are dealing with elements of the virtual that intertwine in real life, and thus recompose it. Beyond the "pro-ana" and "pro-mia" communities, we realize that the Internet does not impoverish or deteriorate social relations, but it does, as Antonio Casilli points out, offer them new modalities, and it also makes them more complex. In general, people who are granted access

3 We were able to clearly identify this as part of the ANR Anamia research project, available at: http://www.anamia.fr/.

privileges to a social network, such as MySpace, are also people from whom content is solicited:

> "Comments, suggestions, updates. In establishing this relationship, the focus is on an element that may seem eminently utilitarian (appropriating other people's input). But behind this ignoble attitude lies in reality a common work of adding, sorting and classifying the information which is shared. The aspect of social cooperation towards a common task, which is not always present in offline friendship, is essential here". (Casilli 2011, p. 273)

The strength of online social networks is in accentuating horizontal dynamics in the construction of identities. For example, in the development of children and adolescents, it is no longer only family values that immediately reveal themselves as structuring, nor even the relatively more direct and immediate influence of educators. The expansion of digital culture makes it possible to assume phenomena of decentralization in the constitution of subjectivities; it tends in this sense to question established orders. With social networks, as Dominique Pasquier noted, "peer influence is increasing, while parental transmission and influence on the cultural tastes of children is declining" (Pasquier 2011, 2013). The number of young generations reached by digital social networks suggests that the expansion of these devices is a social phenomenon that is almost "total".

However, if dynamics of horizontality are undeniably accentuated, by allowing subjectivities to be built through affinity communities, by engaging regimes of sensitivity as well as the pooling of affects, the logics of data capture and centralization operate on a massive scale.

Such an operation is all the easier as we become increasingly accustomed to delivering parts of ourselves at all moments of our daily lives, with the social approval that such exposure often entails. We know, for example, that Google's data servers store user search histories that can make it very easy to identify the people who produced them. Therefore, as Zygmunt Bauman expressed it when talking about online social networks: "We voluntarily do many things

that totalitarian powers sought to impose by force and violence or fear". (Bauman 2013a, p. 76).

Beyond this observation, it can be said that while a culture of plural identity is now well analyzed sociologically, what is less so is the practice of digital identities in terms of the questions they raise for us from an ethical and socio-philosophical point of view: what demand for meaning can be seen in these new forms of expression of self? What values are at stake in these experiences? Finally, what are the effects of these practices on the processes of subjectivation?

## 1.6. Identity as an ethical issue

Digital practices are social practices that are often based on very strong demands for autonomy, freedom of expression and recognition. Existential values are in play through these practices, which are far from being systematically reduced to modes of self-disclosure that would be totally naive and unconsidered. As Dominique Cardon has shown, digital identity is less about unveiling than about projecting oneself. Users produce their visibility through a set of masks and filters, taking account of the diversity of contexts of exposure:

> "Thus, very different elements are revealed on a Meetic profile designed to seduce, on a student profile on Facebook, in Pinterest's patchwork of taste or through the imaginative iconography of Second Life's avatars". (Cardon 2015a, p. 115)

Some users also multiply anonymization strategies to create distance between their real person and their digital identity, as far as removing all reference to "real life" (Cardon 2015a). Nevertheless, these distances remain variable according to the level of sensitivity to the subjective sphere that individuals have been led to cultivate during their lives. Sensitivity to the personal nature of the data, and to what they may say about us, is far from homogeneous. A variety of practices are revealed at this level, involving a multitude of factors (the digital culture of users, their age, their individual history, etc.). That being said, a fairly constant element emerges: the opportunities

for informed development in complex technological environments are still very limited overall. In this respect, the philosopher Paul Mathias insists on a strong tension that thrives in the hypermodern era: in our uses of the Internet, for example, our practices are above all intellectual practices of reading and writing, which mobilize complex codes. However, the paradox of this "literacy" is that we are mostly "ignorant of all its morphology, syntax, grammar and rhetoric" (Mathias 2011, p. 82). The modes of individuation entailed by digital technologies are therefore still often blocked off, subject to levels of constraint that users are not inclined to decrypt. A central theme here is therefore the exercise of our free will. How can we preserve it, not only in environments where we are quite poor, but also despite the multiplication of identification and monitoring devices in our day-to-day realities? How can we develop a more lucid and demanding relationship with technological innovations, so that they can really be emancipating?

The dissemination of technological objects in our lives makes these questions as important as they are delicate insofar as we realize, from a sociological point of view, that in the era of the multitude, there is a strong demand for normativity on the part of individuals. In conjunction with the need for horizontality reflected in online social practices, there is a strong need to be identified and recognized in most moments of social life. In the very fact of identification, there is a need for recognition. Therefore, if forms of "voluntary servitude" (de La Boétie 1995, written in 1574) are involved in the acceptance of technologies that make it possible to create forms of global surveillance, these do not necessarily refer to the category of submission. This evolution of the forms of surveillance and its acceptance therefore deserves to be analyzed again with additional effort. However, for the time being, it is appropriate to formulate a set of questions in context to reflect the various ethical issues entailed by digital identity.

Why ethical issues and not moral? As the history of ideas reminds us, just as morality is prescriptive (it tells us what is considered good or bad to do according to values that are supposed to be shared by the greatest number of people), so ethics is reflective in the sense that it

invites us to reflect on the meaning of our actions according to the values we value:

> "Morality is presented as a set of constraining rules of a special kind, which consists in judging actions and intentions by relating them to transcendent values (it is good, it is bad…); ethics is a set of optional rules that evaluate what we do, what we say, according to the way of life that it implies". (Deleuze 1990a, p. 135)

In this experience, among the values that we can easily invoke in the context of digital innovation, trust is, in many respects, essential at a time when the generalization of a whole economy of personal information is familiarizing us with the idea that our dematerialized exchanges can be captured and even exploited at any time. The industrial logic that is spreading in favor of the exploitation of personal data is nowadays of considerable importance, even though new forms of regulation on a European scale are gradually emerging, in particular with the GDPR[4]. The dominant logics still largely refer to an instrumental rationality based on the quest to define the most effective means to achieve a given end. The objective in the case of data analysis is not only to predict behavior, but also to anticipate consumer desires.

If we set ourselves the task of historically inscribing ourselves in the course of the development of the digital age, it is certain that we are more towards the beginning of a process; and we are now even closer to a state of nature than a state of culture. By "state of culture" we mean a stage that makes possible a certain refinement in intersubjective relationships, the affirmation of certain values in the construction of oneself and in our relationship with others, as well as the demand for responsible action. But what about our ability to act in the digital age, that is, our ability to act in an *informed manner* with the systems and those who use them? We ask this question with reference to the work of the American philosopher Andrew Feenberg, who develops the idea that users should in the future be better able to interact with technological systems, thus developing their ability to

4 Available at: https://www.cnil.fr/fr/comprendre-le-reglement-europeen.

intervene in the process. This will require every effort from a philosophical, educational and political point of view in order to promote more emancipatory, contributory and democratic technological practices (Feenberg 2014). However, the challenge remains in an era where the majority of citizens and users do not have the tools to decipher their high-tech environments (smartphones, connected objects, RFID chips, etc.). According to Andrew Feenberg, some of the democratic interventions we can see in the world of technologies and the creative uses of the Internet would be a first step towards a re-appropriation of sensitive rationality in our technological environments:

> "In the world of technology, these examples of action focus on the *design of* artifacts and systems. Human beings are no longer under the passive domination of the technical mediations that govern them: now they interact with them". (Feenberg 2012, p. 64)

While struggles for the environment have brought about technological changes that reflect the emergence of respect for nature, changes observed in the fields of communication technologies reflect the shared ambition of many people to take a more active role in their lives under the banner of technical mediation:

> "The effect of these interventions goes beyond simple practical improvements: we see the creation of a technological universe, objectifying human concerns. This is not a reduction of meaning to technology, but a transformation of technology which then reflects what is considered important and how we live our lives". (Feenberg 2012, p. 64)

But despite these arguments, which may lead us to consider the emergence of more effective modes of appropriation in the coming years, the observation we can make today still reveals a strong inability to act in full knowledge of the facts. The exercise of free will in the digital environment remains particularly weak.

While the question of the complexity of systems is of course relevant here, a certain state of social apathy is also not independent of political contexts that aim to establish regimes of exceptionality. Such regimes encourage us to integrate the idea that securing our lives requires enhanced surveillance procedures:

> "The pressure of security is pushing citizens to want to be protected from terrorists and, to this end, to prioritize identification over the protection of personal data. Since terrorists often hide under deceptive banal appearances, it is essential to use detection methods that encroach on privacy in an attempt to identify them". (Arnaud 2015, p. 155)

The norm of security thus tends to prevail in the structuring of our political spaces, while at the same time helping to lessen the role of other principles that should always be able to intervene in the construction of genuinely democratic spheres, including respect for privacy and freedom of expression.

## 1.7. Traceability and fetishism of form

Another problematic aspect of how we envisage ourselves as subjects is that logics of continuous data analysis suggest serious confusion between the information we may have left behind as we navigate the Web (or our online transactions) and what we are *ontologically*, that is, by the constant invention of ourselves. Because it is change that defines us. As Henri Bergson forcefully pointed out, not only does "the body change form at any instant", but the same goes for the spirit: "That which is real is the continuous change of form: form is only a snapshot taken of a transition" (Bergson 2013, p. 302). However, if we take account of such instability defining the human being, to what corresponds the will to capture personal data and predict the future based on present and past actions? Doesn't it simply reflect an ideology of capture as well as a fetishism of form?

Several challenges are emerging around the reconfiguration of the horizons of meaning in which our contemporary societies are embedded, especially at a time when we feel collectively caught up in the whirlwind of progress that *necessarily* seems "assimilated to realisations of the best" (Balandier 2001, p. 59). However, the more we tend to experience novelty frantically and naively, the more it seems imperative to find a rhythm that is faithful to the requirements of a serene and creative critical approach. A major task for present and future generations is to evaluate as carefully as possible the forms of heteronomy or social acceptance regimes that technological mediations still generate on a massive scale. This is in the knowledge that there is never such a thing as technology in itself, but always different contexts that invite us to clarify our view of the ethical problems that technologies pose to us, with their share of paradoxes and tensions. If an understanding of the new digital geographies therefore appears necessary for the expression of an "enlightened" citizenship, what new modes of representation can be implemented to contribute to it? If there are tools and technical means that make it possible to interact with the vast quantities of digital traces collected daily by states and economic actors, what perception and control do we have of the new rules of the game that are deployed? What about our privacy, our freedom as citizens, our access to information?

Even though many ethics committees are being set up nowadays, they are generally not often attended by researchers with a real background in moral philosophy or the ethics of technology, at a time when technologies have never been so widespread in most moments of our individual and collective existence. They are involved in our ways of being in the world, in our ways of perceiving, seeing, feeling it, and in our awareness of things and beings. At the same time, we have the intuition that the technological world in which we live is a world in constant redefinition, which must commit us to constantly renewing our questions about digital technologies as well as the interactions we have with them, because the best and the worst can happen to us. It is therefore up to us to ask ourselves now what kind of society we want for tomorrow, by developing specific attention to the evolution of our ways of life and the meaning we intend to give to living together. To this end, not only should it be possible to mobilize

knowledge in fundamental ethics much more systematically than in the spheres of technoscientific innovation, but it should also be possible to re-examine the very notion of progress:

> "The fictitious necessity of Progress could then be replaced by the will to progress, more precisely the modest will to achieve such or such progress in a defined field, implying the free evaluation of opinions and the free choice of possibilities". (Taguieff 2004, p. 323)

The very notion of progress would thus lose the unity and uniqueness that it still too often entails in dogma, so as to attain the pluralism that should constantly come to nourish it: "We must think in pluralist terms about the need for progress" (Taguieff 2004). From this perspective, making the voice heard of that which cannot be reduced to instrumental rationality is a major ethical challenge for the future of subjectivities.

Empowering individuals to think of themselves as autonomous and creative subjects is a way of reminding them that the experience of action is based on a certain ability to assume lines of flight, as well as normative and existential changes in direction. There is no possible commitment without decentralization, nor without the possibility of exploring modes of action. However, the increasingly systematic use of identity profiling responds to a strategic shift in the management of uncertainty (Rouvroy and Berns 2010). The aim is to define risk profiles (economic, financial, etc.) based on a predicted possibility and not a real one. The result is not only a new conception of power (based on prediction), but also a violation of the very conditions of any ethical commitment. Because the very possibility of ethics lies in an ability to face a certain impossibility to rely on pre-established frameworks or on stable data. The moment of ethical decision, as Jacques Derrida has shown, can never be resolved solely through constituted knowledge. It is at the moment of the *I don't know what the right rule is* that the ethical question is most acutely raised (Derrida and Nielsberg 2004)[5]. And the fact of assuming a case of

5 I develop these points in the book: *De l'écrit aux écrans. Pour une sociologie herméneutique du temps présent*, CNRS Éditions, forthcoming.

conscience always supposes, more or less, the possibility of opening a line of flight, going beyond any formal framework. The moral subject is in no way reducible to a series of information that would be deductible from its digital traces; the subject must above all be able to assume some measure of inventiveness in its relationship with itself and to others. This is an important issue for reflection on the construction of identities in the digital age, as well as a major societal challenge. Thus, that which technological devices make possible today, namely the identification of stable data, should not make us neglect the heterogeneous elements that contribute to defining a person's (always plural) identity. It is such a conception of identity that we must certainly continue to cultivate, by constantly questioning what is at stake in the technological architectures of identification, through the many ambiguities they entail as well as the ethical and ontological risks to which they imperceptibly expose us.

# 2

# Digital Regimes of Identity Management: from the Exercise of Privacy to Modulation of the Self

## 2.1. Introduction

The issue of digital identities is one of the most important and sensitive issues in the current landscape of major social changes related to digital technologies. It is in play at the intersection of two components.

On the one hand, from the very beginning of the Internet, the question of identifying the actors involved in electronic communications has been raised. Indeed, due to the technological architecture of the Internet, it is not always easy to know the civil identity of the person who sends a message or consults a website. This was perceived both as a problem, particularly for the public authorities, and as a formidable opportunity and a guarantee of freedom of expression in the debates that can take place in this new public space that is the Web.

On the other hand, it appears that the use of these technologies has an impact on the way in which individuals relate to themselves and others. Digitalization reconfigures and multiplies our ways of being,

Chapter written by Armen KHATCHATOUROV.

*Digital Identities in Tension: Between Autonomy and Control,*
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whether through the multiple identities we can have on online social networks or through transformations of relationships at work or with the state.

"Digital identity" can therefore have two complementary meanings, which precisely constitute the crux of the problematic of this domain: identification of the user and their actions in the digital environment *and* the effects of digital technology on the construction of identity understood as a relationship to oneself, to others and to the public space.

However, the generalization of means of identification, whether invisible to the individual, as in the case of surveillance, or more or less controllable, as in the case of a national electronic identity card, raises questions of the preservation of individual and public freedoms and their possible restrictions. This applies, for example, to the very possibility of assuming the role of a whistleblower. Such a strong political gesture presupposes enabling an ethics of concealment and assuming a form of opacity, so that individuals are not immediately caught up in networks of identification.

More generally, will citizens, as subjects of law, and insofar as they are able to act upon the construction of their identities, have an interest in massively accepting technical and political measures that would unify their various identities? What will be the effects of these logics of identification and of infringement of contextual integrity? What areas of freedom will still be guaranteed to citizens?

These questions arose in the 1970s, with the beginnings of computer technology, and gave rise to different forms of seeking a balance between the protection of personal data and privacy, necessary to preserve a "private" space in which the individual can form and flourish, and the public interest that limits this protection in specific cases. One way to express this search for balance is to explicitly thematize the contexts in which the individual develops (Nissenbaum 2011) and to ensure their relative separation in order to guarantee individual and public freedoms.

Today, however, the logics of data capture and the corresponding technical means are such that they systematically challenge separation between contexts, making it increasingly difficult to limit generalized surveillance, in which states and the private sector often act as accomplices, and the effects of which call into question individual autonomy and capacity to act.

To counter this tendency towards subjectivation as the process of sole identification, it is first necessary to precisely describe and defend the necessary conditions that maintain the irreducibility of the individual to their own traces. Indeed, to reduce subjectivity to digital identity is to entail the disappearance of the concrete being, irreducible to typology, to liquidate the tragic subject of politics, friendship or psychoanalysis[1], the subject that is constructed in a narrative, in favor of the unified subject of an economic agent. Subsequently, defending the balance that preserves the ability to act individually, in particular through the preservation of separation between contexts (state, professional, private, intimate or medical), is a key element on which the autonomy of the person depends. The first part of this chapter fully endorses this theoretical position and builds support for it in sections 2.2–2.4.

However, this work is also based on another observation. At the time of the generalization of the Internet in the mid-1990s, a whole series of critical questions emerged around identity and privacy. When we read today, for example, the works on surveillance (Agre 1994), "digital persona" and multiple identities (Clarke 1994), the social value of privacy (Regan 1995) or the inclusion of the digital revolution in the logic of capitalism (Barbrook and Cameron 1996), we cannot help but have a strong impression that all the elements of the debate, as well as the main lines of critical reflection, are already there.

Of course, this is not to say in any way that the public debate has not progressed during last 20 years, particularly because it has had to deal with new events. This impression is a strong indication for us – in any case, that was our starting point – that some theoretical

1 This expression is freely adapted from Gori (2009, 2011a).

elements related to this changing landscape did not have the place they should have had, and that they should therefore be reintroduced into debates on the evolution and transformations of the digital society.

It goes without saying that this work does not claim to resolve all these questions, but it proposes to highlight the impasses of certain types of questioning, while incorporating this reflection into the contemporary landscape using recent examples. This work will also propose research hypotheses to try to identify and thematize these underused theoretical elements. To characterize them inevitably too quickly in this introduction, these elements correspond to taking account of the specific operating *regime* of our society that Gilles Deleuze (Deleuze 1990b) called "societies of control" and of the specific *regime* of the constitution of subjectivity that corresponds to it. These theoretical elements have not been fully exploited to examine the changes that occur in subjectivation in relation to digital technologies, and the second part of this chapter (sections 2.5 and 2.6) thus insists, in dialogue with the first part, on contemporary *ruptures*.

Indeed, if we conduct the debate on identity, privacy and surveillance in the conceptual register of individual autonomy and of balance between the protection of private life and the public interest, does this not mean still moving in a conceptual space whose very terms remain dictated by a particular *episteme*, which has perhaps today elapsed?

The main hypothesis in the second half of this chapter is that this approach does not solve all the ethical and political questions that arise today with regard to digital identities and their surveillance. For example, as we will try to show, reflections on the social value of privacy (Regan 1995; Solove 2008; Nissenbaum 2011), important as they are for the recognition of the need to go beyond the simple *opposition* between privacy and the public interest, underestimates the conceptual inscription of privacy in this new social regime where the injunction for data protection coexists with the social imperative of visibility.

Another indication of the need to reformulate the question of identity and capacity to act concerns the issue of users' control of their data. The current theoretical tendency is to argue in favor of more control by the user, seeing it as a guarantee giving the individual the initiative to take action and thus to support their autonomy. This trend is expressed both at the technical level, through *privacy by design*, and at the legislative level, through the declared orientation of the General Data Protection Regulation (GDPR 2016), which is supposed to regulate the use of personal data at the European level, towards the principle of informational self-determination. Indeed, and we also argue in this sense, individual initiative is a necessary condition for subjectivity to have the "room for play" necessary for its constitution, and for it not to be purely and simply alienated by logics of surveillance.

However, it is becoming increasingly clear that the desire or capacity for control is not the only criterion to be accounted for. For example, Turow *et al*. (2015) demonstrate that the main reason why individuals give up control is not conscious calculation of commercial benefits in return for their data (35%), but *resignation*, that is, the simultaneous affirmation of wanting to control the data and accepting that they do not have the power to do so (57% of the population). In a slightly different context, individuals are increasingly internalizing the desire – which is also a sign of resignation for us – to provide their children with GPS trackers (60%) (The Local 2015) or to make the DNA of newborns available to law enforcement (43%) (The Local 2014).

We can then legitimately wonder whether granting control over data, with the corresponding technical and legislative means, would be enough to restore the capacity for individual action and whether the reasons for this resignation are not to be sought in the very way in which identity and subjectivity are defined in contemporary society.

We will try to show how the ambiguities of what we call "the consent and control paradigm", fundamentally linked to the particular regime of our society as described and analyzed by Michel Foucault and Gilles Deleuze, contribute to this resignation.

Thus, sections 2.5 and 2.6 will be devoted to supporting the following hypothesis: in order to overcome the double impasse, that of the imbalance between the public interest and privacy and that of the overestimation of the role of the individual in controlling their own data, we must re-examine anew the very way in which subjectivity is constituted in our digital societies.

As such, this book contributes to thinking about digital metamorphosis (Jutand 2013), in the sense of a transformative process that has a certain history and a future of which we are the actors.

## 2.2. From identity to digital identity: historical and conceptual elements

### 2.2.1. *Historical premises*

#### 2.2.1.1. *Birth of the concept of personal identity*

Before venturing into the field of digital identities, it seems appropriate to set up a historical horizon of the theme of identity, which constitutes one of the cornerstones of modern philosophy. We believe that it is absolutely necessary to recall this historical framework in order to measure the extent of the transformation that digital technologies seem to be inducing today. As such, John Locke's (1632–1704) work embodies for us an interesting starting point for the issue of identity, because it highlights the essential conjunction between the notion of identity on the one hand and those of autonomy and responsibility on the other.

In *An Essay Concerning Human Understanding* (Locke 1689), Locke distinguishes three ways of approaching the question of identity. First, substantial identity is that of a body as a single and unique material thing, in a given time and space[2]. Second, the identity of the living organism is that which reflects the temporal identity of the organism that is however subject to continuous transformation. In this sense, the nature of the identity of the living being is the same for

2 It is interesting to note that this substantial identity is also called, in the language of classical philosophy, *numerical identity*.

a plant (from acorn to oak) as for a human being (from embryo to baby and adult). It is this identity that defines us as human beings. However, it is not enough when we want to account for personal identity: the question here is what makes me who I am: what makes a certain coherence of the person.

Locke's answer is to base this personal identity not in a definition "from outside", as is the case for identity of substance and identity of organism, but in self-awareness. It is because I have a certain relationship with myself, because I am able to grasp myself in the temporal extension, that we can talk about personal identity. Continuity of the person over time is therefore based on self-consciousness.

This position has a number of consequences. Personal identity is only possible if I am able to be the owner of myself, to exercise this appropriation of my memory of yesterday by actualizing it, by making it mine today. There is therefore no personal identity without this capacity – without this capacity in action, exercised at every moment – to be at the origin of this appropriation.

Moreover, it is easy to understand that from this fundamental capacity flows the ability to answer for oneself and for one's actions. In a sense, Locke's personal identity is the very subject of law, the very locus that is able to recognize today that it is at the origin of an event of yesterday. Human justice deals with personal identity, which it considers must answer (or at least be able to answer) for its acts; those who are not in control of themselves (the child and the madman) are subjects of other procedures.

We find here all the characteristics of the modern subject, "stable" and "solid", namely the conjunction between a mastered relationship between self and self *and* the idea of autonomy of the person, even the idea of responsibility that we see here is the corollary of that of autonomy.

However, the temporality mobilized by Locke, far from simply guaranteeing the uniqueness of personal identity, also introduces a "breach" that we will now highlight.

In his reasoning, Locke relies on a series of examples that could be described as *puzzling cases*. Can two human beings, in the sense that we have defined above, correspond to the same person? Can two persons ("day-time man" and "night-time man") correspond to the same human being? The very fact of a certain temporal extent of the self makes the equivalence between human being and person never definitively established, as if it was continuously dependent on the power of consciousness to enact the repeated self-identification.

More fundamentally, this accounting for self by self that underlies personal identity reflects a non-substantial approach to identity, as established by Locke. Under these conditions, the order of substance (that of the material body or living organism) cannot be, so to speak automatically, in one-to-one correspondence with personal identity. The very distinction between human being and person opens a breach in the apparent tranquility of the relationship between oneself and oneself. This gap leads to the question whether the equation *human* = *person* should not rather be written *human* ↔ *several persons* (1 ↔ *n*), or whether personal identity is not of the order of a reconstruction of memory and a work of synthesis that is still in progress, unfinished.

This ambiguity of the subject will be found at work throughout these pages: the figure of the modern subject, "solid" and master of him- or herself, will put into question more and more as we move closer to the challenges we face today with digital technologies.

#### 2.2.1.2. *Identity as a narrative of the self*

One way of approaching the problematic of identity from the point of view of contemporary philosophy is to propose a distinction between *idem* and *ipse* identity, following Paul Ricœur's hermeneutical reflections (Ricœur 1990). In the latter's view, the *idem* identity corresponds to a view on the individual from the outside, which treats the individual as a sum of stable characteristics. The *ipse*

identity, on the other hand, corresponds to the individual as he or she relates to him- or herself.

To fully understand this distinction, it is necessary to go back to Edmund Husserl, a German philosopher from the beginning of the 20th Century, who introduced a distinction between the body-as-thing and the lived body. The body is a thing of the world, an object of science or medicine, which can be described by an external viewer as a set of objective characteristics. The lived body is the body as it is essentially mine, as I experience it from the inside. Unlike the body-as-thing, the lived body is what opens up a horizon of meaning to individual existence. Following Edmund Husserl, Martin Heidegger defines this existence as essentially a project, open to a future, and therefore not reducible to a stable entity. The "identity" is then essentially a project.

In the context of the identity question, the distinction between *idem* and *ipse* is therefore to be understood as two points of view on the individual. The former reduces the individual to a set of attributes and inserts him or her into society in the same way as others, that is, equally, as a subject of the state, for example. The second gives the individual an irreducible dimension inscribed in a horizon of meaning that is his or her own. This horizon of meaning, as thematized in this philosophical current, is to be understood as what is involved from the very beginning in social interactions with others, and even as taking its roots from these interactions.

It can be seen, from now on, that this way of describing identity-related issues seems fruitful when we look at the issue of digital identities. Indeed, in terms of digital identity, two attitudes can be adopted. On the one hand, in the *idem* mode, identity is a set of stable attributes, such as name, sex and address, used in electronic exchanges or transactions. The typical example here is the state-issued identity. This is reflected in the national electronic identity card, for example. On the other hand, in the *ipse* mode, identity is an active projection of the individual towards others and society, at the initiative of the individual. It should then be stressed that the aspects of "projection"

and "relationship with self" are closely linked: it is because the individual is able to project themselves in their relationship with others and society that they are also able to have a relationship with themselves. In the digital field, the typical example would be using a social network where the individual shows, on their own initiative, elements of their identity, including their posts, photos or social relations.

While this use has often been sociologically described as the production of a mask, a "representation" in the pejorative sense of the term, sociology based on the work of Erving Goffman (Goffman 1959) tells us that it is rather a construction of identity, a construction where personal identity is the product of socialization and where identity is never an entity that pre-exists its relationships. From this point of view, *ipse* identity can be understood as the dynamic product, never completely stabilized, of a process of negotiating its own borders.

Identity would then be a narrative of oneself, a narrative that draws both from the past (I was born in such a place, my parents gave me this name) and from the future opened by a horizon of meaning (I am the one who wants to go there); a narrative that draws both from my own "interiority" and from my relationships with others (I am the one who wants to go there with such and such another person).

Contrary to Locke, this is no longer an account, but a narrative, a "fiction" always under construction. It is in this sense that Ricœur thus calls for a hermeneutics of the self, this movement by which identity interprets itself by interpreting the world in which it lives, this being the very movement of interpretation in which the self is constructed[3].

Digital technologies, as we will show below, change the conditions under which this self-narrative takes shape. However, before coming to the digital in section 2.3, we must take stock, in section 2.2.3, of the tensions and paradoxes of identity in contemporary society, some of which seem to us to be at work before the generalization of the use of digital technologies. Before proceeding so, we will first and foremost

3 On this hermeneutics of action, we will consult Arrien and Chardel (2009).

discuss current trends in identification and their historical roots in section 2.2.2 below.

## 2.2.2. *About identification*

### 2.2.2.1. *The* idem *of identification*

First of all, let us return to the meaning of the act of identification in its historical dimension. To understand what is at stake in technologies of identification, it is not inappropriate to go back to Alphonse Bertillon's (1853–1914) invention of judicial anthropometry. This method is based on the measurement of the physical characteristics of the human body, such as the size, length and width of the head, the length of the ear and the length of the fingers. This information is recorded in the individual's anthropometric record. These inventions are contemporaneous in Europe with a wave of migration linked to industrial changes between the 1860s and the 1930s. The first to be required to present their anthropometric record are therefore nomads, and as pointed out by Chardel and Périès (2009), the discourse of "invasion" is not unrelated to the generalization of these identification technologies. The nomad is indeed perceived as a risk factor, and the otherness of the nomad "is a barrier to the community of citizens".

With the increase in population flows and the gradual abolition of borders between developed countries, which now further complicates the management of these flows, suspicion is spreading not only to foreigners, but also to all citizens. This movement, and the accompanying security discourse, intensified from the end of the 20th Century onwards, reaching its peak with the widespread threat of a terrorist attack, which blurs any distinction between internal and external threats, whether real or imagined.

Under these conditions, the state is obliged to manage risk through identification at a distance, whether upstream from the border, by regulating the issuance of visas, or within its own territory. Only

"trustworthy" biometrics are then perceived as capable of meeting this requirement, since they are anchored in the stability of the body.

The stability of the body is then treated in the same way as that of any physical object and thus reflects the major industrial challenge of product traceability: "In both cases it involves identifying individuals, to store in the memory the degree of the dangerousness of the observed movements" (Garapon and Fœssel 2006). It is identity as *idem* that is at stake here: it describes the individual, and is a way of remotely controlling their behavior.

Indeed, the issue of control at a distance is crucial in these matters. This is a point that historian Gérard Noiriel made very clear:

> "The extension of the 'chains of interdependence' (an expression coined by the sociologist Norbert Elias) that bind people together on ever larger scales has had the effect of strengthening forms of *remote* identification (mediated by writing and paper), to the detriment of traditional forms based on face-to-face and inter-personal knowledge" (Noiriel 2006).

Unlike the anthropometry of the past, biometrics and electronic identification therefore respond, supported by the accompanying discourse, to this requirement of monitoring and controlling the movements of individuals at a distance, by tracking them.

The discourse that accompanies, with its share of "semantic perversions", the generalization of these technologies has an essential function in the their acceptance by citizens. Indeed, we are dealing with a whole order of discourse, based on the *state of exception* which tends to justify a profoundly problematic tendency, under the guise of a situation of emergency and terrorist threat[4]. The effects of these discourses go far beyond the state of exception as such and establish in a lasting way the very idea of having to accept changes to, or even

4 On the state of exception and its effects at the level of society, including identification policies, we will consult Harvey and Volat (2006).

the pure and simple suspension of, ordinary law and individual freedoms.

It is therefore a whole symbolic order that is expressed in these discourses, and this symbolic order influences not only the local acceptance of this or that technology, but also the way in which we relate to ourselves and the horizon of meaning that opens up to us, in short our identity as *ipse*. The trend towards the unification of digital identity, the generalization of biometric technologies and the injunction of absolute transparency[5] would go against the existential dynamics in which a need for multiplicity is crucial for the production of subjectivities. At the very least, this is the hypothesis that we will support throughout these pages, and in particular in section 2.2.3, which looks more closely at this need for multiplicity and "liquidity".

#### 2.2.2.2. *Articulation between identities and the entity in the digital context*

Before following this course, we will proceed, by way of illustration, to the transposition between *idem* identity and *ipse* identity in the contemporary digital context. To do this, we mobilize, with adaptations, the conceptual apparatus set up by Roger Clarke (Clarke 1994, 2001).

Within this conceptual apparatus, the *entity* denotes a physical thing, a body (therefore close to *idem*), and *identity* denotes a "construct", either by the individual themselves (in this sense, it would be close to the material translation of the *ipse*, without merging with *ipse* as such; see also section 2.4.3 for this idea of the intermediate translation of *ipse*) or by other authorities (description using the various attributes).

The relationship of type $n \leftrightarrow m$ denotes the non-bijective nature of the relationship between the entity and identity. Indeed, a single entity can have several descriptions (I describe myself as a set X of attributes

5 On the injunction of absolute transparency, and on the need to oppose it with a right to secrecy understood as "an ethical and political right", a right structurally necessary in the very name of democracy, we will consult Derrida and Dufourmantelle (1997).

in my diary or on Facebook; my friends conceive me as a set Y of attributes; the state conceives me as a set Z of attributes). Conversely, a single identity may correspond to several entities (a shared bank account corresponds to several individuals; a legal person described by the state corresponds to several natural persons sharing the same responsibility).

The key to understanding this model lies in the *constructed* character of identity: identity is a particular presentation of the entity in one of its roles; identity is not a given thing in the world, but it is a result of a process of construction, whether by the actor themselves or by others – so here we are witnessing a first ontological rupture.

With the digital rupture, thematized by Clarke under the term "abstract world", this non-bijective relationship acquires a higher level of complexity. A terminological triplet must then be introduced, describing three possible functions of digital data, denoted "recordings", whose function is to *point* to the "identities":

– "entifier", which points to the entity, to the body-as-thing;

– "identifier", which points to one of the identities, understood as constructs, as explained above;

– "nym", which points to one of the identities understood as constructs, as explained above, but which has the particular feature of not immediately ensuring the link between the entity and the identity.

As such, "nym" covers both anonymous and pseudonymous authentication cases, to use the appropriate vocabulary. As Clarke notes:

> "In this case, the identity *may* be able to be associated with a particular entity, but only if legal, organisational and technical constraints are overcome. In [the Figure], nymity is depicted as an obstacle to the arrow that links the entity with the nymous identity" (Clarke 2009).

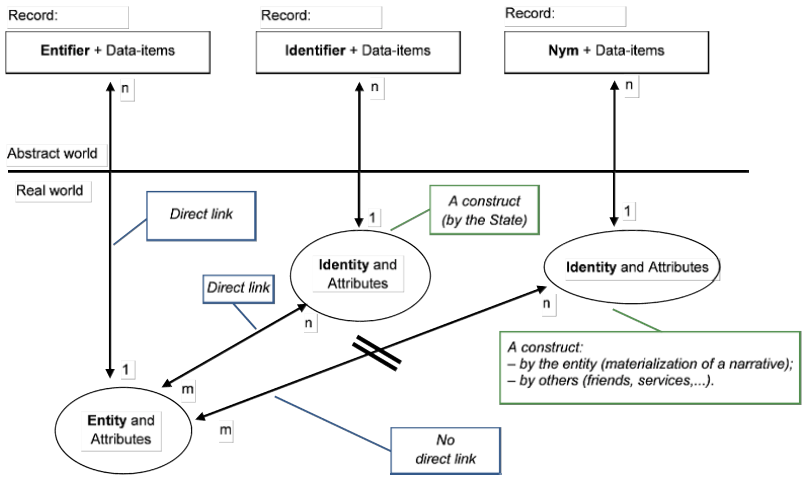


**Figure 2.1.** *Entifiers, identifiers, nyms. Adapted from Clarke (2001, 2009)*[6]

Here, we are witnessing a second ontological rupture, this time between the identity (one of several) of the entity and the digital data of the three types mentioned above. This relationship is of type $1 \leftrightarrow n$ of a higher level: an identity (among several) may, in turn, correspond to *n* "pointers", denoted "records".

The contribution of this model is to introduce an attempt at theoretical clarity that is not always applied in discourses on digital identity, and to highlight the differences in principle between the types

6 "Some key aspects of the model that differentiate it from the conventional wisdom are that:
– entities underlie identities. The term 'entifier' is useful to distinguish a signifier of an entity. An entity may have multiple entifiers;
– any entity may have multiple identities;
– multiple entities might present to other parties using the same identity;
– an identity may have multiple identifiers;
– data may not be able to be reliably associated with a particular entity, even though it can be related to an identity. The term 'nym' is useful to denote the identifier of such an identity;
– it may or may not be apparent that what appears to be an identifier may be only a nym" (Clarke 2001).

of "pointers" and their relationship with identities and entities. So, to give some examples:

– "biometric identifiers" are not "identifiers", but "*entifiers*" because they bypass the level of identity, even though it is constructed by the state, and point to the body-as-thing;

– "identifiers", in their current and widespread meaning, actually cover both identifiers and nyms;

– "nyms" covers radically different cases in practice, such as anonymity and pseudonymity;

– within the domain of pseudonymity, several cases of identity construction must be distinguished: by the actor themselves, by others or in an algorithmic way[7] (the latter aspect is not developed in the diagram, but will be dealt with in particular in section 2.5).

After this brief incursion into the digital context, let us return to our thread of argument, by characterizing contemporary societies more precisely.

### 2.2.3. *Contemporary liquidity*

In order to set up operational concepts that can subsequently approach the analysis of digital identities in the light of ethical issues, we proceed in this section to a rather socio-historical observation: we are witnessing today the accentuation of certain trends that have been at work since the beginning of the industrial era. It should be noted that the philosophical thinking that accompanies questions about identity are in a certain sense a reflection of processes already at work in society. Thus, the movement that attenuates the subject's "solidity" must be able to be verified at the socio-historical level.

We have already begun, in the previous sections, to see a certain tension between, on the one hand, the dense, solid pole of the subject, which it needs as a base to ensure its own foundation and, on the other

7 We now give the term "algorithmic" a broad meaning, closer to "algorithmic identity" (Cheney-Lippold 2011; Rouvroy and Berns 2013) than to "calculated identity" (Georges 2009).

hand, a certain porosity, distance between self and self, which means that the uniqueness of the subject is never acquired. This uniqueness, if at all possible, must be won in a movement of interpretation of the subject by itself.

We therefore assume that it is this tension, which has been at work in society since the industrial era, that is at its highest level in our hypermodern era. We propose to call the two poles of this tension "liquid" and "solid", using terminology from the sociologist Zygmunt Bauman (Bauman 2010, 2013b).

The "solid" pole is the one where, as in a certain interpretation of Locke, identity is acquired, where it is not a question in itself. This pole correlates to the situation where the horizon of meaning is, at least in part, ensured by what is prior to the individual and constitutes his or her main frame of reference.

The most telling example, mentioned by Bauman, is undoubtedly that of the state, one of the functions of which is to provide a horizon of meaning (e.g. that of national identity, public service or modernization itself – let us recall here that the idea of "modernization" is basically contemporary with the development of the nation-state in the Enlightenment period). Admittedly, several horizons of meaning, contexts or planes of existence characterize the modern individual as well[8], but their number is limited (state, work, family life) and they enjoy a certain stability, the rhythm of major societal changes being generally slower than one generation.

Today, we are witnessing not simply the end of the welfare state model and the disengagement of the state from the social sphere, but more broadly the end of the model according to which the state is a body that constitutes one of the main reference frameworks. Indeed, the number of other frames of reference with which the individual is confronted is constantly increasing (work, mobility, circles of friends and, more generally, the idea of the autonomous individual, specific to

8 In the precise and narrow sense of modernity: after Descartes and before the hypermodern era for which we assume the hypothesis.

modernity, which paradoxically escapes, but in accordance with the modern project, from the very control of the state). As Bauman points out, we are today in a situation where we value what does not last, where individuals are encouraged to prefer change to constancy, each time facing different horizons of meaning, which are themselves evolving (Chardel 2013). This fragmentation of possible meanings is equally an ever-increasing fragmentation of identity, to the extent that identity is acquired, as we have seen with Ricœur, at the expense of a hermeneutical effort of interpretation and of a coherent narrative construction. Simply put, this effort is probably less important in a context where the family and the state provide stability, a slow pace of change, than in a context where the individual is confronted with rapid change.

It should be stressed that, according to Bauman and in accordance with the foundations of the modern project, the individual themselves aspires to this multiplicity, this fragmentation, because they want to be free from excessively heavy anchors, and they are afraid of seeing their choices reduced and of losing opportunities to experience new and unsuspected horizons of meaning. It is this aspiration to plurality, multiplicity and the passage from one place to another that Bauman calls “liquid society”.

This tension between, on the one hand, the need for anchoring, constancy and refocusing, and, on the other hand, the aspiration to multiplicity, is the very heart of the hypermodern situation. According to Bauman, “identity is the simultaneous struggle against dissolution and fragmentation, a voracious drive coupled with a stubborn refusal to let oneself be devoured” (Bauman 2010).

The hypermodern situation, even before the rise of digital technology, pushes this schizophrenia of identity to its height with, on the one hand, the figure of the fragmented subject and, on the other hand, the need to return to a certain uniqueness to feel reassured about

the horizon of one's existence[9]. This need takes the various forms of routinization of existence, the search for trust, real or projected, maybe trust in a technological system, or the need for identification or recognition by the latter. Thus, for Chardel (2014b), this "lively and insolent pleasure to be recognized by a machine, without the burden of the emotional implications that are inseparable from recognition by another human being" (Agamben 2012) may have something to do with the acceptance of digital surveillance that we are seeing today across society. However, the fact remains that this pleasure and acceptance cannot be understood outside a new regime of subjectivation – a regime of which these pages will try to describe some distinctive features, by insisting on the disruptions that "the digital" is bringing today and which therefore make it different from what already has been described as "voluntary servitude" (La Boétie 1995).

It should be noted that this critical description of the fragmentation of subjectivity is not intended to defend a step backwards, to the situation where we would think we could find a univocal, dense and solid subject. On the one hand, it is simply a matter of describing what is happening today, even before any judgment can be made. On the other hand, it must be admitted that the landscape we described is, in a certain sense, a necessary result, pushed, it is true, to its paroxysm, of the autonomy of the subject and of the modern project as a whole, whose achievements are not, otherwise, to be called into question.

### 2.2.4. *Implementation of the approach: from narrative to writing*

#### 2.2.4.1. *A dual approach: epistemology and ethics*

These last remarks encourage us to remain vigilant about any unification of identity. By unification we mean here the conjunction of two movements. On the one hand, an epistemological position, which would consist of presupposing an autonomous subject and its

9 This need to protect oneself from the chaos of nonsense that awaits the hypermodern subject is not unrelated to what Anthony Giddens calls "ontological security" (Giddens 2013).

root-identity, the fragmentation of which would only be a superficial effect, and whose plural identities would be false pretenses, hiding a "true" identity. On the other hand, a performative discourse (such as the discourse on the obligation to reveal one's "true" identity on any occasion) that would attempt to unify and freeze the horizons of multiple meanings of which identity is a provisional narrative.

Indeed, any unifying discourse would be a double mistake. First, it would make a mistake as to the accuracy of the description of lived experience, because the individual does not think of themselves from the very start, and even less so today, solely in terms of the solid pole that we have described in section 2.2.3. Second, the attempt at a unifying discourse would reduce the individual to an absolute solidity, to a totality in the sense of a closed whole. However, as we have mentioned, a certain porosity, at least in the form of a minimal shift from oneself to oneself, as in Locke's account, is the necessary condition for autonomy and free will. The attempt at a unifying discourse would therefore paradoxically lead to a return to the pre-modern situation and to the abandonment of the values of the subject's responsibility and autonomy, as we know them and defend them in our societies.

For us, this is an ethical imperative, the explicit aim of which is to maintain the horizon of individual autonomy, because, as we will see later on, the digitalization of our lives carries its own risks – different from the one we have just described – of reducing this autonomy, risks that must be properly measured. The ethical approach differs here from a moral approach: while the moral approach is prescriptive in nature, the ethical approach is one of questioning, of reflecting on the meaning and effects of the actions we can accomplish.

#### 2.2.4.2. *Existential territories*

How can we adequately account for the need for multiplicity and the plurality of horizons of meaning, and how can we go beyond a simple observation of the tension we described?

The concept of "existential territories", introduced by the philosopher and psychoanalyst Félix Guattari (Guattari 1992), is capable of meeting this requirement. The multiplicity of existential territories within which the subject moves corresponds to this multiplicity of meanings or frames of reference mentioned above. However, the notion of territory, as we understand it, brings a benefit in the interpretation of contemporary phenomena. First of all, the notion of territory implies that of a space, a field of play and, in a correlative manner, a path, a walkway that can originate from the subject. This underlines the idea that the subject is not simply subjugated to the multiplication of meanings, but that it is in an active relationship with their constitution.

Then, as Guattari notes, territories can overlap, thus involving the subject in different territories, simultaneously or successively. The whole question here, as we are beginning to perceive it, is whether the subject is at the origin of this superposition or whether it suffers the consequences thereof. This raises the question of the balance of forces at work in the articulation of existential territories.

Because, in the end, territories are won or lost. The individual can, "according to the situation, [...] reconstitute existential territories where they were in anguish, in dereliction, [...] rebuild relationships with the world, a possibility of living" (Guattari 2012).

To win an existential territory is to rebuild a meaning, a coherence in the multiplicity of possible paths, without entrenching oneself in uniqueness – an entrenchment whose extreme form is undoubtedly becoming closed in on oneself, outside of any territory and without any horizon of meaning. Winning territories means reconfiguring or introducing new horizons of meaning, by re-arranging territories and identities, as in the case, mentioned by Guattari, of the women's liberation movement, a movement that dissociates the identity of "woman" from that of "employee", for example.

On the other hand, losing territories does not only mean retrenching oneself in uniqueness, but it can also mean suffering their superimposition, of which the subject is not the author – a superimposition that obeys logics and forces which do not originate

from the individual. In this sense, losing existential territories means enduring the deterritorialization in its unifying aspects, which, for example, unites the partial identities of "political journalist" and "debtor". Such unification, obtained by correlation of personal data, can only have the effect of restricting the ability to act in the two territories in question.

### 2.2.4.3. *Writing of the self*

We are beginning to perceive that the construction of identity is closely linked to the capacity to act and to the concrete modalities of these actions. We have set up, based on Ricœur's work, the general framework that has allowed us to approach the notion of *ipse* identity as a narrative of self.

If we are witnessing a transformation of our lifestyles and identities with digital technologies, then we must look at how the modalities of self-narration are affected by it. A genealogy of these modalities should therefore take account not only of the historical transformation (from modern to contemporary), but also of the multiplicity of existential territories in which identities are constructed.

It is on this occasion that we introduce the Foucauldian notion of "writing of the self", which must be understood not in the restricted sense of the autobiographical narrative, but in the fundamental sense of the writing in which the self comes to be.

It should then be stressed that this notion of writing of the self immediately confronts us with a passage through a technical intermediary. In all situations where the self comes to be – over all existential territories – the relationship with the self is never direct. This may involve writing itself: the diary, for example, whose function is to be able to reactivate content that, at a specific moment in life, may have opened or reconfigured a horizon of meaning. It can be the materiality of the body itself, as Marcel Mauss demonstrates with the notion of *techniques of the body*, illustrated by the example of the army, where learning to march creates social cohesion (Mauss 1936). It can be the spatial organization of places, which shapes social

exchange in different ways in a village festival and in a reception in a bourgeois salon.

There is thus in any exchange (from oneself to oneself, or from oneself to others) an obligatory passage through a material intermediary. However, this material intermediary is now becoming digital, which does not mean that this intermediary is free of materiality, but that it is deployed on digital media or supports (in the sense of Bachimont (2010)) that have their own characteristics. What is at stake in digitalization is the way in which this intermediary reconfigures our relationship with ourselves and our identities[10].

It is now a question of articulating the writing of the self and the existential territories where this writing takes place and where various horizons of meaning are at work. Before implementing this program, we still need to examine how the production of meaning itself is affected by digital technologies. The following section is devoted to this task.

## 2.3. The digital and the appropriation of meaning

### 2.3.1. *Digital transformation of meaning*

#### 2.3.1.1. *Double digital rupture*

Since the advent of digital technology, the question of its effects on meaning has not ceased to arise. The most telling example of these effects is undoubtedly hypertext. If we compare the reading of a static text with the same text digitized and obeying the structure of hyperlinks, we note that the possibilities of interpretation, and therefore the horizons of meaning that open from there, are not the same. In particular, the recomposition effects allowed by hypertext allow for richer interpretative paths; however, they are also potentially a source of disorientation.

10 We will note the obvious parallel between what we call here an "intermediary" and what Bernard Stiegler calls a "transitional object" (Stiegler 2010), referring to the transitional object of psychoanalysis.

One might think that this is simply the effects of delinearization of the interpretative journey. In reality, digital technology creates a double rupture. Let us follow here the analysis proposed by Bachimont (2010).

First of all, it is a semantic rupture. What can be considered meaningful to the human subject (word, sentence, picture) is translated into digital units and the processing of these units is agnostic as to their meaning. Indeed, once digitized and discretized into insignificant units, "content" is processed by formal operations obeying rules specific to the calculation.

The second rupture is the material rupture. The treatment described at the moment is said to be neutral with regard to the material basis of its realization. Thus, the same digital formalism can be implemented and run on different hardware implementations.

It follows that the process of interpreting digital content requires a return to both material and semantic anchoring. On the physical anchor side, the same digital stream can be reproduced in different ways, depending on the digital-to-analog transducing devices and their parameters. On the side of semantic anchoring, to give meaning to what is meaningless *per se*, the burden of interpretation must be explicitly assumed as such, and more precisely as being downstream of digital processing. Indeed, the instance that confers meaning (the subject who interprets a materialized output of the digital process) is separated from the processing (of data, symbols, etc.). In the digital domain, the granting of meaning therefore takes place *a posteriori.* This is quite different from a book for example, where the reading process is, simultaneously, the processing *and* the granting of meaning, because in a book signifying units are, at the same time, the recording format.

This new situation involves two aspects:

– a greater scope of possible meanings, the interpretative process being faced with a potentially unlimited recomposition of the elements independently of their initial content and

– a great danger that lies in the difficulty of interpretative synthesis by the human subject, a difficulty which can lead to effects of disorientation and arbitrariness.

Moreover, this semantic recomposition faces an additional difficulty that is simply due to the fact that the technical modalities of processing and rebuilding meaning are beyond the understanding of the majority of users.

Thus, the modalities of digital processing have effects on meaning, but are not transparent to the actors. This situation makes users act (read, confer meaning, make decisions with consequences on the self and others), without full knowledge of the facts.

#### 2.3.1.2. *Convergence*

This double digital rupture allows what has been called, originally in the context of telecommunications networks, convergence. As an example, telephone–Internet–TV convergence and federation of content have thus been made possible by the digital characteristics we have mentioned: the transition from dedicated networks (telephony, television, etc.) to a single network using the IP protocol, capable of carrying content of different natures.

More generally, convergence makes it possible to digitize and process any type of content in the same way and within the same process. For example, elements from various and heterogeneous channels, such as user ID, the number of steps taken provided by a sensor, the content of calls or the facial expression captured by a camera, can be digitized, processed, routed and reconstituted within the same process. Convergence thus facilitates, from a technical point of view, the interoperability of devices (smartphone, computer) and the flattening of pre-existing silos, whether their initial separation is predominantly technical (dedicated networks already mentioned) or organizational (intranet/Internet).

#### 2.3.1.3. *Exhaustiveness of memory*

Finally, digital technology has a tendency towards exhaustiveness of memory due to the ease of recording and, to a certain extent, the lowering of storage costs.

This movement is illustrated by Big Data and is in play on two levels at the same time: the quantity and the granularity of the information. It is thus supposed that recording all observations (e.g. all members of a given group, which is translated by the famous formula $n = all$, instead of the representative sample on which the understanding of social phenomena was based) and increasing the rate (e.g. sending the geolocation of individuals in this group every 10 seconds rather than every hour) would allow a better understanding and use of the data thus obtained.

Whatever may be the validity of this epistemological premise or its real impact on scientific knowledge or on the business models, it seems to us that this situation mainly reflects a deeper trend, a trend that articulates the technical capacity to record everything and the way in which our societies relate to their own memory.

Everything happens as if any horizon of meaning was now overshadowed by this totalizing aim, which would be likely to define at any moment any phenomenon or any individual[11].

### 2.3.2. *Digital technology and the construction of identity: first elements*

What are the consequences of this metamorphosis of meaning for the construction of identity? We mentioned in section 2.2 that identity is built from a project, from a horizon of meaning. This process is inseparable from, and based on, both:

– relationships with others (we have discussed this through Goffman's sociology) and

11 We will come back to this point, giving it more nuance, in section 2.5.4.

– the process of self-interpretation of the self (we will come back to the detail of this self-interpretation in terms of existential territories, in accordance with the approach we have announced – because these processes certainly take different forms depending on the territory).

We are already beginning to perceive that, with the contemporary digital transformation, the process by which the individual self-interprets from their own traces and builds their identity must be re-examined. We distinguish here, for heuristic purposes, the way in which identity is defined from within, by itself, and from outside, by actors other than itself.

*From within*, the subject has difficulties in grasping itself, and in defining itself in relation to all the elements of this hyper-memorization, whether these are its own traces or information disseminated in a more general way. The aspiration to multiplicity that we have highlighted in the previous sections does not mean a lack of coherence, and the need to give meaning to this multiplicity remains a constituent part of identity, including thinking of oneself as a multiple identity and only as a form of uniqueness. However, it is precisely this need for internal coherence that is being undermined as data collection and processing is defining us without the possibility of escaping. This need for coherence, to grasp oneself as oneself, is in contradiction of the definition from the outside: from the individual's point of view, the multiplication of identities in no way implies that one or more of them are defined from the outside[12].

*From the outside*, we are witnessing a real paradigm shift, because the individual is now defined "by data". Whether by state or private actors, we are witnessing the aspiration to describe the individual in an exhaustive way, but by reducing them, on the ontological level, to an increasingly complete set of attributes. In this sense, a new regime of visibility is implied by this determination of what individual existence is from its digital traces. In this new regime, the visible is reduced to

12 It should be noted that all "identity struggles" occur when we become aware of this definition "from the outside", and the subtle game of Foucault's state is to precisely make sure that external constraints are internalized so that they do not provoke an overt opposition (Foucault 1977).

what can be translated into data, and leads to the immediate accessibility of objects and beings[13].

As an operational hypothesis, we assume that the horizons of meaning that the subject can give themselves are largely determined by the concrete way in which the articulation between definition "from within" and definition "from outside" plays out in each existential territory.

## 2.4. Transformations of existential territories

The aim here is to examine the transformations induced by digital technologies in the process of identity building, moving through different existential territories. We can distinguish at first glance three main cases: the state, "services" and social relations. It should be noted that, within the limits of this section, this provisional description will not necessarily yet reveal all that is involved in this notion: the meaning of "territories" and their difference from "contexts" (Nissenbaum 2011) will only really appear towards the very end of our journey. We therefore provisionally assume, at this stage, the absence of a clear-cut distinction between the two concepts.

### 2.4.1. *The relationship with the state and institutions*

#### 2.4.1.1. *Identity in its relationship with the state*

We have already stressed, in section 2.2, the prototypical nature of the relationship that identity maintains with the state and institutions (we do not make a distinction here between states and institutions, by retaining above all the distinctive feature of temporal stability that unites them).

The state thus responds to this need for solidity, which we have mentioned as one of the two extremes between which identity is constructed. This singularity is ensured both by a certain formalism of the link to the state (civil status) and by the stability of the state itself

13 We will return to these issues in section 2.5.4.

over time. However, in their relationship with the state, the individual may also have logics that run counter to this solidity and unambiguous identification. These can be the translation of either the desire for "liquidity", which we discussed with Bauman, or a conscious approach of political resistance, as in the case of an assumed name or pseudonym[14]. It should be stressed, however, that this already-ambiguous relationship is actually even more complex.

The first level of complexity concerns the *way in which the state defines and addresses its subjects*. Identity traits, which would be referred to as attributes in the language of information systems, from the state's point of view include not only name and date of birth but also socio-professional category, place of birth and membership in a group. All these attributes make it possible – and this is one of the ambiguities – "to improve the relationship with the state" (as the current motto in the field of e-government puts it) or place it under the sign of discipline.

The very emergence of categories or types in sociology, based on statistical studies at the beginning of the 20th Century (such as the sociological types of suicide in Emile Durkheim (Durkheim 1898)), leads to the establishment of a typology of relations between the state and identities: the individual will be treated as vulnerable or not, belonging to a group at risk or not, more trustworthy or subject to suspicion.

The second level of complexity is thus related to *the mechanisms through which the subject relates to the state* and to this establishment of categories. Resistance and claiming a particular identity are themselves part of a complex relationship with the institutional character of the state. Michel Foucault highlighted how the endorsement of the contesting figure, as an identitarian claim of belonging to a certain category (oppressed, marginalized), itself depends on institutional discourse. The category is produced by institutional discourse, often for control purposes, but can in some cases lead to its endorsement by the individuals concerned and

14 See also *La terreur de l'identification* (Blanchot 1971), which discusses the political stakes of this resistance to the state.

become a positive claim of identity. One of the examples of this process, mentioned by Foucault, is the figure of homosexual identity (Foucault 1976), which, after a long process between the 18th Century and the end of the 19th Century, becomes a claimed identity, but can only become claimed when institutions, including medical ones, turn it into a category with contours that are less vague than before, and therefore into a possible object of social repression. This is a typical example of how territories are rearranged by the subject – an example of "reterritorialization", a notion mentioned in section 2.2.4.

#### 2.4.1.2. *Digitalization of the relationship with the state*

Let us now turn to the current situation, which seems to be marked by a double slippage. The first shift, as we have already mentioned, is the decline of the state-led model, which began long before digitalization. However, secondly, digitalization replays the way in which the production of individuality takes shape in its relationship with the state.

Thus, in terms of the *state's definition of the individual*, the first step will be to move from the notion of category to that of a more targeted address, made possible by the collection of fine traces of the individual's activities. On this subject, we will consult the work of Rouvroy and Berns (Rouvroy and Berns 2013) on Big Data and algorithmic governmentality, which highlights a certain dissolution of "categories" in favor of "individualized" targeting[15].

It is possible to interpret the current trend towards the use of the unique identifier as the corollary of this individualization: one is no longer identified as a claimant for family allowances and, *in another context*, a regular reader in a municipal library, but as a single profile, combining the two planes of existence.

This logic inevitably leads to the question of surveillance and control, a logic where we distinguish two levels. At the first level, Roger Clarke highlighted in 1994, through the notion of *covert identity* (Clarke 2001), the fact that digital identity can be built in part

15 This trend can be found both in the relationship to the state and in the relationship to market services, which will be discussed below.

without the user's knowledge. The fact that I may never know what exactly is known about me is the translation of a new control, which radically changes the horizon of meaning of all the actions I could undertake, especially if we take account of the exhaustiveness of memory at work in the digital domain.

At the second level, we can highlight the "benevolent" logic of surveillance implemented by states. Here, there is no need to collect traces without the knowledge of the individual[16], who may be perfectly aware of this collection. This is the case of the eIDAS Regulation (EIDAS 2014) with its implementing acts, which establishes the unambiguous link between civil identity and user actions involving various government databases, with a view to "facilitating" the provision of services.

The digital traces thus left behind lead to an image of the individual that is certainly fragmented and fluid (which Deleuze thematizes by the concept of "dividual" (Deleuze 1990b), which reflects the divisibility of what was previously thought to be undivided: the *in-dividual*), but this image can at any time be reconstructed, by virtue of what we have called "convergence" and "exhaustivity of memory", into a single identity allowing the control of the individual's actions by the state.

It can then be assumed that the combination of the decline of the state, on the one hand, and the digitization of the relationship between identity and the state, on the other hand, leads to a reconfiguration of this relationship according to the Deleuzian model of "control" (Deleuze 1990b): the distinctive feature of this is its fragmented *and* constant nature; it no longer proceeds by direct confrontation, but by *a posteriori* reconstitution of behavior and by *a priori* control of rights of access.

If we now want to examine, in a way that is symmetrical to what we have just done above for the pre-digital situation, the *mechanisms by which the subject relates to this construction of identity by the*

16 This does not prevent it from being done in practice and from combining benevolent surveillance with just simple surveillance.

*state*, we could only find, at least for the moment, the logics of local *détournement*[17]. Indeed, we are at the beginning of a new process, which, because of the fragmentation of control, can only itself be fragmented, acting through a local and circumscribed diversion of the logics of control. We might wonder in this respect whether a certain reluctance towards the use of electronic means of state-issued identification (such as the electronic identity card), confirmed by rates of use which are far from the levels desired by governments (Khatchatourov *et al*. 2015), does not constitute an example.

Moreover, this new situation leads us to formulate a more fundamental question, which we will not directly address: how must the state deal with the new needs of existential territories, while maintaining its role and without falling back into a purely instrumental rationality[18]?

### 2.4.2. *The relationship with market services*

#### 2.4.2.1. *The articulation between practices and constraints*

The second existential territory that we will examine is that of market services. It should be noted that today the distinction between online market services (such as Amazon) and social networking sites (such as Facebook or LinkedIn) is somewhat artificial, as the same logic of capture seems to be present among these actors. We still make this distinction because the logics of users, we can still hope, are not the same from one territory to another. This is the hypothesis we are defending here.

The analysis of the construction of identity in the commercial sphere was guided at length by the inaugural work of Michel de Certeau (Certeau 1984) on "arts of doing". In the post-1968 years, and by in a certain way updating the thinking of *cunning* in ancient Greece (Detienne and Vernant 1991), emerged the idea of users' "practices" as practices of *détournement*, "tactical" variations that made it

17 We have used the French word here, but a possible English equivalent would be diversion/rerouting. See Michel de Certeau (1984).

18 By "instrumental rationality" we mean here the constant adjustment of the means at the service of ends, which are themselves formulated outside ethical considerations.

possible to circumvent the prescribed uses, an idea that would later be taken up in the digital field. We assume here the theoretical position that circumvention is the sign *par excellence* of the appropriation of the technical object, its effective inscription in a horizon of meaning specific to the user, and that the construction of identity proceeds from this horizon of meaning.

However, as Serge Proulx wonders, it remains to be seen "to what extent this type of gesture of opposition expressed through the 'hacks' and the 'tactics' of everyday life could have a real socio-political impact" (Proulx 1994). In an attempt to answer this question, Olivier Voirol (Voirol 2011) distinguishes three components or presuppositions of this "paradigm of uses":

– a certain technical competence on the part of users is required to be able to understand the functioning of an object;

– it is assumed that users are producers of meaning, and that tactical variations produce meaning specific to the user in a certain horizontality – as opposed to the direction vertically prescribed by the designer of the object, for example;

– it is finally assumed, on the basis of the first two elements, that culture in the most general sense is not a matter of participation in norms, nor emancipation from some of them, but that culture is, so to speak, directly within everyday practices themselves.

One of the classic examples of this appropriation that diverts the verticality of meaning is the "pink" Minitel (the first pre-web service for sexual encounters, based on French Minitel telematics technology in the 1980s)[19]. In this case, where the verticality seemed absolute, both in terms of service architecture and technical architecture, new

19 "[Services] including the famous pink Minitel, which was not anticipated at all by the engineers who created the Minitel, and which was the most extraordinary multiplying factor for this media!... On a side note, it was at the beginning a diversion, which is also a very interesting aspect of the question. Some smart guys hijacked a mailbox designed for exchanges between doctors, in Grenoble I think. It was very utilitarian, thought for the 'common good' in a way, and some people bypassed this initial purpose to send each other 'naughty' messages... Everything starts with an act of piracy!" (Kyrou 2012). For a more in-depth philosophical analysis, see also Feenberg (2014).

horizontal services appear very quickly and serve to connect individuals according to a particular horizon of meaning, which was not previously planned.

Discourses on consumer *empowerment*, of which diverse variations can now be seen (from various activists' projects concerning personal data management on the user's side to more mainstream vendor relationship management (VRM) systems), are largely dependent on this paradigm of uses: digital identity would be constructed as a horizontal meaning based on skilled practices of personal data management.

However, in many respects, we are witnessing a crisis in this paradigm of uses (Voirol 2011):

– we can first of all mention the vulnerability of a large proportion of users, which calls into question the effectiveness of their supposed competence. This vulnerability may be due to the fatigue of being oneself, the cognitive load required to develop these competences, or, even in the case where the skills exist, it may simply be due to the over-solicitation that prevents them from being mobilized every time;

– then, we can mention the forgetting – or at least a slightly too optimistic view – of the constraints that the technological object exerts on uses and the user. In this sense, the margin for maneuver between the aforementioned horizontal and vertical directions is perhaps not as wide as we would like to believe;

– finally, it is worth noting the subversion of alternative practices into inputs for commercial processes, whether as a marketing justification or as an effective recuperation of uses into schemes of constraint. This is already reflected in the example of the pink Minitel that we have mentioned, where innovation by users is quickly recuperated by market players. Closer to today, the GAFAM models largely mobilize user participation both in the order of discourse, as a legitimization of relentless innovation, and in the order of technical objects, as the content of innovation that users produce.

If this paradigm is today in crisis, a crisis attested both by observations on the ground and by the epistemological considerations mentioned just now, it is first of all necessary to question the fundamental stakes of the "arts of doing" in the digital age: what are the stakes of *détournement* and reappropriations?

#### 2.4.2.2. *What are the stakes of reappropriating data?*

What are the stakes of these *détournements* and reappropriations, the degree of which seems to us today to be extremely variable? If we ask this question about the existential territory linked to services (defined simply in opposition to the state and social relations), we must examine what is at stake in the notion of privacy in this territory.

It is customary to present privacy as protection against intrusion into the individual's own sphere, or *the right to be left alone* (Warren and Brandeis 1890). This is how Warren and Brandeis posed the problem in 1890, in connection with the appearance of photography in the press. Admittedly, the question is posed in a different way today, but we will nevertheless note, in both cases of the emergence of the question in public debate, the link to a major technological change: from the written press to images and from images to data.

If we understand privacy in this sense, there would be, on the one hand, an individual who is already autonomous and the data that pertain to them, and, on the other hand, external actors, who have an increasingly strong tendency today to expropriate these data, to process them outside of any control by the individual concerned. This would be a way to subjugate the individual, to influence their decisions, etc.

In this sense, the reappropriation by the individual of their data, as the word "reappropriation" indicates, would be a reclaiming of something that has been unfairly expropriated by a power outside of that individual. Reappropriation would indeed be a metaphor borrowed from the conquest or reconquest of a territory that an individual makes their own. This is a just and quite commendable necessity, of course.

However, we can continue this spatial metaphor and go a little further than, or rather upstream of, this observation. Indeed, we can introduce here another spatial metaphor, that of the space of freedom in which the individual builds themselves. This would be another way of evoking the construction, the becoming of the individual before their protection. It can indeed be argued that the real issue of personal data is not so much in *the right to be left alone* for an individual who is already there, but the right to have a certain initiative in their own construction, of their becoming. What is the link, in the territory of services, between personal data and the individuation process, the process of becoming an individual?

The major challenge today is the predictability of behavior based on the data and traces we leave behind. The risk in the current situation is above all that of stereotypical behavior becoming more widespread, guided by increasingly refined commercial suggestions.

It should be noted in passing that the extreme personalization offered by profiling is in reality the indicator of subjection, of making the individual accessible to serve logics that go far beyond them. This is reflected in the capture of the consumer's interest by personalized products, the pre-selection and thus reduction of free choices as well as the price discrimination, which emerges as one of the consequences.

This predictability of behavior is in fact a feedback loop that is becoming tighter. There is a risk here of generating stereotypical behaviors, thereby reducing the space of freedom that is always necessary for the individual to build themselves. As Julie E. Cohen notes, this vicious circle is dangerous for innovation itself:

> "The ubiquitous regimes of surveillance and modulation seek to shape individual preferences and behaviors in ways that reduce the chance discoveries and freedom to tinker upon which innovation is based" (Cohen 2013).

According to this line of thought, it can be assumed that what is at stake in the control or reappropriation of personal data by the user is not a simple desire not to be robbed or the desire for tranquility. Rather it is the desire not to undergo expropriation of one's own individuation – to use the term of Gilbert Simondon (Simondon 1989) who understands by "individuation" the very process, never completed, according to which the individual occurs as an irreducible singularity[20].

What is this need for reappropriation the sign of? The hypothesis we formulate is that this need (like some other social phenomena we are witnessing, and which we will discuss in a moment) does not only correspond to the need to protect oneself, *to be left alone*, or even to control one's data, and therefore to have a form of power over something, however ephemeral it may be. We can hypothesize that this is a more fundamental and, to some degree, simpler desire, which is to be an actor in society, to participate in its construction and to understand the processes and forces at work in society. This is what we see in the emergence of the open software community, and this is what we also see in the FabLab movement, both of which can be diagnosed as a desire to "get involved", to understand the mechanisms of technology that have become both opaque and inevitable in everyday life. In doing so, the individual can acquire an understanding of how his or her identity is constructed by actors in this society, including market services.

It is therefore necessary to distinguish, within the processes of reappropriating personal data, a simple desire for personalization (whether it is a real necessity or a marketing argument) or a desire for control, on the one hand, and on the other hand, a desire to be an actor within the processes that otherwise escape us.

The fundamental questions to which the journey over this territory leads us are the following: how does digital technology make it difficult – or on the contrary, facilitates – the reappropriation of the

20 It is no coincidence, of course, that these questions are most acute among the younger generations who are exploring strategies to escape them.

*processes* by which data are generated and circulated on the scale of society? What is the articulation between a possible understanding of these processes and the construction of self?

### 2.4.3. *Social relations and production of the self*

#### 2.4.3.1. *Self-exposure*

It is here that the question of identity as it most matters to individuals themselves is probably even more directly addressed.

In this respect, the tension between the need for solidity and the aspiration to multiplicity that we have highlighted can also be read as the dynamic process of renegotiating personal boundaries, a process that is the very construction of the individual's social identity, their individuation.

Indeed, a certain degree of exposure or openness is necessary, and desired by individuals, since it participates in the construction of social cohesion (see, for example, Altman (1975)). However, this self-exposure is still fragmented, responding to diverse social contexts (friends, family, neighbors) that constitute existential territories, but which nevertheless have in common the non-market nature of the exchange. The "identities" here are based on this social context in which the action takes place (e.g. sharing certain information according to one's relationships and the level of trust associated with them). This necessary self-exposure requires strategies that use intermediaries, by creating a complex game that mobilizes elements as diverse as human beings (circles of friends, for example) or material objects (gifts, loans and exchanges).

In the pre-digital situation, the modalities of this construction can be characterized by two aspects: a relative distinction between the technologies of the self and social exhibition; an organization in silos.

For the first of these aspects, Foucault (1994) distinguishes four types of technologies:

– technologies of production through which we can produce, process and handle objects;

– technologies of sign systems, which allow the use of signs, meanings, symbols or signification;

– technologies of power, which determine the conduct of individuals, subject them to certain ends or domination, and objectify the subject;

– technologies of the self, which allow individuals to perform, alone or with the help of others, a number of operations upon their body and soul, thoughts, behaviors and mode of being, to transform themselves in order to achieve a certain state of happiness, purity, wisdom, perfection or immortality.

It should be noted that this breakdown is therefore more of a breakdown by *purpose*, and not by *functionality*. Foucault notes that it is rare for these four types to operate separately: for example, technologies of the self can use technologies of sign systems, as is the case with diary writing.

By refining this division by purpose for heuristic needs, we propose to distinguish here, among the technologies of the self, technologies of the self in a restricted sense, oriented towards the individual, from technologies of social exposure, oriented towards the construction of the social bond.

If we follow this distinction, technologies of the self in a restricted sense, such as the diary (a memorial practice that allows us to construct a narrative of ourselves through its repetition and updating), meditation or reading, are in principle separable from technologies of social exposure, such as celebration, friendship or communion. They serve different purposes and use separate circuits, even though they both participate in the construction of identity.

In addition, social exposure itself operates in a *silo* mode, with a relative separation between circles of friends, family and religious community.

It should be noted that although the two planes of experience (technologies of the self in the restricted sense mentioned above, technologies of social exposure) do not overlap *a priori*, they both go through what we have called, with Foucault, "writing of the self", which is not free of materiality: writing as a sign system, materiality of the body, tools and spatial organization of places. It is in this sense that we are talking here about writing of the self: a passage through a technological intermediary that reconfigures identity in a process of reclaiming/re-actualization of this intermediary.

#### 2.4.3.2. *Digital writing of the self*

In the digital transformation, the novelty lies exactly in the change of the role of the intermediary which has become digital. This change in modalities can be illustrated by a series of non-exhaustive examples.

First of all, we can see the movement reducing the distinction between technologies of the self and technologies of social exposure. Indeed, socialization today requires "community" visibility of the elements of the diary of yesteryear, which acquires a dual function of technologies of the self *and* the instrument of socialization. It should be noted that this is not a question of denouncing some kind of exhibitionism, as some have described the use of social networks, but of measuring the change brought about by the digitalization of intermediaries.

In the same line of thought, in the digital environment, any user activity acquires a double scope: acting upon the content (annotating a documentary resource with metadata, for example, or simply tagging a photo) and, at the same time, acting upon the user themselves, because the metadata produced by the individual makes it possible to describe themselves (Le Deuff 2011), to establish their profile or even to know their intentions – as would once have been done by consulting personal notes that were not intended to become a technology of exposure.

Finally, here, as in other existential territories, it is the unification of contexts, which is based on the fundamental trend of digital technology, that shakes the silos of social exposure. Examples could be multiplied: permeability of boundaries between the traces that the individual leaves in the context of friendship and in the context of family; in the context of friendship and in the context of work[21]. We will understand that this distinction between silos is not that between the private and the public, but between the different strategies – or ways of being – that the subject deploys according to the existential territory.

Once this observation has been made, it is important to consider how the individual themselves relates to these actions, and what is the horizon of meaning in which identities are constituted.

For example, empirical studies (Zhao *et al*. 2008) show that, on Facebook, the nature of users' strategies is more of showing or doing (implicit strategies) than saying (declarative or explicit strategies), thus confirming the indirect nature of identity construction. These studies focus on the distinction between *true selves*, *real selves* and *hoped-for possible selves* as products of different situations rather than different individuals or psychological profiles, confirming the multiplicity of horizons of meaning that the individual successively adopts.

In summary, both theoretical approaches and empirical studies agree on a number of distinctive elements whose preservation appears necessary:

– need for multiplicity;

– need to preserve contextual integrity (Nissenbaum 2011);

– implementation of implicit strategies rather than explicit strategies, by mobilizing symbolic and material intermediaries.

21 The latter case clearly shows how, for example, through the consultation of Facebook profiles by employers, new technologies of power are based on digital technologies of the self, creating a new normativity whose medium- and long-term effects remain to be discovered in the coming years.

Let us be clear on what we mean by "necessary preservation": it is not a question of preserving the form of these elements, which, in any case, is likely to change, but their conditions of possibility. In other words, the concrete modalities of preserving the context, or even the ways of delimiting territories, may change under the influence of digital tools – what counts, however, is the very possibility for the actor to have a certain initiative in the reorganization of their territories.

However, despite the existential need to preserve these logics, today we are witnessing their disruption:

– refusal of multiplicity, including within social networks (this is the so-called real name policy);

– violation of contextual integrity by the use of personal data in contexts for which they were not intended;

– primacy of the explicit over the implicit.

This triple trend with which the individual is now confronted can only provoke a reaction of rejection. If this triple trend should end up being imposed as unavoidable or natural, more serious consequences are the disruption of the very ability of subjects to weave social relations.

### 2.4.4. *Sketch of the articulation between existential territories*

In section 2.3, we highlighted the fundamental ambivalence of digital technology, which, let us recall, opens up a multitude of meanings to be constructed and, at the same time, presents effects that neutralize this multiplicity. The changes brought about by digitalization were then examined using three examples of existential territories (state, services, social links). We would now like to discuss the superposition of territories and the perception of this complex superposition by the users themselves.

Let us compare, for example, the use of digital identities within social networks and within state systems. In the case of state-issued digital identity systems, such as the various systems initially

developed for *e-government*, users do not perceive, it can be assumed, these systems as part of a meaningful project or construction. First of all, the administrative nature of the concrete actions involved in this type of system (declaration of annual income or obtaining a car registration document) is not such as to suggest a projection into the future, and subjugate the subject to an exclusively explicit approach (Khatchatourov *et al*. 2015). Moreover, identity is here experienced as "imposed"; it points to the *idem* identity and does not in any way echo the construction of meaning by the individual.

We could thus hypothesize that social networks are first and foremost part of what makes sense for identity building, namely are part of what we have called "technologies of self-exposure". This is reflected first and foremost in their wide audience with the public.

However, this place, which could be that of self-exposure in the "good" sense, is also the place of neutralization of meaning, and this at different levels. First, under the guise of user-friendliness (which the unique identifier used in different contexts, as is the case with Facebook Connect, is supposed to provide), the effects of multiplicity may be mitigated. Second, the commercial logic underlying these systems carries a very real risk of locking the individual into an information bubble. Indeed, hyper-personalization at work in the systems (whether that of commercial offers or that of pre-selection of posts and "friends") risks leading to the reduction of the space of freedom in which the individual can construct themselves. Here, it is no longer an individual or a group that articulates or re-organizes existential territories, but they are in fact already re-organized according to the imperatives of profitability inherent in the technological system. These technologies of the self are now also subject to "external" control and to the opacity of technological systems, which tends to undermine the autonomy of individuals and their ability to build themselves and act, an ability whose significance we nevertheless stressed from an ethical and political point of view.

On a more fundamental level, it is indeed existentially necessary, as Antoinette Rouvroy points out, that the individual considers their own life not only as a sole and perpetual confirmation of their own

traces, but also as the possibility of changing course and exploring new ways of being:

> "It is indeed this 'right to a second chance', the possibility of starting afresh (which is already enshrined in the right to be forgotten when it imposes, for example, the erasure of criminal records after a certain period of time), which it is important to restore and preserve, not only for persons who have served a criminal sentence, but for the entire population as soon as the capacity for digital memory increases" (Rouvroy 2008).

Indeed, to reduce the individual to their traces is to create confusion "between the information that is left from our browsing on the web (or our online transactions) and what we are *ontologically*, i.e. by the permanent invention of ourselves" (Chardel 2014a).

What are the sufficient conditions for such a permanent invention of ourselves to be possible? Does the autonomy of the individual, as we have discussed it so far, respond to this demand? The following section attempts to answer these questions.

## 2.5. From autonomy to modulated identity

### 2.5.1. *The inadequacy of the concept of autonomy*

In the previous sections, we have highlighted the articulation between existential territories and "multiple identities", translations of the fragmentation of subjectivity. It has emerged that digital technologies both facilitate this fragmentation and potentially constitute the basis for identity unification, such a unification involving the potential dangers that we have uncovered.

The current situation is therefore marked by this dual trend, which can, from now on, be considered as a socio-historical observation. To go further and to understand what is at stake, and what are the components and the forces at work, we need to look more closely at what is the mode of operation of this unification. To do this, we

assume in this section that this *modus operandi* can be described in a relevant way as *the neoliberal regime*[22] of subjectivity. This section also supports the notion of *writing of the self*, which we discussed in section 2.2.4, and specifies its exemplary modalities and its scope, situating it as a corollary of this neoliberal regime of subjectivity.

It will appear in the following pages that the critical program implemented in the previous sections is not sufficient in itself: if we want to make progress in understanding the digital transformation of identities, we must question the very concepts that have guided us so far, and first and foremost that of personal autonomy. We can see here the issue: the regime under which the subject's "autonomy" is set up is not without consequences for the modalities of its exercise. Is it not necessary to distinguish, as we will do now, on one hand, the autonomy of the subject as he or she is constituted in today's social and economic context, and, on the other hand, full autonomy, where subjectivity may be at the origin not only of one's daily actions, but of the horizon of meaning that opens up to us?

In other words, the previous sections constitute a necessary tactical program, in particular to act locally and to provide theoretical arguments for the protection of individual freedoms, for example. However, this program cannot be enough for a strategic understanding and political approach to the contemporary transformations.

After implementing these elements in this section, we will highlight the implications of this approach on privacy in the next section.

## 2.5.2. *Historical perspective: discipline and control*

### 2.5.2.1. *Subjectivity and power*

We have already mentioned the historical transformation of the relationship between subjectivity and its exterior. We now need to

22 It should be made clear now that we give this term the precise meaning it has in Foucault, and not its multiple common meanings, whether the "common" meaning is understood in its initial sense from the second half of the 19th Century, or in the sense of the anti-Keynesian reaction of the 1980s.

take a closer look at it. To address this question, we take up the analyses proposed by Foucault and, subsequently, by Deleuze and Guattari. If in many respects this approach is dependent on psychoanalysis in which the subject (the self, to use the appropriate terminology) can only be understood as the expression and the locus of the conflict between impulses and prohibitions, Deleuze and Guattari bring to it an important shift that extends the field of construction of the self to the entire social sphere. As such, Deleuze and Guattari, drawing on the work of Wilhelm Reich and Jacques Lacan, understand subjectivity not only as a product of the family drama, but also as a product – or a pole – of the forces at work in the individual's relationship with society as a whole.

In terms that are specific to this movement of thought, sometimes referred to as post-structuralist, the constitution of subjectivity is analyzed in the conceptual register of power, the latter term to be initially understood simply as a confrontation between the forces already in place in society and the still emerging subjectivity whose advent must be analyzed.

Historical transformations of forms of power thus give rise to corresponding forms of subjectivity, and to better understand these issues, we need to look back, distinguishing two regimes of society's functioning, discipline and control. It is necessary to specify from the outset the temporal articulation between these two regimes.

On the one hand, this division describes a certain historical dynamic. The emergence of the disciplinary society is associated, in Foucault's case, with the 17th and 18th Centuries (this form of society coming itself after the "sovereignty", which we do not discuss here: it will suffice to say that this form corresponds to the sovereign power which is expressed as the power to "make die and let live" the individual). In the 1960s and the 1970s, Foucault described disciplinary societies, highlighting their exhaustion already in progress. The regime of control, whose premises we find in Foucault himself and whose explicit thematization is due to Deleuze, would fully manifest itself from the second half of the 20th Century onwards; it would then be contemporary with the emergence of cybernetics as a general theory of control.

On the other hand, one does not simply replace the other: it is permissible to argue that the two coexist (Blanchette 2006), and we will give examples of this coexistence later on. It is thus not a chronological sequence, but a relative preponderance of one over the other, a dynamic in which the emphasis shifts from one regime to another.

#### 2.5.2.2. *The regime of disciplinary societies*

According to Foucault, the disciplinary society corresponds to the situation where the construction of subjectivity is framed by a system of prohibitions and associated technical means (means of surveillance and disciplinary sanctions); the individuation is so to speak channeled, and it takes place within boundaries defined from the outside. Let us illustrate this regime according to the three existential territories that we mentioned in section 2.4.

In terms of the relationship with the state, individual existence is shaped by its relationship with structures that accompany it throughout its life. The school, which Foucault notes is not simply a place of teaching that forms the subject, but also a form of power, is the first place where the subject is confronted with this disciplinary system: organization of places and flows, class management, time management, hierarchies between students and supervisors, and disciplinary measures of temporary or permanent exclusion are all aspects that contribute to the subject's training. The psychiatric hospital and the prison are the emblematic and ultimate forms here, in that they ensure both the most complete supervision and the essential function of this regime: to delimit, through exclusion, the perimeter within which subjectivity has a free space for its construction. Thus, "normal" subjectivity is defined through exclusion, by delimiting what is not allowed.

In terms of social relations, family life is also governed by similar mechanisms: one may think here about relatively stable marital structures (both in terms of social background and duration), and about systems of surveillance (mainly of young girls) and sanctions (opinions of neighbors and society, transmission of inheritance, etc.) that ensure the stability of these structures.

In terms of the relationship with "the private sector", examples are less easy to produce, because the very emergence of this sector as a full-fledged existential territory – that is, a potential place for both training and activity of the subject as "consumer" – was only at work at the time when the disciplinary system as such began to decline in the second half of the 20th Century. Before that, the individual's relations with this sector were essentially at the level of work – the "consumption", at the scale of society, was certainly not at the center of the individual's concern. On this level of work, the means of surveillance and sanctions are shown by the very organization of labour: mechanization, production lines and managerial control are all systems that make it possible to channel individual existences.

The most famous figure of the disciplinary society is the *panopticon*, the architectural device of a prison in which prisoners situated around a circle are subject to absolute visibility, with only one guard placed in the center (Bentham 1843). This system reflects all the characteristics of the disciplinary system: rationalization of surveillance resources, constraints on movement and visibility of actions. The fundamental strategy of the disciplinary system is to induce a state of real or presumed visibility among individuals, so that supervision functions even when it is not effective, "in short, that the inmates should be caught up in a power situation of which they are themselves the bearers" (Foucault 1977).

In this sense, the Benthamian prison is not a sanction, but a normal regime for the functioning of disciplinary societies. In this regime, subjectivity is therefore "bounded" from the outside, and the space thus delimited can then be considered as that of relative freedom. If subjectivity is the power to make choices, the power by which the subject is formed is the power to say "no" to certain actions of the individual.

It should therefore be stressed that the development of this regime is contemporary with two profound changes in society: at the end of the 17th Century, the idea of modernity, of a dense, autonomous and self-controlled subject, as we have mentioned with regard to Locke; at the dawn of the 18th Century, the beginnings of the industrial

revolution, with its share of demographic changes, technological progress, the increased role of the state and the rise of the liberal model. It should be noted here that J. Bentham is also one of the founding fathers of the so-called "utilitarian" approach to economic and social phenomena, which, *mutatis mutandis*, is at the origin of economic liberalism. For this approach, the central question is that of market equilibrium, which can be modeled as the interaction between individuals understood as rational agents, and whose choices are dictated by their utility function as defined by economics.

It is as if the very idea of the subject's autonomy and its capacity to act go hand in hand with the disciplinary counterpart of this regime of the formation of the subject. We will therefore not understand the transformations of subjectivity over time without examining the regimes of power, the latter to be taken not as a constraint on a subject already formed (a descriptive or purely historical vision), but as the very modality by which subjectivity is formed in relation to society.

It is interesting to note that the emergence of the notion of privacy is contemporary with this regime. As we have already mentioned, privacy is first and foremost understood as the protection of the private space of an autonomous subject, the protection of the intimate against intrusion. It is therefore initially defined as a limitation of the subject's visibility, but can only be so defined from the moment when the subject is understood as an autonomous actor, engaged in a system of relations with society. In this respect, privacy is understood as the counter-power that the subject has – or must have. Privacy and the *panopticon* are like two sides of the same coin that is the autonomous subject produced by disciplinary societies.

#### 2.5.2.3. *The regime of societies of control or modulation*

The second regime of collective production of subjectivity, which is of interest here, focuses not on prohibitions or sanctions, but on controlling the spectrum of choices available to subjectivity.

Indeed, the disciplinary regime has several intrinsic limitations. First, surveillance concerns only the literally visible aspects, those of individual behavior, while the "content" of subjectivity, their thoughts and wishes, is by very its nature inaccessible. Facts and actions are correctable, but aspirations, a source of potential resistance, are not. The disciplinary system certainly has a normalizing power, but it essentially deals with effects and not causes.

Second, the standardization at work in the disciplinary system tends to homogenize populations. Certainly, homogenization is far from total, this regime producing different categories (professional, social, conjugal) according to which the individual relates to themselves and to society. However, the effects of this categorization are reaching saturation point and do not offer enough granularity to respond to the situation where technological progress is tending to increasingly diversify the objects produced and offered for sale.

Finally, as Foucault points out, the problem for any form of governmentality is to govern as little as possible, by setting up structures that are increasingly effective in terms of the means to be implemented. From this point of view, the disciplinary system still requires too much effort.

The "societies of control" respond to this triple difficulty, and correspond to a specific mode of understanding what the individual is. Foucault had been thematizing this passage under the term "neoliberal governmentality" since 1977, in his courses at the Collège de France (Foucault 2008); following him and referring to it, Deleuze introduces the term "societies of control" (Deleuze 1990b). In what follows, we do not discuss the distinction between "neoliberal" and "control": the two are used interchangeably and correspond for us to a number of characteristics of the relationship between subjectivity and society[23].

23 If such a distinction were to be drawn, we would say that Foucault's notion of "neoliberalism" emphasizes rather an approach rooted in the historical analysis of structures of constraint (economic, disciplinary, etc.), while Deleuze's notion of "society of control" emphasizes more the articulation between flows (of populations, information, affects, etc.) and the machines (abstract and concrete) that produce and modulate them.

First, we are moving from a system of values based on equivalence, that is, the exchange of one good for another through the mechanisms of "the market" understood as an exchange and the mechanisms of currency understood as a gold equivalent, to a system of permanent competition between actors. In this vision, the state no longer simply plays the role of regulating market excesses, but also the role of producing a global policy in which competition becomes the main regime of the functioning of society. This is reflected, for example, in the recent transformation of the university, with its increasing adaptation to the logic of competition and the preparation of individuals for the constraints that such a regime imposes. We thus move from "regulation through the market" to "regulation for the market".

Correlatively, the individual is thought of as an autonomous agent whose only mode of operation is the calculation of costs and benefits and whose actions are guided by the search for a competitive advantage. If liberalism was about *modeling* the individual as a rational agent, neoliberalism is about setting up power structures so that the individual *conforms* to this model.

Thus, the individual is called upon to become an "entrepreneur of the self". In other words, autonomy is conceived according to the sole mode of an autonomous agent capable of managing its resources to make them permanently available to the mechanisms of competition, and it is no coincidence that the theme of digital identities is sometimes understood as the sole management of e-reputation, whether in the professional field or in that of social relations (if we think here of dating sites or social networks).

Correlatively, all exchanges and behavior, and therefore all ethics understood as a way of being and behaving, are understood based on the model of commercial exchange, competition and efficiency[24].

24 Fundamentally, it is this way of understanding the individual that explains the very possibility of the commodification of affect.

In this permanent availability, the visibility of the gestures already at work in the *panopticon* extends to become the visibility of aspirations and expectations: "You are free to make choices, but the spectrum of choice is well defined". Here, freedom and control function as two sides of the same phenomenon: it is to the extent that individual freedom is increased that the need for surveillance is greater; it is because surveillance is more effective that freedom can be granted.

Moreover, the articulation of such a very specific freedom and self-management – the only horizon of which is the self itself – leads to the suspension of any collective activity of transformation and of re-territorialization of existential territories: these actions are not "forbidden"; they are simply not part of the horizon of meaning (Read 2009).

To illustrate this idea of autonomy that can be modulated *ad infinitum*, Deleuze (1990b) distinguishes between the metaphor of the *mold* that forms the individual in a fixed way in the disciplinary regime, and the metaphor of *modulation* that, in societies of control, would be like "a self-transmuting molding" leading to a flexible, imperceptible, but no less effective constraint.

Finally, it should be noted that the concept of *modulation*, thematized by Deleuze, is better able to describe this "modulated reality" than the concept of *control* (including in Deleuze himself), which is subject to confusion with control in the more trivial sense of the term, exercised by mechanisms of discipline and security described by Foucault. The conceptual and political scope of this term of modulation will be presented below, in particular in the section devoted to the Big Data phenomenon.

Although the origin of this approach can be traced back to the late 1970s, only recent works began to take into consideration the writings of Foucault and Deleuze in the specific field of identities and their digital transformation. These include but are not limited to Zwick and Dholakia (2004a, 2004b), Lyon (2006), Hull (2009, 2014), Cheney-Lippold (2011), Cohen (2012a) and Rouvroy and Berns (2013).

### 2.5.3. *Sketch of a typology of data production and control*

To illustrate this neoliberal mode of collective production of subjectivity and the shifts brought about by digital technology, we need to find emblematic examples that can reveal the trends at work today. Such examples can also reveal data practices, the practice and management of data and their disclosure by individuals themselves. From the individual's point of view, two axes can be distinguished in these data practices:

– the first axis consists of producing data more or less actively, that is, to be at the origin of their dissemination, in a more or less conscious way;

– the second orthogonal axis is whether or not to have the power to control the circulation of data.

In the space delimited by these axes, the particular cases of devices and their uses provide points of reference for understanding the current landscape. It should be noted that the diagram shown in Figure 2.2 has no value other than heuristic; it has no claim to a precise description of the cases it represents. In this diagram, the size of the "pies" represents the volume of data involved and the distribution within the "pies" represents the distribution between state-issued data (civil identity issued by the appropriate authorities, for example in the case of the electronic identity card)[25]; the data declared by the individual (typically on their Facebook profile) and the results obtained by algorithmic procedures outside the individual's direct involvement and/or control over these procedures (typically "consumer profile"). Finally, in the case of Big Data, it is actually possible to retrieve the "raw" data from all the other "cases", but it has been represented in the same way as the others for the purposes of graphic illustration.

25 The difference between several forms of state-issued identities has been described in Khatchatourov *et al*. (2015).

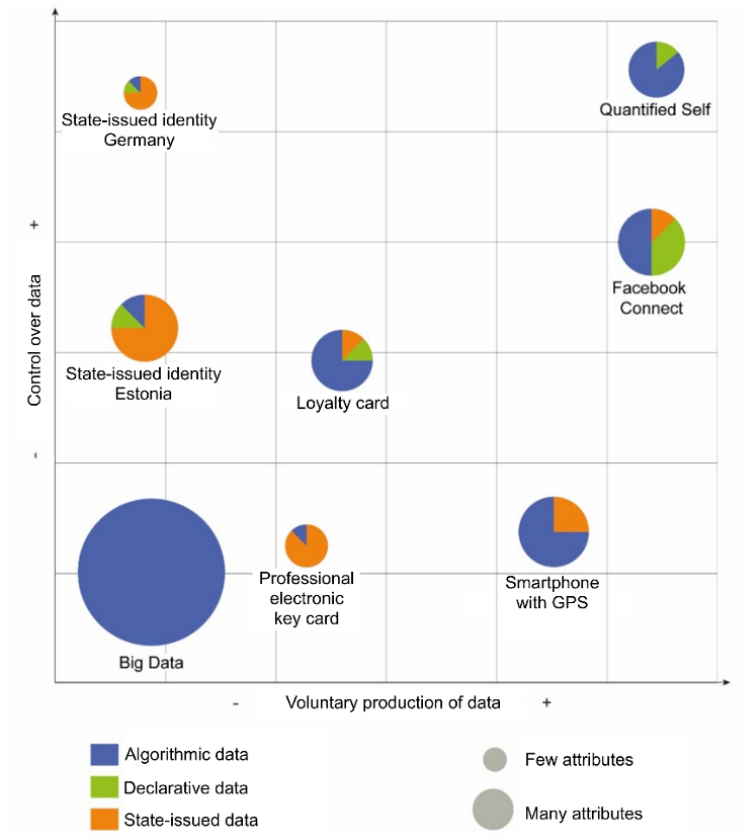


**Figure 2.2.** *Digital identities, between production and data control. For a color version of this figure, see www.iste.co.uk/khatchatourov/identities.zip*

From these examples, we choose two, located at the extremes of this diagram:

– *exemplary case 1*, Big Data: here, the individual has a minimum initiative in data production and can only operate a minimum control over it;

– *exemplary case 2*, the *Quantified Self*: here, the individual has a maximum initiative in data production and has the (apparent) control over it.

### 2.5.4. *Big Data as a minimum of control and initiative (exemplary case 1)*

#### 2.5.4.1. *Epistemological and societal issues*

The emergence of Big Data corresponds first and foremost to new ways of collecting and processing data, or even to a new way of relating to the phenomena described, whether these phenomena are in the natural sciences or the human and social sciences.

The field of Big Data is now receiving increasing attention and is the subject of massive investments in both science and industry. However, after an initial phase of euphoria, illustrated by Chris Anderson's (Anderson 2008) founding and probably deliberately polemical article[26], the time has come to approach Big Data with more distance, examining in detail both the premises and the consequences of its generalization.

Big Data covers very different realities. It suffers terminological confusions that not only do not help us to understand adjacent issues, but also feed into discourses that take advantage of this confusion. Thus, for the sake of conceptual clarification, Diebold (2012) distinguishes Big Data the *term*, Big Data the *discipline* and Big Data the *phenomenon*, to which we add Big Data the *discourse*. Like any technical phenomenon, it is only understandable in conjunction with the discourse that bears it; as we will see later, an analysis of these discourses seems also to bring us closer to the issues of power.

To characterize Big Data, the 4 V metaphor is often used:

– volume (the large amount of data that often requires large storage capacities, or even distributed storage);

– variety (the variety of formats and sources, for example, when processing both audio and text files);

– velocity (the "real time" of processing);

26 Also published in *Edge – The Third Culture*.

– veracity (the implementation of specific methods to manage the imprecision of data, their integrity, their adequacy to the phenomenon under study).

Using specific techniques, the analysis of these data would lead to the discovery of patterns and correlations that are not presumed or even suspected in advance. According to the "Big Data discourse", we would thus move from deductive to inductive reasoning mode, a mode that is not based on prior theories and is thus presented as the most neutral and objective possible by following an argument such as "since the data tell us...". This would create a new paradigm, based on the scientific and technical capacity to cross-reference sources and their treatment. In this new way of seeing reality, we could proceed without hypotheses to be tested and we would be able to discover reality "such as it is". All in all, we would be dealing with a new empiricism free of its disadvantages because it is based on very precise technical procedures. Table 2.1 illustrates this supposed paradigm shift.

| Paradigm | Nature | Shape | Period of time |
|---|---|---|---|
| First | Experimental science | Empiricism, describing natural phenomena | pre-Renaissance |
| Second | Theoretical science | Modeling and generalization | pre-computers |
| Third | Computational science | Simulation of complex phenomena | pre-Big Data |
| Fourth | Exploratory science | Data-intensive, statistical exploration and data mining | Now |

**Table 2.1.** *The Big Data hypothesis as the fourth paradigm (Kitchin 2014)*

However, we may wonder whether such a discourse does not commit the sin of blind enthusiasm or even hide other issues.

Big Data's epistemological critique then lies in the field of what several studies identify as a new mode of hypothesis generation. Where the sciences before Big Data would have proceeded in deductive mode, they would, at present, be exploring the inductive mode. This assumption itself seems highly problematic, as we will now explain[27].

First of all, what is the novelty of Big Data? A closer look reveals that most scientific approaches are in fact ancient. Almost all of the distinctive features of Big Data, both in terms of data and methods, are rooted in approaches that are at least 20 years old. To take just a few examples: the variety of formats has long been dealt with by so-called *sensor fusion* methods. The presence of the inductive approach has always had its place in science, as Charles Sanders Peirce pointed out more than one century ago; "data-driven" research is not new in itself since today's Big Data feed on existing probabilistic approaches. The only elements that clearly escape the old roots, and we will come back to this later, are volume, and the question of the transition from the finite sample to the complete population ($n = all$).

As is well known and as illustrated, for example, by the history of cognitive science, putting different approaches together can have its own virtues, their mutual hybridization leading to new and successful ways of addressing old issues. Nevertheless, in our opinion, these shock formulas about the paradigm shift must be nuanced.

So, does data speak for itself? There is indeed a new way of generating hypotheses, but these hypotheses remain guided by existing knowledge and the assumptions of researchers. The data and the results are more than ever constructed, whether by the choice of data to be collected, the choice of models or even the choice of a particular processing software.

27 Critical work in this direction is becoming increasingly common. These include Gitelman (2013), Helles and Jensen (2013), Bryant and Raja (2014), Crawford *et al.* (2014), Kitchin (2014) and Lazer *et al.* (2014).

We then have the impression that the novelty of Big Data lies rather in a specific combination of scientific methods and epistemological issues: how do we build the models? What agendas guide these choices?

This social construction of science could be uncovered here since any action to collect or process data is potentially traceable and could be the subject of an epistemological analysis. However, rather than taking an interest in it, as Bruno Latour, for example, was able to do by suggesting the replacement of the term "data" (literally "that which is given") with that of "that which is obtained" (Latour 2001), the discourse on Big Data attempts to ignore this construction.

We can see here the articulation of epistemological and power issues by taking Big Data seriously in the *discourse* mentioned above. For example, some authors distinguish in this discourse two main and interdependent metaphors, both of which describe the supposed neutrality of data by assimilating them either to forces of nature or to resources to be consumed: "Big Data is a force of nature to be controlled", a uniform mass; "Big Data is nourishment/fuel to be consumed", the new oil (Puschmann and Burgess 2014). It is by advocating the novelty of methods without questioning their genealogy, it is by organizing the promotion of control and wealth, that power establishes the imperative for any action, including political or social, to rely on data – and thus establishes itself as the authority that determines its circulation.

However, if we wish to pursue the metaphor of raw materials or the forces of nature to describe Big Data, it is less to oil and more to the atom and its ambiguous consequences that we should look. The risk is that, behind the fascination for data and discourse announcing epistemological changes, it may be suggested that the tools and methodologies are neutral and that the data "speak for themselves". However, there is no "raw" data (Gitelman 2013). More than ever, data are constructed according to the industrial and political choices that guide not only research, but also society as a whole, choices which may then be passed over in silence.

Our hypothesis is that the challenges of Big Data are neither strictly epistemological problems, if we understand by this the mode of generation of hypotheses, nor the obvious presence of "marketing" discourses, including political and scientific ones, which would seek to highlight the supposed novelty of the methods in question. We should also go beyond the very criticism of the metaphors of "forces of nature" or "natural resources" and, therefore, beyond a certain Heideggerian understanding of technology as *Enframing* – or at least try to describe its new forms[28]. To do this, we propose to detect in the current Big Data phenomenon two diagrams[29], two partly competing trends, which we will call "memory exhaustiveness" and "immediacy"[30].

### 2.5.4.2. *The diagram of memory exhaustiveness: Big Data Warehouse*

In its most famous and oldest variant, for which we use the term *Big Data Warehouse*, Big Data consists of the most exhaustive accumulation of data possible. Exhaustiveness here concerns both the coverage of a given population ($n = all$) and the description, real or imagined, of each individual[31]. In our opinion, this movement is in solidarity with the imperative of absolute visibility, since the discourses on science and society are similar here. Indeed, on the "scientific" side of Big Data, such discourses advocate direct access to reality through an exhaustive data-reading, which can be carried out on demand. On the "financial", "decision-aid" or "surveillance" side

28 It is indeed striking to see that even the critical analysis of the *discourse* of Big Data we have mentioned still reproduces the most famous side of the Heideggerian criticism of modern technology: the Rhine is at the same time controlled, imprisoned and provides available energy (Heidegger 1954). However, with Big Data, it is no longer just that.

29 A *diagram* is here understood in the sense that Gilles Deleuze gives to this concept, namely a representation, an exhibition "of the force relations that constitute power" (Deleuze 1986a). Unlike the *archive*, which is understood as constituted knowledge, the *diagram* depicts the force relationships that underlie the constitution of this or that particular knowledge. Conversely, power requires constituted knowledge and relies on it: without it, it "would remain occasional, fluid, fading, unstable and could neither preserve nor reproduce itself" (Deleuze 1986b).

30 The rest of this section is based on Khatchatourov (2016a).

31 The terms "population" and "individual" are used here in the sense given by statistics.

of Big Data, such discourses describe individuals in an exhaustive way by reducing each of them to a complete set of attributes that are increasingly refined, and in the case of human individuals in particular, tend to determine individual existence based on its traces.

In this joint movement, these two approaches contribute to a new regime of visibility that consists of transforming reality into data and thus reducing it to what can be captured "in data", making beings and objects "accessible". Certainly, the criticisms of Latour (which concerns the confusion between what is *given* and what is *obtained*) and Heidegger (which concerns the reduction of the real to available and controlled *standing reserve*) are more than justified here. Similarly, the fantasy we have already mentioned, that of having direct access, without the intermediary of hypotheses or preliminary categories, is more than questionable here. However, it seems to us that the essential point is elsewhere.

The question, which is much simpler, but which seems more crucial to us and brings us closer to today's *diagram*, is that of the regime of purposes under which the Big Data Warehouse operates. Indeed, we can legitimately ask ourselves what purposes lie behind this relentless collection of data. What do we want to do? What methods and means are to be used?

The example that is undoubtedly the most telling here is that of personal data, this supply line in the economic warfare that the major players in the field are waging. The concept of the purpose of data processing appeared in the 1970s, when the cross-referencing of data from different government databases threatened to distort the balance between the State and the individual freedoms. This concept then corresponds to the injunction of knowing in advance the aims of the collection and processing of data. Personal data "are collected for specific, explicit and legitimate purposes and not further processed in a way incompatible with these purposes" (Data Protection Act 1978). At the same time and in a related way, two other concepts are emerging: that of personal data (potentially identifying data) and that of consent (such as the injunction to ask the user for consent to collection).

These three cornerstones are being challenged by Big Data. Indeed:

– no purpose prior to collection and processing: everything possible is collected, first because the costs of collection are becoming lower and lower, and more fundamentally because the data may be used for something later, in accordance with the epistemological assumption of research into "unsuspected" correlations;

– no distinction between identifying and non-identifying data: all data are potentially identifying, either by re-identification in existing databases or by cross-referencing with new data collected without prior purpose (see above);

– no consent, first because the collection is, in fact, without the user's knowledge, and more fundamentally because it is impossible to seek consent for undefined purposes (see above).

We are then witnessing data collection guided by a fantasy of exhaustivity that is played out on two levels. The first is that of temporal depth: the relationship to time is like an infinite memory that can, *de jure* (if not *de facto*, temporarily limited by the technical constraints of storage), go indefinitely into the past. Should we insist here on the increasingly long period of storage of personal data allowed by successive legislation, under the guise of combating terrorism? The second level is that of extension: the relation to the population radically changes from a representative sample to total coverage, illustrated by the formula $n = all$[32].

It is necessary to accurately judge the extent of this lack of purpose. We could first mention the fact that, in today's engineering practice, it is not so much a matter of achieving a goal that one has set for oneself in advance, but a matter of being surprised by more or less unsuspected consequences, in a perpetual game of confrontation with

32 Perhaps this is the radicalization *and* the end of the biopolitics to which Foucault still assigns the function of governing, not individuals or bodies, but life, the population in its temporal extension and the random events that occur therein. Now, life itself is increasingly understood as what is revealed in the data, and the population as an exhaustive population. From now on, are we still faced with *bios*-life, or has *zoë*-life "already become *techne*"? (Nancy 2002, p. 140). This may be one of the differences between Foucault's liberal "biopolitics" and our latter-day neoliberalism, at least in its aspiration for exhaustiveness.

computer algorithms (Dupuy 2004). If we can risk this formula, it is no longer an aspiration to mastery, but to surprise; and if it is still a "standing reserve", it reserves the unsuspected.

More fundamentally, is this not a foreseeable consequence of the modern era, or even its culmination? It is indeed the nature of technology in general to carry out the perpetual displacement of ends, a displacement that can only lead to the questioning of the very idea of purpose prior to any action. As Jean-Luc Nancy points out, "technology and our whole era [...] spread a kind of absence of ends, accomplishment, purpose, teleology" (Nancy 1999). The specific feature of the Big Data Warehouse would then be to take this absence to its climax. More than the Heideggerian concept of Enframing, this is a question of the very system of purposes, according to which human action is guided.

This, it seems to us, is the first Big Data diagram: an exhaustiveness of memory in both directions of temporal extension and population coverage, with no pre-established purposes.

#### 2.5.4.3. *The diagram of immediacy: Big Data Stream*

The second diagram seems to be guided by the constraints of reactivity with regard to the phenomena treated and involves response times known as "real time". It has its roots in the relatively old concept of *data stream mining*, dating back to the early 2000s. The approach here changes completely: from the "capture-and-analyze" paradigm to analysis of the data flow itself. This is called the Big Data Stream.

In the language of computer science, the Big Data Stream is radically opposed to the Big Data Warehouse in the same way that stream processing is opposed to batch processing: the processing here is not based on a certain reproducibility, on a series of stable instructions applied to finite data sets and on batch work, but on the indefinite flow of data, where only the results of the analysis are eventually stored (when these results are not used in their turn as input

for other flows and other analyses)[33]. It goes without saying that the analyzed phenomenon depends on the analysis grid much more intimately than in the Big Data Warehouse, where one can return to the archive at any time (whether this return is real or fantasized)[34].

The metaphor used here is that of gold panning, where epistemology and economics are now one: if the grid used to analyze the flow is too fine, too coarse, or does not correspond to the shape of the gold, we do not find what we are looking for, and then we allocate human or computer resources to other flows – to other more profitable data pipelines:

> "The analogy here is that working in data streams is much like panning for gold. As the data stream passes by, analysis occurs in parallel that seeks to capture the relevant nuggets of information to best address specific questions or areas of concern" (Chimsky 2014).

In other words, in the Big Data Stream, the capacity for analysis is moved to the sensors, whose role is no longer to provide a calibrated record of phenomena nor to "fabricate" the scientific phenomena, but – interconnected with each other and thus making up the Internet of Things (or rather, in a more appropriate expression, the Internet of Everything) – to constitute the world itself:

> "We expect to see everything of material significance on the planet get "sensor-tagged" and report its state or location in real time. This sensorization of the real world

33 "*Stream Processing Engines* (SPEs) are specifically designed to deal with streaming data [...]. SPEs perform SQL-style processing on the incoming messages as they fly by, without necessarily storing them. Clearly, to store state when necessary, one can use a conventional SQL database embedded in the system for efficiency. SPEs use specialized primitives and constructs (e.g., time-windows) to express stream-oriented processing logic" (Stonebraker *et al*. 2005).

34 "[...] as Heraclitus 2.0 might say, you cannot step twice into the same data stream" (Dourish 2016).

> will lead to a 'green field'[35] of novel monitoring and control applications with high-volume and low-latency processing requirements." (Stonebraker *et al*. 2005)

We must get the measure of this conceptual shift using concrete cases. Let us take the example of the *virtual sensor*, the operational paradigm inherited from the field of *sensor fusion*. The virtual sensor is an algorithmic definition of the mapping of heterogeneous elements:

> "Virtual sensors abstract from implementation details of access to sensor data and correspond either to a data stream received directly from sensors or to a data stream derived from other virtual sensors. A virtual sensor can be any kind of data producer, for example, a real sensor, a wireless camera, a desktop computer, a cell phone, or any combination of virtual sensors. A virtual sensor may have any number of input data streams and produces exactly one output data stream based on the input data streams and arbitrary local processing" (Aberer *et al*. 2007).

Thus, the output of Big Data Stream is based on "real" events, on combinations of these virtual sensors, some of whose inputs are themselves purely software events, and on the algorithmic processing performed on these data flows. This output thus produces "composite" or "derived" events.

For example, if we refer to one of the stream processing variants known as "CEP", an "observed" event basically does not correspond to the "cause" or to the input, but to the consequence of algorithmic processing:

> "A special case of stream processing is complex event processing (CEP). CEP terminology refers to data items in input streams as raw events and to data items in output streams as composite (or derived) events. A CEP system uses patterns to inspect sequences of raw events and then

35 The expression "green field" is clearly to be understood here in its meaning of the language of business: a new project, a new construction on an unexplored field, an *ex nihilo* creation.

> generates a composite event for each match, for example, when a stock price first peaks and then dips below a threshold" (Hirzel *et al*. 2013).
>
> "[The] derived streams often do some kind of enrichment, say adding on new attributes not present in the original event. Derived streams require no particular handling. They can be computed using simple programs that directly consume from Kafka[36] and write back derived results or they can be computed using a stream processing system. Regardless of which route is taken the output stream is just another Kafka topic so *the consumer of the data need not be concerned with the mechanism used to produce it*" (Kreps 2015).

Of course, our point here is not to denounce a veil of data obscuring a prior reality, but to understand a new mode of "revealing" of the world, which is no longer simply that of the mastery of forces, standing reserve or command. This data processing, which has the characteristic of injecting procedures that cannot be qualified as "simple analysis", enacts in real time patterns of events. The world, without depth although deeply data-mined, is here that of immediate and automated decisions, based on the rhizomatic circulation of data – decisions that can in turn serve as subsequent inputs into other treatments, according to a perpetual play of adjustments of variables between them, with the sole aim, itself malleable, of predicting and regulating behaviors.

Thus, the "obtained" phenomenon is a result of processes of control: control not in the sense of a directed message of command, but in the meaning that we can see outlined in Wiener's *Anti-Aircraft Predictor*, 1942. It should be recalled here that the *AA Predictor* was designed to predict the behavior of the enemy pilot understood as a servomechanism, whose future trajectory could be anticipated according to its own automatisms, the mechanical constraints of the flight, the past trajectory in a given time window, etc. It seems to us

36 Kafka is the name of the open source software for *stream processing*, used by LinkedIn, Netflix, Spotify and Uber. Our emphasis.

that the real breakthrough that the *AA Predictor* brought is not so much in the conceptual reduction of the human pilot to a feedback machine, nor in the consideration of the pilot-aircraft system as a functional whole. The real rupture is that the gunner himself is then conceived in the same way as the pilot and becomes the "environment" for the latter (which, in a short time, will be confirmed factually by the advent of on-board aircraft equipment and of combat drones with the same ability to analyze patterns of enemy behavior):

> "In the airground battle, it was a short step for Wiener and Bigelow to take the pilot-as-servomechanism directly over into the AA gunner-as-servomechanism and thence to the operation of the heart and proprioceptive senses" (Galison 1994).

> "You start with an input-output approach which is suggested by the fact that you have no access to the pilot, you make this enormously successful prediction of where the plane would be, and then you apply that back to your own gunner. By now, the train of generalizations is rolling and you can see then how it gets generalized to other systems. […] The cybernetic model in some way grew up around an enemy that was symmetrical, which is why you could move easily from the enemy taking evasive action to you taking evasive action or to the gunner taking anti-evasive action, but it was all in some sense a symmetric piece" (Galison and Najafi 2003).

Reversibility of the enemy and the ally, reversibility of the analyzed phenomenon and the instance of analysis, reversibility of the environment and the individual; action on the rules that "describe" the environment[37]: these are the distinctive features of cybernetic

37 We do not develop this point here, but it seems obvious that the rules that describe and constitute the environment for the *AA Predictor* gunner do not simply fall under the "physics" of the processes, but are reified by the machine or, to use more contemporary terms, by Machine Learning. As Galison notes: "This self-correction is exactly what Wiener's machines did. Indeed, in every piece of his writing on cybernetics, from the first technical exposition of the AA predictor before Pearl Harbor up through his essays of the 1960s on science and society, Wiener put

conversion. This paradigm then corresponds to a mutual adjustment in which no one has the initiative, a paradigm whose scope goes beyond the problem of *pattern* detection in the example of the *AA-predictor*.

And indeed, it is striking to see how Foucault, probably very familiar with the research of his time in the field of cybernetics without explicitly mentioning it, describes the then emerging mode of neoliberal governmentality and the exercise of power that corresponds to it:

> "[…] what appears on the horizon of this kind of analysis is not at all the ideal or project of an exhaustively disciplinary society in which the legal network hemming in individuals is taken over and extended internally by, let's say, normative mechanisms. Nor is it a society in which a mechanism of general normalization and the exclusion of those who cannot be normalized is needed. On the horizon of this analysis we see instead the image, idea, or theme-program of a society in which there is an *optimization of systems of difference*, in which the field is left open to fluctuating processes, *in which minority individuals and practices are tolerated, in which action is brought to bear on the rules of the game rather than on the players, and finally in which there is an environmental type of intervention instead of the internal subjugation of individuals*" (Foucault 2008, pp. 259–260)[38].

We then begin to perceive the non-fortuitous encounter between neoliberal governmentality and the cybernetic paradigm, of which the Big Data Stream is one of the most successful examples to date. Because *AA Predictor*'s premonitory lesson (and also, closer to us, the lesson of combat drones and signature strikes) consists of this: modern technology and modern warfare (and any technique is a technique of warfare – or of the government of behaviors) do not normalize, but

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feedback in the foreground, returning again and again to the torpedo, the guided missile, and his antiaircraft director. Moreover, even in the predictor *both* the performance *and* the rules governing performance were corrected 'in the course of its functioning'" (Galison 1994, p. 258).

38 Our emphasis.

seek to deal with, to take advantage of the individual behaviors of the pilot *and* the gunner; regulation is enforced by means of the environment, by adjusting the rules that constitute it. We are thus in the presence of perpetual adjustment in a game whose "rules are not decisions made by someone for others"[39].

It is this essential conjunction between technology, economics and governmentality, the same one that guided the analysis of Foucault's late works, that J.-L. Nancy refers to as *ecotechne*, in which he identifies a pivotal moment marking the end of an era and the opening of a new one. "Ecotechne therefore means: being is revealed economically; and the distinction between production as an economic concept and production as an ontological concept no longer applies" (Neyrat 2002)[40].

In these circumstances, the very concept of prior purpose is, once again, undermined. As Antoine Garapon notes:

> "The spontaneous order of market [...] is an order that is its own purpose." (Garapon 2010, p. 25)

> "In the same way that neoliberal reason does not pursue any goal, it does not impose any distant temporal objective on itself. The world – let's not talk about a system anymore – must be *open* by definition, and any project too far away risks depriving us of its wealth" (Garapon 2010, p. 39).

To return more specifically to the Big Data Stream, reality is thus revealed, to use Shoshana Zuboff's expression, as a new class of commodities: that of the behavior of beings and objects. In her recent work, Zuboff first refers to Polanyi's three "fictional commodities": life turned into labor, nature turned into real estate, exchange turned

39 As Foucault notes about the neoliberal economy, the economy must be a game, "a set of regulated activities [...] but in which the rules are not decisions which someone takes for others. It is a set of rules which determine the way in which each must play a game whose outcome is not known by anyone" (Foucault 2008, p. 173).
40 The term "production" here clearly refers to Heidegger's concept of "to produce something (Her-stellen)".

into money. She then adds the fourth transformation which has become dominant in the 21st Century:

> "Now 'reality' is subjugated to commodification and monetization and reborn as 'behavior.' Data about the behaviors of bodies, minds, and things take their place in a universal real-time dynamic index of smart objects within an infinite global domain of wired things". (Zuboff 2015)

This implies exactly three consequences: (1) that the product of the Big Data Stream is no longer "things", "objects" or "standing reserve", but reality is the raw material of contemporary neoliberalism; (2) that this reality is the result of the naturalization of behaviors themselves being a derived product of complex procedures of data processing; and that (3) the more these behaviors are able to be *modulated*, the richer this raw material is. This provides a better understanding of how "societies of control" do not seek to standardize and discipline, but, on the contrary, to modulate behaviors *and* promote individual differences: as every data scientist knows, there are few outcomes from a uniform population.

Thus, in the Big Data Stream, data and algorithms become one within an industry of programs that produce reality[41], through an output that is fundamentally scalable and temporary, but predictable and operational. The flexibility at work in the Big Data Stream seems to correspond to the fundamental requirement of the cybernetic paradigm and the Machine Learning that emerged from it, that of the search for a suboptimal solution, but are which "works" – that is, that responds to a local search for optimization in relation to a reward[42]. We leave here the paradigm of adequacy that guided both science and philosophical inquiry from Descartes to Husserl, to slide towards that

41 We do not develop here the fundamental differences between data, algorithms, programs, code and automation, but stick to the well-known equation "algorithms + data structures = programs". See on this subject Dourish (2016).

42 "Optimization/reward" corresponds to the dominant approach in reinforcement learning within Machine Learning. It must be compared here with Foucault's form of environmental action, described as the action of modifying the rules of the game, the relationship between possible gains and losses.

of adjustment: adjustment of data according to the algorithm (filtering, sampling frequency), adjustment of the algorithm according to the data (known as concept drift), adjustment of the accuracy of the processing according to the available computing resources, and adjustment of the phenomenon obtained according to the outputs of "virtual sensors".

However, the power of the Big Data Stream should not be underestimated: it is probably not just a simple "operational" approach, but also the production of knowledge, according to a new paradigm whose workings are only just beginning to emerge. And it would be an illusion to think that it will remain confined solely to operational areas, whether financial or advertising. These approaches also exist in environmental sciences, not to mention the fact that, within the digital humanities, much of the work on the analysis of social interactions is based on stream processing tools such as those of Twitter, for example.

The Big Data Stream diagram therefore appears as a requirement for immediacy, for response within the flow itself and for its self-referential circulation to produce reality in the sense understood above. This diagram loses the pretension to capture and to exhaustive memory[43], both in its temporal aspect and in its population coverage aspect. Caught up in the perpetual play of reciprocal adjustment, it nevertheless keeps, by replaying it in its own way, the aspect that we have designated as the absence of purposes[44].

43 From the point of view of the underlying models, the window of time taken into account by processing must be of a certain optimal duration, but by no means infinite. Thus, in the Markovian models used for so-called "real time" processing, we take $n$ steps backwards. The reason why the $n$ must be finite is not simply the technologically finite power of calculation, but the conceptual supposition of the predictability of future behavior from the state or a set of states close to the present.

44 An additional and more recent approach (to our knowledge from 2012), known as Data Lake, should also be mentioned. Two main axes of evolution can be isolated in the still unwritten history of Big Data: one towards increasing the variety of data processed and one towards the speed of processing. The trend towards variety, in a certain sense, reflects and accentuates the requirement for exhaustiveness of memory that we have discussed. Indeed, for "improving analytical performance", unstructured or polystructured data is captured and stored directly in native format in Data Lakes: "Data lakes operate […] with a deluge of information being diverted into a large

### 2.5.4.4. *From ipse to adjustment and reification*

It is therefore under these conditions, illustrated by the second diagram of the Big Data Stream, that the question of identity now arises. The tension is no longer so much in play, it seems to us, on the level of the distinction between *ipse* and *idem* (definition by subjectivity itself, from the inside *versus* the outside – for example, on the way in which "attributes" are captured and classified, specific to the Big Data Warehouse). The tension is therefore played out on the level of the modes of articulation between the horizon of meaning and the reification of reality. If the real is now that of *modulated behaviors*, the meaning that subjectivity can give to itself tends in itself to be liquid like the flows of data, granularized more and more due to their algorithmic processing.

In the philosophical concept of *ipse*, indeed, there is a horizon of meaning that transcends any *idem* of identification, however constraining it may be. However, the advent of the regime of modulation tends not only to bring the *ipse* back to the *same* level but also to flatten out the two *a priori* incommensurable levels: meaning is therefore "immanent", within the "reality" reified by the data[45].

repository where it can be held for a long period of time until it is needed. The lakes are constantly fed by new water flowing into the lake, and in fact, they are dependent on the constant flow of water to keep the environment vibrant otherwise the lake could stagnate" (Chimsky 2014). This concern to ensure constant flow, and to not allow data to stagnate and become obsolete, also reflects, in its nascent state, the need for rapid processing. However, the Data Lake offers an approach that is still too static and differs from the Data Stream in essential respects: "Analysis using data streams is a fundamentally different approach than data lakes. Rather than diverting the flow to store and then analyze, with streams, analysis occurs as the information is flowing in real- or near-real time" (Chimsky 2014). Thus, the Data Lake presents an intermediate variant between the Warehouse and the Stream (modulo the problem of data structuring which goes beyond the scope of this book).

45 This is where, in our opinion, the articulation of "algorithms" with law and justice comes in to play. If the law also enacts the reality (by retaining certain facts and not others, by pronouncing a judgment, etc.), it does so classically only from a place that is first taken away from factuality and that inscribes a given situation in a globality of meaning – this is the very meaning of justice. "Predictive" justice, based on Big Data, only works on the facts themselves "obtained" through an algorithmic process unrelated to justice. Antoinette Rouvroy strongly expresses this point of view in her recent work.

In studying this new algorithmic identity using the example of gender behavior, Cheney-Lippold notes:

> "[A]lgorithms allow a shift to a more flexible and functional definition of the category, one that de-essentializes gender from its corporeal and societal forms and determinations while it also re-essentializes gender as a statistically-related, largely market research-driven category. Gender becomes a vector, a completely digital and math-based association that defines the meaning of maleness, femaleness, or whatever other gender (or category) a marketer requires" (Cheney-Lippold 2011).

Big Data brings a major change here compared to a sociological analysis for example. In accordance with the premise of "the absence of presuppositions", this approach allows us not only to classify individuals into existing categories but also to establish new ones, as granularized as necessary to *modulate* the individual. The "categories" then become as malleable as desired, responding to the fluidity necessary for mechanisms of permanent adjustment.

Because these categories in turn have performative effects, by offering the individual 'modulatable' benchmarks for their own behavior:

> "The techniques of Big Data subject individuals to predictive judgments about their preferences, but the process of modulation also shapes and produces those preferences. The result is "computational social science" in the wild, a fast-moving and essentially unregulated process of experimentation on unsuspecting populations. Big Data's practitioners are never "just watching". And here informational capitalism's interlinked preferences for consumer surplus extraction and risk management can be expected to move subjectivity in predictably path-dependent directions" (Cohen 2013).

Thus, the granularity of meaning in operation in Big Data contributes to the contemporary liquefaction, by breaking up the horizons of meaning[46] ever more. It is becoming clear that Big Data does not simply provide information about our own preferences, but *reifies* increasingly granular categories and thus defines the prescribed horizons within which individual actions will take place.

If this situation is also characterized, as we have tried to show, by a new regime – if not by the absence – of goals, it is up to society as a whole, up to the *community* (by J.-L. Nancy's meaning) to reinvent the ends, and to reinvent meaning that is not an imposed meaning[47], and to redefine or re-territorialize existential territories.

In the field of digital technology, what are the new forms of practices, or communities, that could go in this direction? Do they

46 To illustrate this idea in a "non-digital" field of identity (but which will undoubtedly be linked to Big Data processing), one may look at the evolution of categories of mental disorders and their performative effects. The DSM, the directory of mental disorders, has seen in its successive versions an increasing granularity: about a hundred behavioral disorders in 1952 (DSM-1); 400 in 1994 (DSM-4) and 500 in 2013 (DSM-5). This general trend is analyzed as follows by R. Gori, Professor Emeritus of Clinical Psychology and Psychopathology: "Mood disorder of women before menstruation is premenstrual dysphoria (classified by DSM-4); DSM-5 promises us that if we have excessive sexual behavior, twice a week for six months, we suffer from sexual disorders. It's the same for eating habits, twice a week for six months in a slightly exaggerated way, especially if you feel guilty, ashamed, and if you have made these eating excesses because you felt depressed, that's it, you are pathological. What is pathology today? It is singularity [...]. I believe that here we have to oppose a conception of the individual not only under this disabling injunction which makes every subject an 'entrepreneur of the self', as Michel Foucault used to say, but even more so that makes the individual (you know that Ulrich Beck speaks of the 'risk society') what I call an 'individual at risk', there is really a social fiction that is being produced. The individual must consider themselves the site of a series of imminent disasters, this is very important, and it begins very early since the foetus is already examined through a number of screenings, as the site of the emergence of unexpected events, risks, i.e. disasters" (Gori 2011b).

47 The expression "imposed meaning" refers here to successive regimes of the construction of meaning: after the regime of myth, that of religion, that of sovereignty and finally that of the state, in which meaning was already imposed, already there – in very different ways, but all obeying the principle of prior purposes – we are now facing, according to J.-L. Nancy, the regime of absence of imposed meaning, hence our feeling of inoperativeness (Nancy 1986).

respond to this requirement? Let us try to see this through an example that would seem at first glance to be the opposite of Big Data.

### 2.5.5. *Quantified Self as maximum of control and initiative (exemplary case 2)*

#### 2.5.5.1. *Reflective mirror*

The example of *Quantified Self* seems to offer the most active production of data and give the individual the greatest sense of control. This self-measurement practice, which is receiving increasing attention from industry, is in this sense emblematic of the trends at work today, as illustrated in Figure 2.2 (see section 2.5.3).

The *Quantified Self* (QS) movement was born around 2007 and presented itself from the beginning as a reflective activity: the subjects are able to reflect and adjust their behavior accordingly on the basis of traces of their own activities. These digital traces, derived from sensors most often worn on the body, can record various activities or parameters: weight changes, eating habits, physical exercise, etc. As pointed out by Nafus and Sherman (2014), this practice may also involve activities close to meditation, such as the act of recording, in a morning routine, an exact and predefined number of words that come to mind. This movement can take both individual and collective forms, and in the latter case, the data are shared and compared among the members of a community.

All these data are recorded and possibly processed in an algorithmic way. This treatment can range from a simple curve of changes in the number of steps taken during exercise, to more complex treatments relating to the evolution of mood based on the words thus recorded, or the feeling of happiness resulting from a sequence of events in the individual's life. In the most complex cases, the output contains the result of the embedded algorithm, thus giving the individual not the raw data, but a resemiotized output. What the individual is confronted with as a reflective mirror is in fact the result

of a complex operation in which processes in the real world are digitalized, processed and rendered in a new semantic form[48].

We can therefore see here that the *Quantified Self* movement requires the most activity on the part of the individual[49], not only in the sense of simple active production but also in the sense of conscious initiative and a corpus of behavioral rules related to the devices.

This practice provides an example of maximum control, in the sense that the dissemination of data is expressly under the control of the individual, certainly more so than in the case of social networks, for example: since this is a practice that could be described as skillful, individuals can hardly be suspected of lacking control over the dissemination of their data.

This combination of productive activity and maximum control is the epitome of the neoliberal individual, as we will try to demonstrate below[50].

#### 2.5.5.2. *Soft resistance*

When attempting to qualify the practices of Quantified Self, it may be tempting to see them as a simple continuation of logics of self-exposure, as described in section 2.4.3. From this point on, it would be easy to make a superficial criticism by assimilating them to one of the variants of digital exhibitionism. That is not the position we take here. First, some of these practices could have positive aspects, for example in the field of education (Kjærgaard and Sorensen 2014). Then, when these practices are critically addressed, the main argument is most often to emphasize the imposition of logics of simple control on two categories of individuals. The first includes those who, because they do not understand how the underlying algorithms work, are not aware of the imposition of these logics (Jethani 2015; Jones 2015), while the second includes those who do not have the effective means

48 As we have pointed out in section 2.3, this process is based on the semantic arbitrariness of digital processing.

49 This maximum activity of the individual corresponds to the maximum of the horizontal axis of the diagram we proposed in Figure 2.2.

50 The rest of this section is based on Khatchatourov (2016b).

to deal with them because of their dependent position, as in the case of the Quantified Self in work relations (Moore 2015). In doing so, this argumentative lineage suggests the possibility of an "optimistic" outcome: provided that a skillful and critical attitude is developed by users, it would be possible to envisage a truly positive contribution for these technologies:

> "Speaking broadly, and somewhat optimistically, critical engagement with the objects, processes, behaviours and relations that are involved in producing the various types of body-awareness involved in decision-making and personal development can stimulate political action and social change" (Jethani 2015).

The rest of this section is devoted to taking this "optimistic" hypothesis seriously, trying to identify what is at stake from the point of view of the constitution of subjectivity. To do this, we will take two particular examples, the second of which presents the case where the practices of the actors are infinitely more complex than a simple submission to the logic imposed "from outside".

What would then be the relationship between these practices, the subject's autonomy and their inclusion in the processes at work in societies of control, from the point of view of the implementation of the mechanisms we have described as "neoliberal"?

#### 2.5.5.2.1. Participatory surveillance

Through examining the field of software applications for monitoring one's own sexual activity, in *Quantified Sex: A Critical Analysis of Sexual and Reproductive Self-Tracking Using Apps* Lupton (2015) demonstrates the essential ambiguity between the positive "empowering" effects of these practices and the iterative effects of reinforcing norms and behaviors already in place. On the side of effects that could be described as positive:

> "[These practices] can deliver useful health information, help women to keep track of their ovulation and menstruation cycles and manage their fertility or simply

> offer fun ways of documenting or enhancing people's sexual activities" (Lupton 2015).

However, on the other hand, these applications tend to reinforce norms:

> "The apps represent sexual activity and reproductive functions in certain defined and limited ways that work to perpetuate normative stereotypes and assumptions about women and men as sexual and reproductive subjects. Those apps that focus on sexual performance and competitiveness have the potential to incite anxiety and feelings of inadequacy in men, while women's bodies are further medicalised via the practices of intensive documentation and self-management these apps invite" (Lupton 2015).

Presented as a technique for self-improvement through the gaze directed on the self, these devices are also ways of *including* other instances of power in this gaze, both visible (such as law enforcement, for example) and invisible (such as the strength of social norms imposing particular behaviors) (Macherey 2009).

This ambiguous articulation is the hallmark of all participatory monitoring practices, in which the individual plays[51] on the boundary between submission to power and subversion. In this respect, we are here fully within the regime of modulation, where the possible transformative power would not come from a front-on confrontation with power, but from a subtle diversion of its logic.

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51 It should be noted that *play* is here to be heard both figuratively and literally: it is often through devices presented as playful that this articulation between surveillance and supposed emancipation is taking nowadays. In the context of Big Data, it is worth asking why "so many people find surveillance acceptable and even pleasant" (Boellstorff 2013). See also Beer and Burrows (2013), which highlights that "play is crucial to understand the new social data", as well as Whitson (2013) and Cohen (2015a). One avenue for future research consists in identifying in play its necessity for the construction of the individual (one may think here of its role in the development of the child, see for example Hatton [2012]), and its subversion by the logic of gamification of surveillance.

What is the room for maneuver that the subjectivity has at its disposal, in reality? Can we find, within the Quantified Self, examples in which transformative power is at work? We would be tempted to believe, in view of what we have so far developed, that such an example could be found where the individual has maximum autonomy and capacity to act, where he or she can define the very ways in which data are produced and processed.

However, we will see that such a form of resistance, which is still possible in disciplinary systems, is now facing new difficulties, which are due in particular to the role of digital technology in the creation of bodily subjectivity[52].

### 2.5.5.2.2. Idiosyncratic norms

In *This one does not go up to 11: The Quantified Self Movement as an Alternative Big Data Practice*, Nafus and Sherman (2014) provide a detailed study of the practices of Quantified Self, the result of some three years of ethnographic research in this community. Carefully analyzed, these practices reveal the subtle choices made by individuals in the management of data collection, dissemination and interpretation, leading to a particular hermeneutics of self.

The central argument of the article is based on the opposition between the Big Data mode of operation ($n = all$; the data covering the entire population) and that of the Quantified Self ($n = 1$; the data covering a single individual). In the Quantified Self, each individual works on his or her own data, thus questioning them on two levels. The first consists of questioning the *adequacy* of the data for the categories established and contributes, for example, to the understanding of the individual's own "health", an understanding that does not necessarily correspond to that of the medical institution. The second is to question *the automation* of data processing, making decisions on its relevance on a case-by-case basis, and sometimes putting the automation on hold.

52 As will become clear in the following, we make a distinction between the ability to change a social norm locally (e.g. by intervening in an algorithm already given) and the fact of being – or not being – part of the algorithmic regime as such.

The result is a fundamentally idiosyncratic approach, giving the impression that the very categories in which the data are understood are emergent and that these categories are not simply what are imposed on the subject from the outside. In this sense, according to the authors, these self-practices go far beyond the disciplinary paradigm developed by Foucault: here, the internalization of the norm is no longer simply dictated by a top-down process, but is part of the bottom-up process, initiated by the subject him- or herself. The Quantified Self is then qualified by the authors as performing soft resistance, understood as "a powerful mutability, capable of changing the instance that performs the aggregation and the way in which it is done" (Nafus and Sherman 2014).

We would be tempted to follow the authors and see in this movement a sketch of the promising articulation between individual practices and increasing digitalization, a sketch of successful re-territorialization that gives a new and personal meaning to digitalization. Moreover, this approach seems to invite individuals not only to "gain control over one's data", in accordance with the now majority and legitimate discourse, but also to gain control over their *modes* of production. It would be here a kind of twin of the transparency of algorithms, a subject that is widely debated today. We now have a better understanding of how these practices constitute an exemplary case of digital identity, by maximizing both aspects, that of conscious data production and that of data control. Thus, to use the terms introduced in section 2.2.4, we can indeed see in it a re-territorialization of a particular existential territory, that of the relationship to oneself and to one's body.

Do these idiosyncratic norms, built at the individual's initiative, offer a real potential for emancipation? It is here necessary to question the regime under which this re-territorialization takes place. How is it inscribed within contemporary society? What are the effects of this process on subjectivity?

#### 2.5.5.3. *From resistance to self-modulation*

First, in their dialogue with the Foucauldian tradition, the authors highlight the deep ambiguity of this soft resistance that they have

observed. They concede, so to speak, to a limitation that would temper the optimism that underlies their interpretation of this practice as reflective autonomy. Noting that these practices are located in the "cultural realities" (Nafus and Sherman 2014) of contemporary society, the authors conclude that they do not avoid the endorsement of the dominant logic of radical individualism, where any self-expression is conceived only as a personal choice calibrated to a purely consumerist mode.

Second, the technical understanding of one's body by oneself is extended by the incorporation of these data in the self. Thus, the feedback loop goes from the algorithmically processed data and its visualization to the effects on the body. This involves incorporating what the data show and changing the user's behavior according to the patterns of data. It is literally a question of translating the data into sensation.

Certainly, as noted by Nafus and Sherman (2014), the body has resistance:

> "Bodies, like resistance, slow things down in order to transform [data] into something else. It is necessary to add physical gestures, attention and especially repetition to transform the data from glucose tests or ovulation tests into a bodily sensation" (Nafus and Sherman 2014).

However, as in any transduction operation, the opposite effect also occurs: the body also turns "from something into something else". The incorporation of the data carries, through this transduction, the trace of digital processing. This amounts to imposing on the body and subjectivity the logic and syntax of this treatment[53]. This syntax of the

53 In our previous works (Khatchatourov *et al*. 2009), we explored, from an epistemological point of view, how scientific devices for measuring bodily activity structure the very understanding of what human sensitivity is, using the example of the sense of touch – the sense that is obviously required in all activities of the Quantified Self. Here, we reach another level of this influence, that of the technologized understanding of our body not only by science but also by ourselves. One may also consult the work of P. Guenancia (and in particular "The meaning of technology in the *Discourse on the Method*" (Guenancia 2000)), on this question of the role of technology in the scientific understanding of natural phenomena and the

quantification of the qualitative (i.e. sensation) is a self-measurement in which "semantic components become digital", to use the expression of Deleuze and Guattari in their 1975 course on increasing computerization (Deleuze and Guattari 1975). As they also note, any syntax is a system of order and constraints on the possible[54]. We thus perceive, on the horizon of quantified practices of self, that the field of what is *felt* by subjectivity – and therefore constitutes it as an *ipse* identity – is exclusively delimited by the measurable and the digitizable, even though it is treated in an "autonomous" way by the individual. Just think of the example already mentioned: the feeling of happiness – thematizing and making explicit the fact that one is happy through interpretation of data – effectively depends on their incorporation. It is not pre-existing "happiness" that is revealed by data analysis, but the very category of happiness that is produced by the digital syntax at work. As one of the participants in this study, quoted and commented by Nafus and Sherman, notes, "'Of course, what I am really doing here is unifying the subject and object', as if it were the most ordinary thing to do in the world".

However, the crux of the problem seems to us to be elsewhere. The authors' central argument is based on the assumption that the norms resulting from these practices are not imposed from above, and that their incorporation into activity is not that of a "disciplined" body in Foucault's sense. Resistance would then imply the *mutability* of the norms in operation and would constitute a promise to escape the straitjacket of imposed institutional frameworks, private or public.

In our opinion, this interpretation largely undervalues – and does not refer at all to – the transition from the disciplinary regime to the *modulation* regime, anticipated by late Foucault and developed by Deleuze (Deleuze 1990b), workings we are exploring here. The very nature of the regime of modulation – to which the neoliberal

human body. In this sense, this new "technologized" understanding of the world is part of the long tradition of science and philosophy that emerged with Descartes.

54 It is sufficient here to think of language itself and how syntax structures and delimits the potential meaning of any statement. The one whose statement does not obey the syntax is simply not understood, and rejected on the margins of society, or at least "reframed" by the disciplinary system whose distinctive features we have already mentioned.

individual is subject – is precisely not to impose norms. On the contrary, they institute a regime of functioning that makes the individual responsibilized and entrepreneur of the Self, while modulating by means of *dispositifs* (a term coined by French philosopher Michel Foucault) of power which can, or cannot, constitute the horizon of the practices of this individual. In the exercise of the Quantified Self, modulation passes precisely through metrics of self that rely on digital syntax and lead to the establishment of an imminent and individualized "norm" that loses its normative character (Rouvroy and Berns 2013) in favor of the modulation of the individual and its machinic enslavement (Deleuze and Guattari 1980; Deleuze 1990a). This individual standard, a "little variation", which certainly produces the impression of an emerging norm and of autonomy, is nevertheless subjected to the *dispositifs* that shape its contours. As Guattari notes in the course quoted above:

> "[...] one can only state anything of one's desire, of one's life, [insofar as it is] compatible with the whole of the informatics machine [...] of all state-run systems"[55] (Deleuze and Guattari 1975).

This is therefore a very specific way of re-territorializing the existential territory of the body itself. This mode is correlated with what we call, for our part, the *granularization* of behaviors, in the dual sense of an "individual norm" and the syntax (now digital) of its understanding, induced by the advent of societies of modulation.

## 2.5.6. *The illusion of control: cross-domain aspects*

### 2.5.6.1. *The consent and control paradigm*

To give a global picture of the ways in which the individual can nowadays be "put at the center" of data flows and have a certain initiative in their circulation, we introduce here the notion of a

55 In the terminology used here by Guattari, the "state-based system" seems to mean simply a system of social relations based on (technological) *dispositifs* of power in a hierarchical society. At the time of this course, in 1975, he stated: "capitalist as well as bureaucratic-socialist".

paradigm of consent and control[56]. This paradigm is, in our view, the most general expression of both the legislative principles relating to digital identities and the technological means made available to individuals, and it is valid beyond the two examples which we relied on in the previous sub-section.

By "consent", we now mean not only consent in the limited sense that the legislation confers to it, but also, prior to processing, notification which contributes to the idea of an informed choice on the part of the user. This is the meaning of the expression notice-and-consent[57]. We also include the idea of the purpose of processing as elaborated by the law, insofar as consent to this or that purpose, supposedly known to the user, is at stake here.

By control, we mean the theoretical assumption that effective means of controlling data flows, for example through selective disclosure of attributes, contribute to returning to the individual the initiative in their own construction. For example, in Khatchatourov *et al*. (2015), we have long insisted on the need for this control when the collection of personal information is carried out "at the source", as is the case in the examples of state-issued digital identity systems in different European states.

However, the consent and control paradigm also remains largely relevant to describe the case where data that have not been user-controlled at the source (or cannot be because of their mandatory nature) are processed and cross-referenced in databases on the side of the "data controller". It is still assumed in this case that the very existence of the user's data is potentially known to him or her, for example, in the case of PNRs (Passenger Name Records, all information held by airlines and made available to the government on request) or social networks in general.

56 To our knowledge, this term, in the form of user control and consent, has only been used by Kim Cameron as one of seven "laws of identities" (Cameron 2005). As will be explained below, we give it the more general scope of a paradigm and not simply law, the latter being the expression of the former.

57 Notice and consent are systematically considered as an inseparable pair in the English language literature on this subject. For a critical discussion, see in particular Nissenbaum (2010).

In this case, control can be exercised by accessing and correcting information about the user. This case, where the user cannot control the information at the source – and which is becoming increasingly frequent – therefore calls for the strengthening of the *a posteriori* means of control made available to the user. This trend is confirmed by the now adopted GDPR (GDPR 2016)[58] and the right to dereferencing.

In a sense, everything we have described in the previous sections (sections 2.2–2.4) as multiple identities and individual autonomy is in line with this denomination and this program of action to create the necessary conditions for the exercise of consent and control.

#### 2.5.6.2. *The limits of the paradigm*

While all the means mentioned are certainly necessary to support, as far as possible, the initiative and autonomy of the individual in the construction of his or her identities, it must be stressed that the very notions of consent and control are problematic, because two distinct but consistent and related logics are now at work.

##### 2.5.6.2.1. New conditions of visibility

First, from the point of view of current technological developments, there is a proliferation of devices capable of identifying the individual – and capturing him or her in the mode of the *idem* identity mentioned in the previous sections – without the individual being notified and, even more so, consenting to it. This problem has

58 It is interesting to note that, at a specific stage of the GDPR negotiations (GDPR 2016), there was an attempt to challenge the paradigm of consent in favor of an approach which would care more about the imbalance of power, but this approach was quickly abandoned. "Sadly, one of the few sensible elements of the proposed GDPR to move away from consent-based data processing—Article 7(4): 'Consent shall not provide a legal basis for the processing, where there is a significant imbalance between the position of the data subject and the controller'—has been struck from both the LIBE and the Council-amended versions." (Koops 2014). In a slightly different vein, one may consult Mantelero (2014) on the limits, in the context of Big Data, of the notice-and-consent approach underlying the GDPR, and more generally (Blume 2014) for a warning against the prevailing optimism about the impact of the GDPR.

actually been present since the widespread use of the Internet, and Clarke's work (Clarke 1994) highlights the existence of a "layer" of digital identity whose concrete content and consequences are unknown for the individual: this refers to all data that are collected without the user's knowledge, such as connection metadata, for example. Today, this aspect is becoming increasingly more important. Certainly, a certain sensitivity of the public to traces left voluntarily or involuntarily, of which they can acquire knowledge (as in the example of connection metadata), seems to be gaining ground, and can serve as support for the consent and control approach. However, this approach is limited for two reasons. On the one hand, the multiplication of the information being collected makes it unrealistic to systematically exercise consent and control, if only because of the cognitive load that its effective exercise would place on the user. On the other hand, the change in the nature of the technological means of collection, exemplified by the advent of the Internet of Things, is leading to a multiplication of sensors that collect data without the user even realizing it, as it is shown by the less and less hypothetical example of video surveillance coupled with facial recognition.

Whether by state or private actors, we are witnessing the aspiration to describe the individual in an exhaustive way, but by reducing him or her, on the ontological level, to an increasingly complete set of attributes. In this sense, determining what individual existence is based on digital traces leads to a new regime of visibility. In this new regime, the visible is reduced to what can be captured by data, to the immediate accessibility of objects and beings.

#### 2.5.6.2.2. Ambiguity of control

The second logic at work in today's society, which makes the paradigm of consent and control problematic, concerns its relatedness to a broader regime of neoliberal society.

As (Hull 2014) noted, contemporary society combines two aspects of *privacy*: considering the individual as permanently visible and as individually responsible for what is seen of him or her. This last aspect can be analyzed through the prism of what could be called "normative iteration". That is, the fact that each iteration of the social

norm reinforces its power. Indeed, each time an action of user control is performed, even a refusal to share personal data, four things happen:

– this choice is considered as a rational choice, that is, that of an informed subject who is able to weigh up the pros and cons, from the point of view of the benefits that information sharing can bring to him or her;

– the very fact that information sharing participates in exchange (economic, social, emotional) and therefore in the formation of subjectivity, as we have already mentioned, is concealed;

– the burden of the action of data control is placed on the individual[59], by inducing a significant cognitive cost and by "responsibilizing" the individual, thus making his or her actions transparent;

– finally, the particular system of social exchange, in which any sharing is considered as a calculation of profits, or even as potentially monetizable, is reiterated and made the norm.

In this sense, the meaning of the paradigm of consent and control can be considered as correlating to the vision of an individual who is not only the object of absolute visibility, but also, and above all, a rational economic agent who analyzes his or her social and political actions from the perspective of costs and benefits.

This fundamental difficulty means that the future challenges of digital identities cannot be reduced to giving more explicit control or informed consent. Other complementary paths must be found, which are undoubtedly on the side of user practices, provided that such

59 As Cohen notes: "The notice-and-consent model, which facially appears to privilege liberty, concentrates all of the costs of controlling disclosures of personal information on the affected individuals. The resulting patterns of information flow disrupt the dialectical processes of boundary management that constitute privacy in practice and that situated subjects require in order to thrive. The resulting 'surveillant assemblages' do not simply render personal information accessible, but rather seek to render individual behaviors and preferences transparent and malleable by conforming them to pre-existing frameworks" (Cohen 2012b).

practices enact resistance strategies to circumvent the imperative of absolute visibility *and* definition of the individual as a rational economic agent, and that they go beyond understanding social exchange – digital or not – under the regime of calculating benefits or externalities.

To conclude, therefore, on these points, the issues raised by digital identities go far beyond the issues of "uses" or "business models" and touch on the very way in which society as a whole conceives what social exchange is.

### 2.5.7. *The four trends at work in identities*

From our examples, we can now identify four fundamental trends at work in the transformations of identity in the digital age.

#### 2.5.7.1. *Trend 1, functional: granularizing behaviors*

The first trend we call "functional" is the connection between the characteristics of *digital support* (following the term coined by (Bachimont, 2010)), as established in section 2.3, and the specificities of the neoliberal regime of the individual. This is the trend that now makes it possible to act on the level of the increasingly finer grain of behavior.

It is played out on two levels:

– from outside subjectivity: as the example of Big Data illustrates, the analysis of data left or produced by the user leads to the refinement of the "categories" thus obtained. This, in turn, influences the understanding of the subjectivity itself, by granulating it and extracting it from the more global horizon of meaning. As such, this trend is part of what we have called, in section 2.2, "the fragmentation of subjectivity";

– from within subjectivity: as illustrated by the *Quantified Self*, the submission of reflexive practices to digital syntax contributes to this trend by ensuring a granularity that can be processed by the digital.

### 2.5.7.2. *Trend 2, modulatory: control without identification*

The second trend, which we call "modulatory", is the way in which the regime of modulation is established based on the functional trend. It describes how control and modulation nowadays proceed without explicit identification of the individual. As we have already mentioned, the purpose of this regime is not to impose norms, understood as limits, not to be crossed under penalty of coercive sanctions, nor simply to ensure that these norms are internalized by individuals, but to delimit the possible repertoire of actions and to *modulate* behavior. This trend is illustrated in two ways:

– from outside subjectivity: as the example of Big Data illustrates, the establishment of identity (if this means "civil identity") is not necessary for the individual's behavior to be subject to control. Control is now achieved through the feedback loop, which is based on behavior patterns, which are themselves increasingly granular. Once the categories for analyzing behavior have been established through *trend 1*, albeit in a shifting and provisional manner, we effectively delimit the palette of individual behaviors thus acting on the *possible* and not only on the real. At another level, an extreme example of this trend is undoubtedly the death penalty, which can be enacted solely on the basis of behavior considered *locally* suspicious (as shown by the example of signature strikes involving the use of hunter-killer drones (Chamayou 2013))[60], while justice traditionally examines the individual in its totality;

– from within subjectivity: as the example of the Quantified Self illustrates, this action upon the possible is also replayed by individuals themselves as soon as their own self-understanding obeys the *trend 1*.

### 2.5.7.3. *Trend 3, apolitical: identifying and apoliticizing bodies*

While this third trend may seem, at first glance, contradictory to the previous one, it is in fact complementary. First of all, as we have mentioned, discipline is not simply replaced by modulation, and we can already see in this trend quite simply echoes of the former.

60 These strikes move "from an epistemology of manifest observation, from a *de facto* judgment, to an epistemology of suspicion in which the targeting decision is based on the identification of a behavior or life profile indicating an alleged status of membership of a hostile organization" (Chamayou 2013, p. 205).

In reality, it seems to us that things are more complex, because the disciplinary system itself is undergoing major transformations, the detailed examination of which is beyond the scope of this book. In these mutations, identification is based on the following elements:

– biometric technologies;

– analyses using Big Data, which can just as easily lead to the identification of the individual by civil identity, thus exceeding what we have previously called "control without identification";

– voluntary or forced identification, such as in social networks or state-issued digital identity systems for access to public and private services.

It is easy to see the back and forth movement between purely biometric identification data and data of a less "sensitive" nature, perceived as non-intrusive and "neutral", which is being set up today: on the one hand, state identification systems that tend to include biometric data, and, on the other hand, the use of these technologies by social networks and the private sector[61].

For the example of biometric technologies more specifically, Giorgio Agamben thus analyzes the political consequences of their generalization:

> "The growing extension to citizens of technologies which were conceived for criminals inevitably has consequences on the political identity of the citizen. For the first time in the history of humanity, identity is no longer a function of the social personality and its recognition by others, but rather a function of biological data, which cannot bear any relation to it, like the arabesques of the fingerprints or the disposition of the genes in the double helix of DNA. The most neutral and

61 For the time being, these are facial recognition, as is being implemented by Facebook, for example, and so-called "convenience" biometrics for fingerprints, as with Apple. It is easy to see here a general trend, and it is difficult to see how it could be interrupted.

> private thing becomes the decisive factor of social identity, which therefore loses its public character.
>
> If my identity is now determined by biological facts, which in no way depend on my will and over which I have no control, then the construction of something like a political and ethical identity becomes problematic" (Agamben 2013).

According to Agamben, this generalization leads to reducing the social identity to physical identity, and to the politicization of the body – in the sense that the body becomes the *object of control policies*, and where social identity could be the *subject of politics*. The politicization of the body would thus be a corollary of the depoliticization of the citizen.

For our part, we prefer to introduce the notion of *apoliticization* of the body to emphasize a certain refocusing on the self that is not simply a matter of the external logic of control, but also a matter of the double logic of deriving the market value of the body (Lupton 2014) and of the resignation that individuals can show. Thus, the Quantified Self seems to meet the imperative of "better self" (more expressive, healthier, more communicative), but does not seem to put at the center of its concerns a *détournement* of the *regime* according to which these categories are constituted, content to simply reiterate the paradigms already in place (Lupton 2015). We can think here of the difference between the *LGBT* movement in the United States, which had a political focus on the body and its place in the very definition of the categories that govern social functioning and that of the Quantified Self[62]. As such, the latter does not offer, at least for the time being, political re-territorialization of the body.

62 To be more precise, some data practices seem to have, at the margin, political aims, for example *citizen science* (McQuillan 2013, cited by Lupton 2015); it remains to be seen how they relate to the body and identity. In another register, Halavais (2013) discusses the articulation between this type of community and surveillance.

#### 2.5.7.4. *Trend 4, ergonomic: give the impression of control*

The last trend concerns the ways in which the paradigm of consent and control is established and perceived by the individual. As noted in section 2.5.6, the actual trend is to give to the user an impression of mastery over the data, but this impression obfuscates the problematic effects that the injunction of control has on the formation of subjectivity.

#### 2.5.7.5. *Articulation between the four trends*

We can sketch here the articulation and the comings and goings between these tendencies. The functional trend (1) is the "technological" foundation that allows the implementation of the digital syntax upon which the modulatory (2) and apolitical (3) trends are based. What digital technology as such allows (as a technology based on the semantic rupture described in section 2.3) is the exchange of data and algorithmic procedures between the trends. The apolitical tendency (3) requires the ergonomic tendency (4) to encourage the individual to identify him- or herself, while the modulatory tendency (2) extends the effectiveness of identification, by aggregating the data, which in turn is based on the functional tendency (1).

## 2.6. Conclusion: privacy in question in the digital transformation

We would now like to illustrate the questions raised in the previous sections on the field of the debate on privacy.

As we know, the structuring element of this debate, from its inception to the present day (see the debate on the GDPR [GDPR 2016]), is first and foremost the search for a balance between the public interest and individual interest. When it is not caught in the straitjacket of an impossible balance, the debate focuses on the social value of *privacy* in its multiple meanings. Our hypothesis is that this debate carries a significant risk of not offering an adequate program to tackle the issues we have highlighted, as long as the individual and its constitution are not sufficiently explained. In the following sections,

we will therefore apply to this debate our hypothesis of the neoliberal regime of the constitution of subjectivity.

### 2.6.1. *The social value of privacy*

We have already specified, in section 2.4.2, some elements on the history of the very emergence of the notion of privacy as dependent on the idea of the invasion of private space, in relation to the evolution of society and technical systems in the 19th Century. In the second half of 20th Century, the debate took place between two possible views on privacy:

*(1)* On the one hand, a vision in which privacy is understood first and foremost as an individual value, a vision deployed in particular by Westin (1967) in his major work *Privacy and Freedom*. In this book, Westin develops the notion of privacy as informational control over, as we would say today, data collection and dissemination. It should be noted that certainly this book has considerably influenced public debate and that its role in the establishment of a series of laws on the protection of personal data[63] should not be underestimated. At the time, this vision was essentially guided by a desire to preserve the privacy of the individual, so to speak, *against* the state, but it is clear that such a vision can easily be transposed to the current context where it is also a question of protecting oneself *against* the private sector.

*(2)* On the other hand, an attempt to understand privacy not only as an individual value, but also as a collective value that fulfills other functions. As early as 1995, P. M. Regan in his book *Legislating Privacy* (Regan 1995) pointed out that, unless privacy is recognized as having values other than personal protection, logics of convenience and security will prevail. As such, the defense of individual privacy is a form of opposition to power, and even control over the exercise of power (Regan 2011).

63 Germany, in 1970 in the state of Hesse and in 1979 at the federal level; Sweden, in 1973; the United States, in 1974 (Privacy Act); France, in 1978.

In our opinion, the way in which this question of social value is raised does not, however, make it possible to make progress on the issues we are facing. We can illustrate this idea in two steps.

#### 2.6.1.1. *Social value in the weak sense*

The weak sense of the social value of privacy correlates to vision (1), that of privacy as an individual value. Within the general approach of seeking a balance between private interests and the general interest, it is pointed out that privacy must necessarily be given a value other than individual value, failing which the balance may at any time be altered by the power relations in effect. Indeed, it is easy to imagine logics of surveillance or restriction of individual freedoms that operate under cover of the general interest. It is thus difficult not to agree with the spirit of this analysis, and in particular with this observation on the possible instrumentalization of the balance between private interests and the general interest. While this instrumentalization is more than relevant today (see, for example, the recent debate on the consequences of the adoption of the French Intelligence Act in 2015), it has already been judiciously analyzed by Westin in 1967.

However, social value is described as ultimately preserving individual peace of mind, consistent with Westin's original agenda. It is clear, with little exaggeration, that social value has a so-to-speak *programmatic* role here: the reasoning is that we *must* recognize social value, without which we will not even have an individual value. Social value is then understood as a kind of collective bargaining where autonomous individuals can agree on a balance that would preserve everyone's "autonomy".

It must be noted that the injunction of *privacy* as a social value does not offer sufficient leverage here to define a program that is even remotely tangible. It is clear that, as long as the argument is first and foremost based on the balance between defending the private interests of an autonomous individual (in the "neoliberal" sense) and conceding a measure of autonomy to the benefit of the general interest or the powers-that-be, the debate is doomed to deadlock.

### 2.6.1.2. *Social value in the strong sense*

The strong sense of the social value of *privacy* refers to much more subtle arguments. For example, in her article *Reclaiming the Social Value of Privacy* (Steeves 2009), Valerie Steeves critically examines the two visions we have mentioned. More specifically, it is a question of proposing a "rehabilitation" of Westin's approach while taking account of the social value of privacy. To do this, the author first highlights the societal aspects too quickly ousted by the "translation" of Westin into operational legislation, and yet present in his work.

However, the central argument is elsewhere. Drawing on Irwin Altman and George Herbert Mead, the author suggests that privacy is negotiated through – or even within – social interactions. In this respect, privacy is inseparable from this interaction and is not a simple personal choice to avoid surveillance. It is the possibility of this interaction itself that must be protected. The danger of the pretext of the general interest being used to restrict individual freedoms can then be attributed not to a simple balance of power, but to the deterioration of social interactions as a whole.

Privacy is thus thematized, in accordance with Altman's approach, as a renegotiation of the boundaries between the individual and the world, as "an interpersonal delimitation process by which a person or group regulates interaction with others [...] involving selective control over the boundaries of the self" (Altman 1975). The main difference from approach (1), that of privacy as an individual value, is to consider the individual him- or herself and their boundaries as a dynamic process. The question of balance as such is here downplayed in order to focus on the different ways in which negotiations between the private and public spheres take place. It is therefore assumed that this negotiation would be confirmed in the subtle practices of self-expression, in playing with the gaze of others on Facebook, for example, in the provision of erroneous personal information and in all other kinds of *détournement*[64].

64 Note the theoretical proximity of this observation to what we have called in section 2.4.2 the "paradigm of uses". This way of characterizing the negotiation of boundaries of the self is therefore likely to be subject to the same criticisms, already described in

Certainly, social value acquires a strong meaning here: it plays a *structural* rather than a programmatic role, insofar as social relations in all their richness are necessary for this negotiation, and they are transformed in return. In this sense, it is no longer simply an extra bit of soul that serves to ensure individual peace of mind. However, the regime under which these relationships are formed and deployed has, it seems to us, been ignored.

Let us take a closer look at this aspect. In Steeves and Regan (2014), the authors distinguish four ways of understanding the social value of privacy: contextual, relational, performative and dialectical. We focus here on the first of these four ways.

One of the concrete attempts to overcome this dichotomy between the private and the public, and to give a strong meaning to the social value of privacy, is the consideration of the different contexts in which the individual faces flows of information. This is the theoretical option that Helen Nissenbaum takes in *Privacy in Context: Technology, Policy, and the Integrity of Social Life* (Nissenbaum 2010). The central argument articulates the individual's expectations according to the contexts in which his or her actions and personal data are traced, aggregated and possibly made public, and the norms that govern these particular contexts on each occasion.

Privacy is then understood not as a simple dichotomy imposed *a priori*, but as respect for the norms specific to each context: information flows must respect the contexts of use, because each relational context has its norms, explicit or not, which correspond to users' expectations of how information will flow.

These borders are not fixed once and for all: they can be renegotiated according to situations, actors and technologies. When these "dynamic" norms are violated, for example, when the employee's geolocation data during the weekend is provided to their employer, the contextual integrity is broken and the individual then feels that their privacy has been violated.

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section 2.4.2. More fundamentally, it seems to us that this way of characterizing the negotiation of boundaries is the exact corrolary of what we have called "the liquid individual" in section 2.2.3.

However, this vision is not limited to simply noting the need for contextual integrity. It is also attempting to reassess the role of privacy. The ambition of this attempt is to grasp its significance for social life as a whole:

> "Privacy as contextual integrity constitutes a complex, delicate web of constraints on the flow of personal information that itself brings balance to multiple spheres of social and political life" (Nissenbaum 2010).

However, it is worth considering whether this conceptual framework is able to capture all aspects of this "social and political" sphere, beyond the balance that contextual integrity is supposed to bring to it.

One might then be inclined to draw a parallel between the "contexts", as explained in the work of H. Nissenbaum, and what we have called "existential territories". However, these two concepts do not overlap. What is central to the notion of territory is the idea of a deployment of meaning, of active renegotiation of territories by individuals and of transformation of the individual him- or herself. The notion of context, in focusing on the expectations of the already constituted, already autonomous individual, ignores this aspect.

This is where we touch on the question of the inscription of the individual, as described by the privacy in context model, in the neoliberal regime. Focusing on contextualized expectations means assuming an individual capable of making choices and evaluating the ways in which they will be respected, and assuming "the social" as the place for a potential balance. However, are these expectations themselves not, at first glance, the result of a process of perpetual adjustment between the individual and societies of modulation? If the distinctive feature of this regime of constitution of subjectivity is indeed to delimit the horizon of the possible, and not to apply disciplinary sanctions, what horizon is proposed by these "contexts"?

As (Dawes 2011) noted, this construction of the individual is performed, as shown by the examples offered throughout H. Nissenbaum's book, in the form of "consumer", neglecting the

difference between the consumer as "subject of choice" and the citizen as "subject of law":

> "The construction of the subject as a 'consumer' ignores their other roles but, most importantly, that of 'citizen' (or, at least, their public or political role), which it would be problematic to simply construct as one of many other equivalent roles. More fundamentally, this takes the context of the commercial marketplace out of its (wider and more abstract) context in the public/private dichotomy, and fails to appreciate the importance of the value of privacy for something more fundamental than our roles as consumers" (Dawes 2011).

The functional role of appropriate choices between contexts, and appropriate actions within each of them, corresponds exactly to the capacity of the neoliberal subject, an entrepreneur of the self, to modulate their behavior depending on the expected benefits (Dawes 2011)[65].

Thus, such a definition of the very notion of context levels the difference between, on the one hand, different consumer contexts and, on the other hand, the completely different register of the citizen. It is then the very multiplication of consumer's interests, correlative to the fragmentation of subjectivity, that eclipses any horizon of meaning other than that of delimiting the sphere where expectations are potentially met.

We are beginning to see that the notion of privacy is difficult to define if we do not want to reduce the political stakes to the individualization or even the socialization of "private life". The following section is therefore devoted to the difficulties inherent in the very meaning of this concept in societies of modulation.

65 It would even be questionable whether this vision of contexts, their reordering and the balance that is supposed to result from them, does not correspond, in essence, to the vision that the economy thematizes under the double sign of the rational economic agent defined by its utility function and the market as a general equilibrium. We reserve this question for future research.

### 2.6.2. *Modulated identity and its private life*

The difficulty that we have just mentioned is not simply a terminological difficulty; it lies in the problematic articulation between the positive definition of privacy and the implementation of control mechanisms granted to the individual. As paradoxical as it may seem, the over-determination[66] of the domain of the private can also lead to the strengthening of surveillance and control of the individual. Let us illustrate this idea with two examples.

#### 2.6.2.1. *Example of data control by the subject*

We have already mentioned (see section 2.5.6), through the ambiguities of the consent and control paradigm, that the granting of apparent control over personal data to the individual does not necessarily lead to full autonomy. The "paradoxes of privacy" already attest to this[67], demonstrating that apparent control and effective user behavior are not correlated and can even be manipulated by IT system designers.

It follows that control is not only an effective value that would simply be able to give more autonomy to the individual, but also a prescriptive value, which indicates what the individual must do. In reality, the more positively the subject's domain of control – whether illusory or not – is circumscribed, the more visibility and control the subject's actions are themselves subject to. This idea is already at work in the panopticon of disciplinary societies: assuming the existence of an unsupervised area in the Benthamian prison, a prisoner who wishes to escape the visibility of the supervisor by placing themselves in this area actually indicates their position with a certain

66 As illustrated, for example, by the General Data Protection Regulations (GDPR 2016) which, while it could be critisized on specific points and shortcomings, is also in a position of principle to legislate on all possible aspects of data flows.

67 After the introduction of the term by Norberg *et al*. (2007), a whole set of studies has explored the counter-intuitive aspects of actual user behavior that are often in contradiction with their stated intentions. We will consult in particular Brandimarte *et al*. (2012) for the privacy control paradox; Miltgen and Peyrat-Guillard (2014) for the reverse privacy paradox; Khatchatourov *et al*. (2015) for the privacy adoption paradox, as well as Lee and Cranage (2011) and Xu *et al*. (2011) for their economic viewpoint on the personalization-privacy paradox.

precision. This precision is all the higher as the ratio between prescribed and non-prescribed actions is high. Similarly, in the case of societies of modulation, the very fact of using *Tor* for Internet browsing or encryption for e-mail is an indication of suspicious activity, while the actual content of the activity is not necessarily illegal.

However, the essential thing is not simply the permanent suspicion of which our society bears the imprint, and in which the individual is considered, to use the expression coined by Merzeau (2009), only in two aspects: consumer or offender. What is much more important to us is the very process of having to regulate what must or must not be controllable by the subject, which *de facto* defines the domain of what the subject is able or not to consider as their own, as part of their private life. By regulating the field of what is controllable by the subject, it is the possible and its horizon of meaning, in accordance with the Foucauldian characterization of neoliberal societies, that are defined in a positive way.

Paradoxically, to not give the user open control but instead a space of freedom in which subjectivity can occur, in order to counter both this "invasive" legislation[68] and exhaustiveness of memory which we have mentioned in section 2.3, we must maintain, against contemporary fluidity, what July E. Cohen calls "semantic discontinuity". Semantic discontinuity here refers not only to separation between "contexts", but also more fundamentally to the need for spaces of non-determination, to the non-superposition of existential territories:

> "Semantic discontinuity is the opposite of seamlessness: it is a function of interstitial complexity within the institutional and technical frameworks that define information rights and obligations and establish protocols for information collection, storage, processing, and exchange. Interstitial complexity permeates the fabric of our everyday, analog existence, where it typically goes unappreciated. Its function, however, is a vital one. It

68 On avenues of resistance to this legislation, this "invasive and totalizing jurisdiction", we will consult Mengue (2009).

> creates space for the semantic indeterminacy that is a vital and indispensable enabler of the play of everyday practice" (Cohen 2012a, 2013, 2015b).

Here, we will briefly mention at least three components of this "seamlessness" that bear the trace of contemporary ambiguity: fluid interaction already thematized in the scientific field of human–machine interaction and for which Apple, for example, is the industrial spokesperson; the *architecture* level of networks, which we mentioned in section 2.3 under the term "convergence", and the growing legislation on data exchanges. For this third part, we will note, among other examples, the intrinsic ambiguity of the debate on data portability in France and Europe (GDPR 2016): at the very place where we set ourselves the ambition to grant more control to the user through the use of interoperable formats, we also open the door to the technical feasibility of exchange of these same data by other actors, in an increasingly fluid way and without any control.

We then begin to see how digital technologies (helped in this by the dual semantic rupture that characterizes them, see section 2.3), and the discourses that accompany them, tend to level out semantic discontinuity.

#### 2.6.2.2. *Example of a protective discourse*

The second example concerns the way in which the discourse on control technologies influences the perception of these technologies, and how a certain discourse on the protection of individual freedom carries the risk of becoming, in a paradoxical way, complicit in the control of the subject.

In this field, the most telling example is undoubtedly that of biometrics and its recent developments. It has long been the practice to distinguish, as the doctrine of the CNIL (French Data Protection Authority – *Commission Informatique et Libertés*) did until 2016, for example, between, on the one hand, the family of biometric technologies involving traces and, on the other hand, the family of intermediate and traceless biometric technologies. According to this distinction, fingerprints are trace biometrics in that the finger leaves

traces in the physical environment, and it is these traces that can be collected and processed for identification purposes. In particular, this technique leaves the door open to misuse and "remains risky in terms of usurpation of identity", which led the CNIL to frame it in a fairly rigorous way. The techniques of the second family, that is, without traces (typically the venous network of the fingers) and intermediate (the iris, the shape of the face), are then considered less questionable, because the risk mentioned above is considered lower. As such, this second family could be seen as more neutral to privacy, more "protective" of the individual.

In our opinion, such an interpretation already contains a fundamental ambiguity. In the transition from the first family (trace biometrics) to the second family, two things seemed to be at stake. First of all, we enter further and further into the body, while giving, through the absence of contact, the impression of a lesser invasion. It is the motive of seamlessness and ergonomic interaction that prevails. However, it is the very interiority of the body itself that is thus increasingly scrutinized for identification purposes that is now being performed not at the boundary between the world and the body, but within it. Secondly, under the guise of protection, identification is in fact increasingly secure and technically infallible. Indeed, if fingerprint identification can still be avoided by burning one's fingers, a practice that has been documented among asylum seekers (Manach 2009), it becomes more difficult to imagine a similar strategy in the case of iris identification, unless there is an overbid in the number of mutilations. Thus, the protective discourse paradoxically accommodates this simultaneous progression towards the interior of the body and towards the infallibility of identification.

This distinction between trace-free and trace biometrics was abandoned by the CNIL in 2016. Two new families now replace the old distinction. In the first family (1), the biometric template, whatever it may be, is stored on a centralized server (known as "in database"), so it benefits from increased vigilance on the part of the CNIL. In the second family, (2a) access to the template "in database" is protected by a "secret" (typically a secret code associated with PKI architecture) that only the user knows, or (2b) the template is stored

and verified locally on the identity card that only the user holds (called "match-on-card"). This second family (2a and 2b) is less questionable for the CNIL.

It is clear that this second family is preferable from the point of view of non-disclosure and non-centralization of biometric data. However, the paradox seems to us to be much the same as with the distinction in force before 2016: under the guise of the protective argument, the consequences of the new procedures are in fact increasingly problematic.

Indeed, in the event that the user loses or discloses the card code (2a), who will be held responsible for potential access to the template stored on the server? Are revocation of this access and adjacent issues of the same nature like losing the code for a simple bank card? Will there be specific insurance as with means of payment, further individualizing the risk? In case (2b), is the problem not amplified in a certain way? Because it is now the user's responsibility to always carry with him/her at all times a digital annex that validates the status of his/her body as *identified* – and to finally consider this card (2b) as really "private" in the same way as his/her body. Otherwise, they could be considered to be without identity, no longer have access to a particular service, or be required to prove that they have not committed any fault so that their identity can be "re-established". It is clear here how this movement contributes even more to the individualization of risk, which is one of the distinctive features of our neoliberal societies.

Family (2) is described by the CNIL as "biometric devices allowing people to keep control of their biometric template". Of course, control always goes hand in hand with greater responsibility. However, "control" imposed, including for protective reasons, always goes hand in hand with the over-determination of the domain of the private and with higher potential cost – and this cost is clearly borne by the user.

Privacy therefore becomes a simple injunction to "properly use" biometrics – and thus to use them anyway. Therefore, we can see the fundamental ambiguity of these technologies: the more we advance in

the definition of the domain of the private and what must be protected, including through protective discourse, the more this domain becomes positively delimitable, the more it offers opportunities for strategies of power.

To conclude on these points, the regime of modulation societies produces subjects that concern themselves with their private lives, but only in the way that has been prescribed. This prescription, by delimiting any possible reconfiguration of existential territories, shapes them as subjects of modulation and control:

> "Broaching surveillance only in terms of privacy threat is potentially detrimental and can paradoxically reinforce it, since privacy and surveillance are not antagonistic […]; rather, they seem to work together in the deployment of the surveillance society. The more that is said about privacy, the more consumers focus on their individuality, […] which shapes them as the subjects of control" (Coll 2014).

In a sense, this is not surprising and is easy to understand: personal data *must* be protected to ensure their scarcity if they are at the root of the economy: like the oil or drug economy, scarcity and difficulty of access are an integral part of the economic model[69]. This does not mean, however, that leveling scarcity, by opening up all the data, would lead to reducing this trajectory: such an approach, if inspired by liberal laissez-faire, would probably only exacerbate the inequalities already in place. A. Westin, whose theoretical starting point in the book we have already mentioned (Westin 1967) is firmly in line with the liberal trend (Steeves 2009), emphasized in 2003 that privacy is undoubtedly the privilege of the upper classes, who are not obliged to spread their personal data in order to receive family allowances

69 It is in this sense that the current debate on the establishment of ownership of personal data must be examined: subjecting them to the legal regime of property rights would only increase the possibility of their alienation. It seems to us relevant, then, for future research, to draw parallels with other economic contexts, where the introduction of property rights in situations where they are initially absent has had questionable effects. For example, in the area of land ownership, we will consult Mitchell (2008).

(Westin 2003). On the contrary, it will be necessary to question the very regime of economic exchange, its hold on social life, and to confront the question of the horizon of meaning that such an exchange opens or obscures today. In short, it will be necessary to reflect on the possible and its influence on the constitution of subjectivity.

To do this, we must understand privacy not as a right, or even as a means of guaranteeing autonomy, but as a way of making apparent the tensions of the subject in the digital age. At the very least, this seems to us to be the necessary condition for questions of responsibility and governance of personal data to be raised anew.

# 3

# Individuals, Normativity and Urban Spaces: Critical Perspectives on Digital Governance

## 3.1. Introduction

This chapter is situated within the perspective opened up by the argument proposed by Armen Khatchatourov in this book. It proposes another methodology of approach, striving to open a complementary field of investigation. While moving on to the issue of the transformation of identity in the digital age, it will be necessary to question the essentially individual dimension so common in approaches associated with this theme. This approach will make it possible to address the question of the nature of the actors involved in the processes of identification and authentication as collective facts, within urban spaces. The aim will be to contribute to the development of a socio-political research object[1].

Whether in speeches associated with managerial disciplines dealing with governance, or from the point of view of ethical discussion, *the individual* most often appears as an omnipresent actor confronted with a set of established entrepreneurial and administrative

Chapter written by Gabriel PÉRIÈS.

1 I would like to thank Armen Khatchatourov, Pierre-Antoine Chardel and Gérard Dubey very warmly for their proofreading and wise comments, which greatly contributed to enriching this text.

*Digital Identities in Tension: Between Autonomy and Control,*
First Edition. Armen Khatchatourov, Pierre-Antoine Chardel, Andrew Feenberg and Gabriel Périès.

structures. These are nevertheless part of the process of building personal identity in the digital social space.

Based on this, it appeared necessary to us to question the lexical construction of the words *individual(s)* and its adjectival (*inter-individual*) or compound (*individual-organizational*) derivatives, in the context of the transformation of digital identities and the works that address it. What about the procedures, "algorithmically determined" normative devices of identification, as well as the uses associated with them on networks, taking account of the fact that this *individual* often remains to be defined in its relationships which are always technologically instituted? The question arises, indeed, because these individuals are also actors explicitly involved in social relationships in the very midst of the development, marketing and use of digital structures – some of whose essential components should be mentioned – with which these same *individuals* are associated. This is part of a fabric of relationships that are supposed to be based on trust (Périès 2014). Indeed, if trust is a necessary element in the construction of sociability, the social and political nature emerges out of this link that is now constructed by digital networks. The same applies in the context of biometric identity capture.

The question concerns the determination of the nature of this supposedly *individual* link in the context where what establishes this link is itself based, as we will try to show, on digital practices and algorithmic logics (Cardon 2015b). New social actors, thinking of themselves as individual users of digital tools, then emerge within a digitized society in full transformation. As Daniel Kaplan and Renaud Francou point out in this regard, in the subtitle of their book, it is a question of presenting "new tools to rebuild the relationship between organizations and individuals" (Kaplan, Francou 2012). Such a rebuilding effort does not simply concern the economic world, but also the social and political space as a whole.

In this context, we propose to open up research perspectives on a space of socialization that is currently undergoing major change, namely the urban space that will cover nearly 75% of the world's

population in 2050 (UN 2014). We will try to determine the institutional and collective components of this *individual* dimension with respect to the emergence of the smart city or the "interactive city" (Carmes and Noyer 2016). Indeed, this new territory, resulting from the cybernetic revolution, is in the process of profoundly changing the social and political links that citizens maintain with their "ecosystem", itself in constant transformation. The *individual* is part of a networked environmental whole in which their body undergoes changes relating to the way it is perceived and perceives itself, through e-health[2], for example, through connected objects, through the architecture of its place of residence, through the rules of urban planning that meet the requirements of sustainable development, etc. A new governance is thus being established for an e-citizen, whose structure must also be determined.

In order to open up avenues for critical reflection, this chapter will set out to take some steps to understand how this *digitized individual* is, so to speak, a product of identification procedures, one of the structural expressions of the atomization that is so characteristic of the social uses of information and communication technologies (ICT). It will also be necessary to go beyond this individualizing dimension of the dominant approaches, by questioning what this *individual* is and what it means in the cyber society that we see emerging. It is quite possible that the concept of the *individual*, in its common use, may prejudice the understanding of social and collective processes at work today in the networked society, largely based on algorithmic management.

While the individual dimension cannot be ignored, it cannot be the only variable reflecting transformations of identity in the digital age. The focus here will be on the construction of the digitized individual, the use of their identity and processes of identification as social and political facts. These processes are vectors for redefining relations of power and domination in the city (Faillet 2016). Following this orientation, it will be a question of evoking the nature of the links of domination and control that exist between the consumer and the

2 For the link between e-health and the space of the "smart city", see the online publication *Smart City Mag* (2018).

machine, the very machine that produces prescriptions and recommendations based on algorithmic procedures.

In proposing such orientations, it will therefore be necessary to set out the terms of a specific approach to the transformation of identity in the digital age in order to produce a typology (even a summary in the first instance) of the actors and the transformations they institute. Since this metamorphosis is a social fact of transnational, if not planetary, scope, it will be necessary to try to grasp the elements that constitute ruptures as well as continuities, based on their social *and* institutional expressions resulting from the cybernetic revolution – even though this revolution has remained rather unthematized since its historical appearance.

As a result, issues arise related to the use of networks and the consumption patterns they generate: the *individual* plays their role by paying their subscription to their operator, an operator that shares with others an oligopoly over the digital market. Such recognition is, for example, called into question for the victim of identity theft in the context of a *phishing* practice. The victim's identity is thus used and subjected to the risk of the application of procedures and normative determinations that are then imposed on them. Thus, they are generally prescribed to become once again an identified and identifiable "digital being" who, through the authentication procedure, is permitted to develop in a socially constructed space. Multiple actors are thus involved. This goes far beyond the strictly individual fact: the person who is involved in the process of restoring social connectivity will have to demonstrate that they are not the one who has carried out, under their usurped identity, acts involving cybercrime (Quéméner and Charpenel 2010). Institutions – police and judicial, or private security companies – are thus in charge of these procedures.

In other words: what is the specificity of normativity at a time when digital technologies largely determine the nature of the link between the individual and society? What is the place of coercion, if it is at the root of social cohesion, as Emile Durkheim suggested in his work (Durkheim 1894)?

Modes of social and political organization in which actors with different functions develop are to be defined. There are those who produce the norms, those who apply them or who configure the spaces of connection; or those who produce the technical resources, and sometimes who manage their intersections, thus falling within specific *social fields* within which multiple modes of interaction emerge. These are spaces in which power relations, specific to groups, are not absent, whether economic or political, at the international level. The role of the GAFAM oligopolies – Google, Apple, Facebook, Amazon, Microsoft – which today control the use of networks as well as the identification procedures of their users, is, in this respect, very illustrative. For example, in the French context, we can mention the state institutions and private stakeholders involved in the creation of the database of Secure Electronic Titles (TES), and the procedures for identifying French citizens (Décret No. 2016-1460 2016). These procedures have raised some concerns on the part of the CNIL (CNIL 2016, 2017), itself an institutional actor covering specific regulatory functions, whose opinion will in turn help to redefine the socio-political field in question. On another level, it is also interesting to refer to the case of the designers of Mexico City's *Safe City*, where private actors specializing in the implementation of urban security on an international scale, such as the Thalès group, have been involved. They thus join the management of functions that are traditionally referred to as "sovereign" to address the state's own domains of security. As we will see later, there are a number of actors – public or private – whose nature, social and political roles and functions need to be analyzed, and who are involved in new ways of managing urban territories.

In the rest of this chapter, we will first propose some tools to capture the systemic aspects of the construction of individual identities, including on a comparative level, from a political sociology perspective (Lagroye 1991). This will make it possible, as a second step, to locate this socially constructed *individual* whose control is at stake in an urban space that is soon to be globalized.

## 3.2. Identity-identification as a social fact: the systemic construction of digital identity

### 3.2.1. *Identity and identification*

Common sense dictates that the individual should appear as the sole stakeholder included in the process covering the technical construction of the identity-identification-authentication triptych in the context of usage of networks. To qualify this understanding and develop our hypothesis, let us question the definitions of this process of identity fixation: we are in the presence of the creation of a social *process* between individuals, certainly, but above all between social actors who come to establish themselves within a social and political reality. These actors then define functions and processes that structure this identity. To understand the stakes of these operations, let us come back for a moment to one of the ways to define identification and authentication in the digital world:

> "Identification: process of assigning, certifying and recognizing an identity. It is carried out in an administrative way by the State, but also in a relational way through social relations (*procedural* design). In the digital world, it is done by combining codes (PIN codes, passwords, etc.) and personal data.
>
> Authentication: a certification process that allows an identity to be associated with a person who claims to carry out an action. It verifies that the person who holds an identity card or access card, or who carries out an action on the Internet, is the cardholder or the author of the commercial exchange" (Ceyhan 2005, 2006, 2010).

If identity is a fact that refers to the individual by association, sometimes also to a group of individuals, it also refers to an act of identifying that occurs within an instituted space. This action is also based on an authentication phase. This is often achieved by issuing an electronic certificate based on a procedure based on a specific standard. Different actors are involved: whether they are of public or private origin, they are part of competitive spaces, economic fields,

often organized in the form of oligopolistic markets. The point that seems central to us here is that they structure the areas of governance of the "smart city". This governance, following Bernard Jouve's work, will be understood as the functional – and we add for our part technological and managerial – structuring of the social and political actors involved in the identification and authentication processes which are considered legitimate[3]. These processes are also impacted by the digital transformation of urban spaces.

### 3.2.2. *From algorithmic rationality to the human body*

In his famous book *The Human Use of Human Beings* (Wiener 1950)[4], Norbert Wiener, the founder of cybernetics, was able to evoke the profound social transformations he saw taking shape on the basis of the procedural articulation between the human being and the machine. He could thus point out that "we will take part in the near future, due to the development of technologies, of life in a society of machines" (Wiener 2014, p. 65, author's translation from French), and especially that "cybernetics is the theory of communication and control in living beings, societies and machines alike. […] [Neurophysiology] has already borrowed many ideas from cybernetics. We can think that sociology will follow the same direction" (Wiener 2014, p. 291).

Norbert Wiener thus determined a profound interaction, not only between human beings and machines, but also between machines themselves, thus paving the way for the empowerment of systems. These modes of interaction and their integration into our social, economic and political worlds are nowadays difficult to challenge.

In order to clarify the issue of these complex interactions, let us refer to Christian Haro's work to determine the functional diagram, here as it relates to computer science, of a formalized process that integrates an algorithm as receiver and producer of information

3 For the debates around the very definition of the notion of governance, see Jouve (2005, 2007). It will also be interesting to consult the different types of uses of the term in question in Belot (2017).

4 We will use the French version (Wiener 2014) here.

through inputs and outputs – before locating this process in the systemic representation of political decision-making, as modeled by David Easton. A program then enacts, as computer instructions, the process of storing and processing this information by a central unit; it takes the schematic form of Figure 3.1.

As Christian Haro (Haro 2015) explains, such an architecture has been that of computers since their very beginning, in the first half of the 20th Century: "it was invented and theorized by John Von Neumann[5] and Alan Turing", the creator of the notion of artificial intelligence (AI), which also models brain functioning.

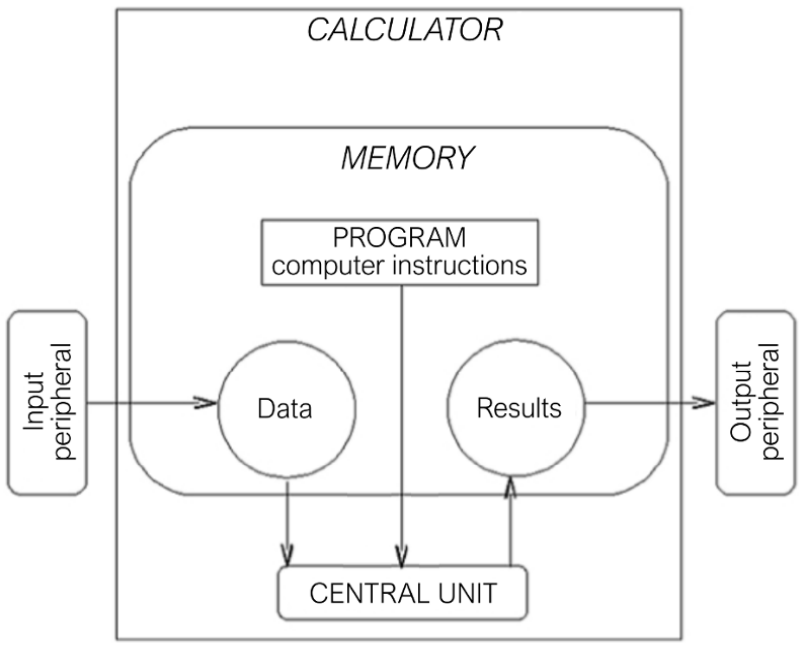


**Figure 3.1.** *The principle of input–output architecture (Haro 2015, p. 13)*

5 The creator, in the 1950s, of one of the first North American computers, the IAS machine.

It is specified that in this architecture, the CPU only executes one instruction at a time and these instructions are executed sequentially, one after the other, in a pre-established and permanently fixed order:

> "We say that it is a *sequential* machine to characterize such behavior. A second important property of such machines is that the same data, communicated to the same program, produces the same results, regardless of the environment and the time of execution of the instructions. It is then said that this type of machine is *deterministic*" (Haro 2015, p. 13).

It is largely on the basis of this communicative and computational process which sets instructions that cybernetics has been able to forge the hypothesis of a retroactive link between the human being and the machine, as well as that of an automated mode of governance of social spaces. As Norbert Wiener writes:

> "[…] the physical functioning of the living individual and the operations of some of the most recent communication machines are exactly parallel in their similar efforts to control entropy through feedback. In both cases, there are sensory receptors that form a stage in their operating cycle: i.e., in both cases, there is a special device to collect information from the outside world […], and make it useful for the functioning of the individual or machine" (Wiener 2014, p. 59).

In this approach, "the synapse in the living organism corresponds to the switch in the machine" (Wiener 2014, p. 66). Because, for Wiener:

> "The nerve fiber transmits an impulse or does not transmit it. In both cases, machine or nerve, there is a system that makes future decisions depend on those made previously. In the nervous system, most of this

> work is done at the junction of several fibers parallel to a single one, a junction called the *synapse*" (Wiener 2014, pp. 65–66).

A simple glance around a subway car in New York, Buenos Aires or Paris, at rush hour, will tell us how many people, physically, have their synapses stimulated by an algorithmic program. A program that stimulates nerve endings – eye, eardrums, fingers – to return an *output* that will structure, through algorithms, and the specific knowledge of ergonomic engineers, a new message. This becomes a new *input* for another user who may be located several kilometers from the passenger who produces it, while using a transport network, whose operation and management are now based on a similar digital logic. Is the individual who behaves in such a similar way to another, all over the world, an outsider to social space? Are there any determinisms that place, for example, their behavior within the limits of the INSEE socio-professional categories to which they belong, or their place of socialization in France or in the United States?

It is in this context that the digital individual takes on a social dimension and occupies a place in the e-city. The digitally constituted individual then becomes a product of the interaction between these different technological and social variables, as well as those resulting from the organization of territorial space. We will see that this territorial element is now a decisive axiological point in the context of the ongoing cybernetic revolution.

### 3.2.3. *The e-individual: between systemic analysis and redefinition of the social field*

First of all, it is necessary to signify the constituent elements of the environment in which any system evolves by recalling the very origin of the word "cybernetic". As Wiener points out:

> "I have derived from the Greek word *kubernetes*, or 'pilot', the same Greek word from which we ultimately

> derive our word 'governor'. Moreover, this word was used by Ampère in reference to *political science* [...]" (Ampère 1834; Wiener 2014, p. 47).

The Greek term *κυβερνάω*, *kybernáô*, means "rudder" or "*gouvernail*" in French hence the etymological origin of the terms "government", "govern", that is, the art of steering the ship, as well as that of the metaphorical expressions of power and authority that raise the question, very close to common sense "who is steering the ship now? Who is the captain?", to define who has sufficient authority to lead the state or government, like the captain of a ship[6]. It appears that technical resources are linked to *governance*, and have been for some time. They are located at the intersection of disciplines and tools that organize actions and their functional uses (engineering sciences, neurology, computers, decision-makers, companies, socio-institutional structures, e-citizens). These actions, for example the sending of a tweet by President Trump in the context of the crisis with North Korea, an email from our insurance company inviting us to pay our premium, or the circular from a human resources department of an organization signifying an appointment, produce actions in return. These actors and systems thus structure, within specific fields of force, in the Bourdieu sense of the term, control strategies, if not relations of domination (Bourdieu 2012). This is also what will structure a cybernetically transformed political system.

It is interesting, in this respect, to note that there is a representation of political action as an informational process. This representation, known as "systemic", structurally reflects the association of algorithms with data (Khatchatourov 2016c) and can be illustrated by the diagram found in David Easton's reference book, *A Systems Analysis of Political Life* (Easton 1965).

6 This question also applies to the smart city. On this subject, we refer to Marzloff (2016).

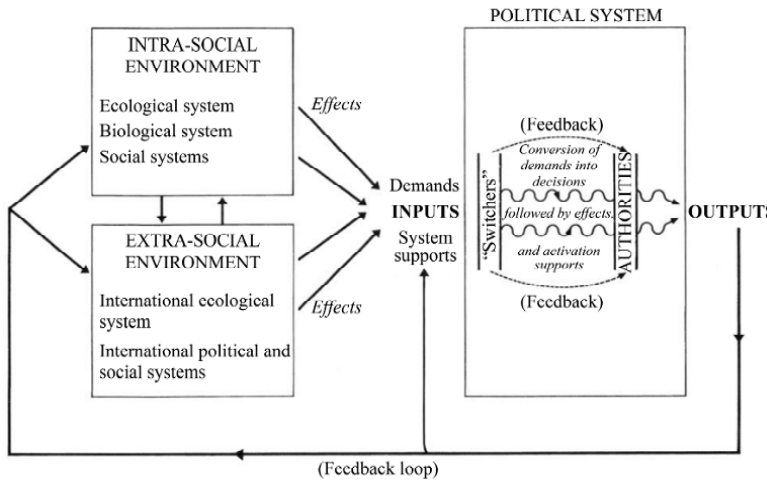


**Figure 3.2.** *Dynamic reaction model of a political system (Lagroye 1991, p. 141)*

The systemic approach presents a structural homology with cybernetic circulation and regulation. This is the circulation of information (*outputs*) in contact with an environment in which other actors (from local social systems and international political systems) also develop. This information will be modified, and will return to the device that produced it, creating incoming information (*inputs*) in the same system. Like the algorithmic procedure, this information flow, which takes the form of a feedback loop, is socially structuring. After new processing of this information by actors with specific functionalities (Easton calls them "switchers", "authorities" and "supporters"), it becomes possible to boost the decision-making system through an internal procedure. Through this loop, the message or elements produced are reintroduced into internal processes. This ensures that the system itself adapts to the changes produced by an environment. One of the functions of the processes just described is to ensure the stability of the system, including the political system. This stability contributes in principle to the legitimacy of the latter.

This political system can therefore be understood as a "black box" in perpetual adaptation to its environment, like a unicellular being moving in a liquid. It is thus in interaction with other systems that surround it, the whole which constitutes society, on a social, professional and economic scale. All these interacting levels produce an "ecosystem" that is now global, evolving in a closed and finite space, in which the population is constantly growing.

However, these spaces are not homogeneous and can be qualified as "fields of force", as Bourdieu did by analogy with the magnetic force field:

> "A field is a structured social space, *a field of force* – there are dominant and dominated, there are constant, permanent, unequal relationships within this space – which is also a field of struggle to transform or preserve this field of force. Everyone, within this universe, uses in competition with others the (relative) strength which they hold and which defines their position in the field and, consequently, their strategies" (Bourdieu 2012, p. 46).

It is within social spaces structured in a non-homogeneous way that the presence of the different actors who establish their institutional or economic strategies of control or exercise of power in their different fields, in interaction or in a competitive situation, must be located. This exercise of power is partly based, as the lawyer and sociologist Niklas Luhmann pointed out, on procedures. For him, in the case studied, namely the legal system, we should "note the common points of all judicial procedures and recognize these procedures as *ordered systems of action*, empirically graspable, regulated by legal norms, but also by the *institutionalized social use* that is made of them and, finally, by the expectations of behavior that are created in each particular case" (Luhmann 2001, p. 28)[7]. If the *procedure* is for Luhmann "a social *system of* a particular kind, i.e. a network of meaning specific to a factual activity", *legitimization* is conceived as

7 It is quite remarkable that this author has worked with D. Easton and also relies on systems theory.

"the adoption of binding decisions within the personal structure of decision-making" (Luhmann 2001, p. xxxi). We understand by this that the individual is therefore never isolated from a procedural field, they are even part of it, integrated into a system (political, legal, technical) that will draw its legitimacy from the action of this same individual who accepts its constraints (Périès 2014).

In this context, the institutional actors thereby legitimized, whether public or private, ensure procedures relating to the identification and authentication of the individual and, consequently, the very constitution of their identity. They constitute social facts through which *habitus* are developed and reproduced. These *habitus* are objective structures, products of collective history and integrated through education as well as the social uses of language, economics or law. They reproduce "as durable provisions, in all organisms (which can, if you will, be called individuals) permanently subjected to the same conditioning, therefore placed in the same material conditions of existence" (Bourdieu 2000). It is within different fields in interaction that it will be necessary to place the determined actors in Easton's system: supporters, switches, authorities. What justifies such an overlap is the desire to insist on the strength of effects of constraint, which are most often invisible to an ordinary citizen. In the management of their digital identity, the individual does not perceive the power structures and force fields that intervene.

The idea or theme of the acceptance of binding decisions can moreover be linked, proportionally speaking, to Durkheim's sociological perspective of the elaboration itself of the socially determined fact. As Emile Durkheim pointed out:

> "A social fact is recognized by the *power of external coercion* that it exercises or is likely to exercise over individuals; and the presence of this power is recognized either by the existence of some specific sanction or by the resistance that it opposes to any individual enterprise that tends to cause it violence" (Durkheim 1894, p. 21).

The individual complies with such a set of constraints, not only when they are experienced in the form of a command[8], but also when they are not explicitly stated, or when they are only symbolic (Durkheim 1894, p. 19). This coercive power operates in this way when individuals are confronted with it, thus helping to legitimize the actors whose function is to identify them.

In order to clarify our purpose, it will now be a question of positioning these different elements that socio-politically – and technically – construct the individual, within the technological ecosystem in which several billion people connected throughout the world are deployed, that of the intelligent city or smart city.

## 3.3. e-Identity under construction in the smart city space

### 3.3.1. *The smart city and the state*

By integrating the theme of the smart city into our thinking, we wish to compare some of the theoretical and methodological tools mentioned above with the questions raised today by the transformation of urban and territorial spaces. The stakes are high, because we are dealing with changes that are roughly on the same scale as Haussmann's transformation of the city of Paris during the Industrial Revolution and the emergence of identity management in the 19th Century.

Understood on the basis of a socio-political analysis, it is the governance of the Digital City that is now at the heart of debate. Such an evolution induces a redefinition of the state as an ideal-type, as Max Weber put it in "Politics as a vocation" (Weber 2004[9]). For him, "we must say that the state is the form of human community that (successfully) lays claim to the monopoly of legitimate physical violence within a particular territory – and this idea of 'territory' is an essential defining feature" (Weber 2004, p. 33). To specify further,

8 For the etymological definition of the norm as a commandment, see Kelsen (1996, p. 50).

9 This is a translation of the German "*Politik als Beruf*", Weber's 1919 essay based on a lecture he gave in Munich earlier that year.

that "what is specific to the present is that all other organizations or individuals can assert the right to use physical violence only insofar as the state permits them to do so. The state is regarded as the sole source of the 'right' to use violence". This allows Weber to specify the content of the term "politics":

> "Hence, what 'politics' means for us is to strive for a share of power or to influence the distribution of power, whether between states or between the groups of people contained within a state".

The emergence of the smart city is testing these definitions of the state as socio-normative processes, for example, through the fact that, according to some estimates, more than 75% of the world's population will be socialized in urban areas by 2050 or that there are still digital deserts or nomadic populations today. We believe that there are acute questions both about the "cybernetic" redefinition of the territory over which the monopoly of legitimate violence is exercised and about the determination of the social actors who are responsible for applying it, or the social groups who will be regulated in this way.

Consequently, the definition of the social fact must be re-examined: which norms are applied over the territories? The urban space, the interactive city, become experimental spaces to be explored and questioned, no longer in the socio-historical context of the Industrial Revolution, the one that began in 1791 with the invention of the steam engine and its industrial uses, but in that of the ongoing cybernetic revolution. It would then be appropriate, from a social–historical point of view, to compare these two periods in order to understand their ruptures as well as their continuities. It would be a research program in its own right.

## 3.3.2. *The interactive city and its actors*

### 3.3.2.1. *The hypercity: a new territorial actor?*

If we take Norbert Wiener's reflection on the connective link between the body and the machine by resituating it in the space of the cybercity, what do we find? In the definition of the smart city, there

is a number of areas that are articulated at the urban level. In France, for example, in the 2016 report entitled "Appropriation and deployment of the smart city in French cities, conurbations and territories", the Smart City Observatory was able to determine a set of axes with the objective of identifying "the positioning and motivations of elected representatives and territorial managers, their objectives and priorities, their governance and project management models, without forgetting the analysis of innovative cases of use of the first responses to experience" (TACTIS 2016, p. 4). It thus mentions the main priority areas for action by local authorities concerning mobility and transport, management of fluids and energy, and citizen participation:

> "Generally speaking, there has been an increase in the importance of actions in the energy and environmental sector, as a corollary to the gradual integration of 'smart' and 'sustainable' city strategies" (TACTIS 2016, p. 14).

In light of this urban planning framework, the challenge is now to highlight that the areas mentioned constitute specific fields. Which components act within them? What interactions and logics of identification are in play?

For each of these areas, the question of data management is a new challenge of territorial management for the "hypercity". In this context, the individual or collective traces resulting from the use of ICTs in these sectors in the process of reinstitutionalization constitute both a commodity and a structuring index of personal identity. As Franck Cormerais explains on this subject, the "hypercity" becomes the space where territory and data meet:

> "The hypercity is conceived through the implementation of a local system where the relationship to data, i.e. to signs-traces, enacts a reconfiguration in spatial and temporal redistribution. The dimensional effects of this dynamic are grouped around three generic *procedures*" (Cormerais 2015, p. 163).

According to Franck Cormerais, habitat (H1) includes residence, architecture, urbanism; habit (H2) refers to ways of doing things and modes of existence; and *habitacle* (cockpit or command post) (H3) results from the interface of H1 and H2. The point that is then made is that these procedures "allow us to address modes of existence in the digital environment organized by the hypercity". Thus, "the paradigm of traces, understood as the association of *sign* and *data* allows a new conception of the politics of the city and territories". From then on, the urban space thus defined as a producer of traces also becomes the structuring element of an "extended organization of traces in the deployment of the relationship within a local system between the three Hs". This leads to changes in the layout of the urban environment and its social functions:

> "The meeting between the hypercity and the data announces the formation of new territories (political, social, psychological) understood as the establishment of specific relationships between the local system and the modes of existence addressed by the three generic procedures".

From these feedback loops, we intend to highlight certain principles of cybernetic rationality. It is through them that blocks of normativity will be created, which redefine new structures of social and political spaces. Following our interpretation of Durkheim's approach, it is therefore appropriate to understand the elements that will ensure the implementation, within the "hypercity", of coercive and coactive acts.

The hypothesis is that these acts will be based on data, which will feed the *inputs* of certain instituted actors. In this way, the actors maintain their position within the field in which they operate by structuring the digital public space. It is then a question of determining the construction of the link between, on the one hand, the individual actor who can no longer exist without providers of access and services and, on the other hand, the ecosystem in which institutional actors operate. It is in this ecosystem that these same institutional actors manage Hard Data, which is expressed in terms of city and traffic management for example; Self Data, personal data, which is the basis

of profiling procedures; Open Data, which ensures the circulation of information that is supposed to be less constrained; and finally Big Data, which ensures the cross-referencing of data in order to implement predictive logic.

This management thus concerns the conditions of use and the purposes pursued by the processing of data, semantically passive elements, which nevertheless constitute a functional production of social actors, *outputs*, which will feed other actors in the urban space as *inputs*. From then on, the connected city must be analyzed as the articulation in terms of fields structured by software and hardware elements that can go as far as the architectural characteristics of the habitat, that is, up to the existential dimension in which the e-citizen develops.

However, even this existential dimension is no longer "isolatable" from what might appear at first sight to be the creation of a totally autonomous individual.

The "digital condition" – in the way that we can talk about a "biometric condition" (Dubey 2008) – raises the question of the international capacity for control of the GAFAMs that organize the main global communication circuits. It therefore becomes very complex to precisely determine the territorial space in which a monopoly of legitimate violence will be exercised – unless it is planetary. Nevertheless, the ideal-typical function of the definition of the state plays its full role here. It allows the formulation of a problem: what is the articulation between the transnational dimension of data management and the territorial dimension of the state?

#### 3.3.2.2. *The technical legitimacy of new public management*

If we remain at the local level, that of the "smart city", there is an area in which a new form of legitimacy is emerging that relates to that of the procedure: technical legitimacy. This concerns, for example, the automatic detection of behaviors considered as abnormal, hence, for some, the perpetuation and renewal of Michel Foucault's famous device inspired by the functioning of Bentham's *panopticon.*

However, there is no longer necessarily a guard in the watchtower. The constituent element is video surveillance in urban areas:

> "It is now for video surveillance, in certain social spaces, to introduce a new decision-making technology. The routine assimilation of this tool into a legitimate form of decision-making is problematic. Undoubtedly, the development of these tools of control contributes to the reconstruction of a political space in full mutation" (Villalba 2011, p. 89).

Indeed, the urban space becomes the place in which the technological element, through its procedure, produces a *process* of legitimization, that is, new modalities of expression of the technical and symbolic capacities of social and political control where innovative forms of organization of the public space are affirmed: the *new public management*. This redefines the bureaucratic model which in turn structures part of the political field:

> "The fundamental movement towards streamlining administration, including choices involving security and tools to promote it, requires an understanding of the consequences of the increasing number of automated procedures in its functioning" (Villalba 2011).

In these operations, chaining within decision-making therefore becomes synonymous with the old procedures coming under tension which, in turn, produce, as a result of this tension, new forms of abnormalities, such as suspicious behavior captured and identified by a video surveillance camera. Their detection is then performed by means of an algorithmically analyzed image. This is in line with policies established within the platforms in order to signify, through this process, a normative decision. For example, and as Bruno Girard points out, after studying the transformation of Nice into a *smart city/safe city*:

> "This surveillance ignores the off-screen, delimits the whole field of reality to its sole vision. Intrusive and silent, it asks about our behaviour, without informing us

> in return of the abnormal nature of our actions, as a police officer could do. Under the relentless scrutiny of these devices, the standard is not spoken; it has been incorporated into the algorithm itself that the law has not defined. It is therefore at the cost of a double reduction, taking what is filmed as a whole from reality, and basing itself on semiotized flows, which video protection believes can grasp reality" (Girard 2014, p. 192).

In the same movement, as may be the case in militarized uses of drones, the norm seems to have shifted from evidence management to the destruction of the enemy outside the laws of war (Chamayou 2013). It would seem that we are no longer in a surveillance–punishment complex, but in the context of immediate surveillance and control of behavior. It is no longer just a question of signifying the coercive social act that "everyone must recognize" (to paraphrase Durkheim) as a shared standard, but to favor an immediate correction of the behavior that can be algorithmically analyzed as deviant.

A new algorithmic configuration of security seems to bring new cybersecurity players to the foreground, such as those present in Nice or *profiling* companies such as Acxiom or Criteo. These take the form of specialized companies, beholden to the market logic of "connected" digital competence, control and surveillance. We are thus far from the Weberian political enterprise that could claim the monopoly of legitimate violence: normative procedures no longer go through those of constitutional approval envisaged for these affairs. The central actor is no longer in a monopoly situation. From where is the territory managed? The town, the municipality, or even the state, seem to base the terms of their control on the new contractual actors in the social act of surveillance. And they also set their conditions: the monopoly has become a contractual field.

The distance at which the social fact resulting from the cybernetic revolution is situated breaks with the old arrangements resulting from classical sociology. In our opinion, this is a major challenge for

sociology and political science today: to analyze the paradigmatic changes in the object studied over time and their consequences for the very development of tools for understanding the digital transformation.

### 3.3.3. *Some structuring elements of governance of the smart city*

Following what we have just described, a question can be formulated: how to define the practical content of governance anew? This is if we consider to what extent the smart city model is taking on a global dimension within transnational interconnected systems. As Mathieu Vidal points out in this regard:

> "The very strong penetration of ICTs in society and the infinite number of potential applications are disrupting the possible organization of tomorrow's city, whose intelligence appears to be collective, on the one hand, and the place of the individual inhabitant at the heart of it, on the other. In just a few years (and with a significant acceleration from 2012), researchers and local authorities have adopted an expression initially developed by industrialists" (Vidal 2016, pp. 37–46).

Also, the author points out that it is in particular to the leaders in this field, Cisco and IBM, that we owe the formulation, in order to support them, of nearly 10,000 projects throughout the world developed through the *Smarter City*[10] program. So, from now on:

> "A Smart City is a successful city in six areas built on the 'smart' combination of the achievements and activities of self-determined, independent and aware citizens".

These six areas (their scope varies according to different authors) revolve around the economy, mobility, the environment, population, housing and *governance* (Vidal 2016).

10 See also: https://www.ibm.com/smarterplanet/us/en/.

It should be noted here that the structuring of these six domains by CISCO-IBM, *Smart Economy*, *Smart Mobility*, *Smart Environment*, *Smart People*, *Smart Living* and *Smart Governance*, also becomes an expression of marketing functions. The companies or the entrepreneurial network which use this structuring not only establish it at the center of a managerial representation of the public space, but also structure the semantic commercial space that defines the "smart city" in which the e-citizen will develop.

What is a smart city when we couple this concept with the concept of e-citizen, or even inhabitant-citizen? In particular, if we take as examples the networked spaces that are the digital management of transport, access to networks by means of identifications, and afferent uses?

It should be noted that smart cities have been created *ex nihilo*, such as Songdo in South Korea, Masdar in the United Arab Emirates and the Japanese city of Fujisawa, also known as "Panasonic city". These pose the existence of a new model of urban planning and architecture that is totally autonomous, and stimulate disciplines such as home automation that structure an e-citizen who only moves physically within a space circumscribed by connected objects. Indeed, the urban fact and the centrality occupied by the inhabitant suggest that in an intelligent city, "it is now quite possible, technically, to consider (and some of these services already exist), but in a generalized way (with the potential related derivatives) and in all simplicity or transparency for the user, public services or commercial services accessible online 24 hours a day, targeted advertisements or offers upon arrival close to a store, the geolocalization of children, spouses – or even future spouses – through their mobile terminal, encouragement to use electricity at particularly slack times, the overall use of video protection, etc." (Vidal 2016). All this is achieved by the circulation of data produced in interaction with platforms that integrate the information they convey and their ergonomics through a functionally adapted aesthetics, and belonging to territorial institutions: municipalities, districts, sectors.

However, for authors such as Abdel Ben Youssef, there is a "digital divide" in these administered spaces that can create increasing marginalization from an economic and social point of view (Ben Youssef 2004). There is a risk of a rift between those who are connected and those who, by choice or constraint, do not want or cannot benefit from access to networks of relationships, of knowledge, of birth, of education or even new forms of work such as telework… or even *e-health*, which would thus be linked to access and opportunities to use ICT.

It is by taking account of these concrete social realities and their contradictions that we can begin to decipher the ways of managing identities in the urban space. The intertwining of structures and levels of governance is also visible in the institutional discourses that accompany the transformation of the city. Two axes can be distinguished here: plurality of models of the smart city and plurality of meanings of the very term of governance.

At the level of models, Ludovic Vievard, for example, identifies three of them, thus making it possible to determine the type of relationships that are established with the citizen: the techno-city, the contributing city and the e-city (Vievard 2014).

The first model refers to the smart cities that we have previously identified: those that were originally structured in terms of urban planning and architecture as such, such as Masdar (Emirate of Abu Dhabi), Songdo (South Korea), or those that have become so through major transformations of their urban connection systems, such as Rio de Janeiro (Brazil). In this context, it is the networked infrastructures that organize the city and the life of the e-citizen. The sensors are the "structuring tools and the key operators the equipment manufacturers" (Bertossi and Charreyron Perchet 2016).

The second model's actors are the users and actors in the collaborative economy who take possession of the infrastructures in a permanent process of hacking, these being "open, interoperable and easy to use". Finally, the third model is based on the central role played by public institutions that disseminate digital tools by making them available to the inhabitants of the territory, thus creating an

"intelligent governance". The authors of the report postulate that "the balance of the smart city is in the convergence of these three models" (Bertossi and Charreyron Perchet 2016, p. 9).

In addition, at the discursive level, we note in this report a duplication of the term "governance". The first refers to the institutional creation of new urban spaces, and the second preserves the institutional structure while reorganizing the social and political link. Nevertheless, "if governance in the smart city approach varies according to the communities interviewed, all of them promote strong political support" (Bertossi and Charreyron Perchet 2016, p. 34).

It is then a question of locating one of the steps of project management within the local authorities with their existing organization chart or with a "dedicated structure". The main actor is then the elected official "in charge of the smart city", coordinating their action with the Information Systems Department, the Director General of Services and the Economic Development Directorate or a dedicated structure, depending on the 20 or so cases analyzed. A plethora of interconnected organizations are then structured: a delegated department including "smart city policy officers" which is part of a process of creating "dedicated management bodies" within the various departments: for example, the department dedicated to the smart city within the Economic Development Directorate (*Direction du développement économique* – DDE), which manages specific services such as teaching and research, energy and ecological transition, local French Tech and innovation partnerships. Elected officials' steering committees can also be set up, which, with the help of technicians, provide their services to develop transversal working methods. This may also involve an expert, a "Chief Data Officer", who acts as an articulator between local structures, the various municipal services or the Intelligent and Sustainable City Mission, which in turn can manage international or more specifically European projects. This governance can also directly refer to private actors. The above-mentioned report thus notes the presence of major international actors in this field. In this way, a large number of actors compete with each other and participate in a redistribution of roles in the establishment of identities as well as in the management of identification procedures.

## 3.4. Conclusion: identified citizen participation

Whatever the modalities of this redistribution of roles, one constant seems to emerge: any citizen action seems to require, according to these new modes, *permanent identification*. Indeed, the expression of e-citizen participation is essentially articulated in the use of the tools which are put in place by communities. Applications[11] available on smartphones or dedicated websites allow e-citizens to report a problem, make suggestions or express satisfaction with local initiatives. It is quite remarkable to note that the use of these applications is based on an identification/authentication procedure, and does not allow the slightest action, however innocuous, to be carried out without the individual being identified beforehand. Citizen participation is thus constantly subject to identity management.

It is on the basis of these procedures and the resulting data, which can in turn be algorithmically processed, that collaborative policy issues between city users and the municipality can be addressed. Thus, does voting in participatory budgets ensure that residents have decision-making power over the allocation of even a small portion of the municipal budget? Charters can also be drawn up collectively concerning the city's nightlife, the functioning of local democracy and neighborhood councils (Bertossi and Charreyron Perchet 2016, p. 38). The aim is to establish a real interaction between the space of identification and that of the exercise of citizenship.

The question is then to know how this managerial ensemble of public space, networking and the exercise of the e-citizen's rights of intervention are integrated into a democratic regime in transformation. Is there not a risk that the democratic space will be subject to entrepreneurial rationality? It is with this question that we will end this chapter.

The problem that arises concerns the stability of democratic regimes when exceptionality tends to become the permanent variable in the management of public space. What happens to personal data when the institutional space evolves towards rules established by a

11 Like the *TellMyCity* application created by Spallian.

system of exception? On the legal and political level, it will be difficult to not pay attention to developments in this type of institutional situation, which will affect the status of urban space in crisis situations. It will undoubtedly be necessary to grasp the ruptures as well as the continuities of the normative structures that intervene in the organization of urban space, or even of the social space itself. As we have seen, these socio-technical interactions, which are increasingly algorithmically determined, use identification devices that are exploited by multiple actors, creating heterogeneous plays of power that are particularly difficult to decipher.

# 4

# *Wait a minute, dystopia has not arrived yet?* – Digital Identities and the Ability to Act Collectively, an Interview with Andrew Feenberg[1]

*Armen Khatchatourov* – In your work, you have thematized the notion of agency on the basis of a historical observation: the post-war period was, in your opinion, a positive one, in that it allowed the emergence of new struggles and, more broadly, in that it marks a fundamental rupture with the classical industrial era. This increase in agency was undeniable. The position of the trade unions, much more secure than at the end of the 19th Century, is one of the many examples. Nevertheless, this strengthening has not gone without countertendencies that coincide precisely with the emergence of cybernetics and the first deployments of neoliberalism. Countertendencies that Deleuze analyzes as the emergence of the society of control. This certainly offers capacities to act that are not pure illusion, but which could only be, to use Foucault's words, oscillations and optimization of "systems of difference" in a broader process of governmentality, a system of "small individual differences". In any case, this movement

Interview with Andrew FEENBERG, conducted by Armen KHATCHATOUROV and Pierre-Antoine CHARDEL, July 2017.

1 We would like to thank Daphné Vignon for her work on the transcript and her judicious comments.

*Digital Identities in Tension: Between Autonomy and Control,*
First Edition. Armen Khatchatourov, Pierre-Antoine Chardel, Andrew Feenberg and Gabriel Périès.

sanctions the establishment of a new mode of governmentality whose particularities raise questions. How do you conceive the tensions that arise from the articulation between these two sides?

**Andrew Feenberg** – The Marxist schema interpreted the French Revolution as the replacement of one political regime by another with consequences that were not only constitutional, but, even more essentially, civilizational. By changing living conditions as a whole, the Revolution is said to have allowed the birth of a new civilization radically different from the one that immediately preceded it. The communist revolution was conceived according to this model. This pattern was called into question in the 20th Century by the reforms of capitalism. The Frankfurt School saw in the political and social changes at work, first and foremost the creation of social security or the introduction of paid holidays, powerful levers for integrating the working class into the capitalist model, levers that reduce its ability to create a new civilization through revolution. In other words, the revolutionary perspective is gradually disappearing in favor of "recuperation", also known as the famous *co-optation*. The latter is effectively a form of governmentality in that it proposes to govern, not against change, but through change – reform. It seems to me that this is an essential invention of capitalism, thanks to which it has removed the specter of revolution, and more specifically of the Russian Revolution, a revolution that carries with it the final implosion of the society in which it was born.

Thus, capitalism, instead of persisting in error, is able to constantly correct itself. It succeeds in transforming itself with a speed as surprising as it is unprecedented to respond to problems or claims that it initially experiences, most often wrongly, as being external to its logic.

A historical example perfectly illustrates this capacity for self-transformation: the occupation of General Motors and Ford factories by the unions appeared to be, in its time, violence foreign to the social process. Nevertheless, it resulted in the legalization of these same unions. The supporters of Marxist revolutionary aspirations see in this movement a one-way journey towards dystopia and its brave new

world, all the more as the industrialization and manipulation of culture are added to recuperation.

This is Marcuse's position, which I did not immediately endorse when I discovered it in the mid-1960s. Indeed, it contradicted the Hegelian assumptions of Marxism, for example in Lukács. According to Lukács, there is always content that escapes shaping, a residue that escapes social absorption. It is this residual content that allows the historical dynamic to begin anew. If the methodology of the Frankfurt School seemed to have some historical validity in view of the defeat of the left after World War I, it could only lead to the negation of any dynamic. Especially since the New Left, to which I belonged, observed day after day the emergence of resistance born outside the closed system, supported by the media, to which the trade unions also belonged after their recuperation by capitalism. This new exteriority hardly seemed "manageable", as Marcuse agreed a few years later. He saw it as a challenge to capitalism, a breeding ground for new forms of experience in total contradiction with the structures in place. I was in perfect agreement with this position, although, unlike Marcuse, it seemed to me that this was a dialectical process, not the consequence of instinctual demands, as he claimed. In this way, I sought to discover the social causes of this movement within society itself. It is this concern that is addressed by the concept of participant interest that I developed in my theory of technology. I postulate that, just as the interests of the working class motivate rebellion in Marx, the interests of the participants in networks, whatever they are, factory, hospital or city, motivate a dynamic of protest.

I was just talking about the effects of cultural manipulation and industrialization. This seems to me to be a fundamental point. Before the advent of modern media, culture was always inherited from the past. Since then, and for the first time in history, it has been built almost on the move. We forge it to meet specific needs and, at the same time, we try to sell it. Anyone planning to open a factory in Mexico to take advantage of low wages will have to build not only premises and machines, but also a corporate culture. Culture has

become a technological object. This is a completely new phenomenon. The authority of the Catholic Church, for example, is similar to charismatic or mythical authority and not to technological control. Those who possess the means of control necessarily share the fate of believers through their faith itself. Invoking Lycurgus and his laws, Moses and his commandments, Machiavelli was the first to imagine the principle of the cultural industry that is flourishing today. He believed that both invented religions to deliver knowledge which they could not communicate rationally to the masses. This was the original idea of the cultural industry which had become a reality at the time when Adorno and Horkheimer formulated their theory four centuries after the Florentine Renaissance. If we had to make a shortcut, we could say that Walt Disney is the Lycurgus of the 20th Century.

Surprisingly, when culture becomes the object of technological manipulation, individuals are more critical, more resistant to it. The transmission of a culture from generation to generation crystallizes a powerful inertia. Breaking free from the father's beliefs, which were inherited from the grandfather and great-grandfather before him, is a difficult undertaking. On the contrary, to have faith in televisual content is to expose oneself to perpetual and rapid change. Individuality is nourished by these reversals of opinion.

*Pierre-Antoine Chardel* – Your comments are close to a certain liquidity, in the way that Zygmunt Bauman was able to develop this notion. This demonstrates that identity is constantly being redefined by the cultural industries, in line with the drive for permanent change that permeates consumption and the ways of life that accompany it. How do you analyze these tensions?

**Andrew Feenberg** – I share Bauman's analysis. This movement by which the individual is constantly redefining him- or herself is also a form of liberation. Those who are manipulated by culture are freer towards it than those who receive it as an unchanging heritage of the millennia. The freedom we maintain with regard to culture grows in parallel with cultural manipulation itself.

One more aspect seems to me to be crucial. After the war, the elites promoted technocracy to the rank of an acceptable political option, whereas it had previously only been considered by intellectuals. Elites based their legitimacy, not on moral arguments, but on their effectiveness. This posture prevailed in America in the 1960s and 1970s, in the absence of a strong Communist Party. It reconceptualizes social institutions, which are now considered as machines that can be operated. From this perspective, society is seen as a rational system that can be controlled technologically. Such an approach sometimes borders on absurdity. The US government even went so far as to consult psychologists to identify the "operational elements" of communism that could be manipulated so that the villagers would withdraw their support for the Viet Minh. Americans also wanted to believe that poverty would be eradicated through social engineering.

Nevertheless, in the face of this promotion of technocracy, opposition to technocracy emerged. Here again, this is a significant correlation: the more society is assimilated to a vast rational machine, the more voices are raised to reject rationality, either to redefine it, or to flee from it into drugs, religion or Zen.

*Pierre-Antoine Chardel* – Do you believe that the same opposition movement is at work in the face of the advent of Big Data or what Antoinette Rouvroy refers to as "algorithmic governmentality"?

**Andrew Feenberg** – In any case, in general, the phenomenon of opposition has become widespread. In 1965, there were no more than 25 students on the campus of the University of California at San Diego who were part of a small group called *Students of the independent left*. Today, left-wing ideas are everywhere on campuses. Nevertheless, this generalization is accompanied by a certain cynicism. In the opposition, we must be calm, "cool", where once we were agitated. It is now possible to be indifferent to what we see, to what we know.

The Frankfurt School critique of recuperation is based on a frustrated revolutionary perspective. But for more than 50 years, society as a whole has been transformed through mechanisms of recuperation. These have had major consequences. The evolution of feminism perfectly illustrates this logic. The place of women in society has evolved without undermining capitalism as such. Moreover, many young women today do not claim to be feminists even though they are in favor of abortion or equality between women and men. They allow themselves, like many others, to be locked into an absurd tautology according to which things are what they are because that is how they must be. They do not perceive that their current way of life is the direct consequence of historical contingencies, made possible by the feminist movements of the 1960s and 1970s. Many people make such a reification, which seems natural to them.

The position of most intellectuals is hardly more relevant. They persist in morally situating themselves outside the social and historical process. Baudrillard responded with great humor to Jack Lang's call in the early 1980s for intellectuals to participate in the cultural reinvention of French society. Baudrillard's argument was simple. Politicians represent power, intellectuals represent morality, so they cannot coexist. Intellectuals have made this attribution their own with a seriousness that is inappropriate to say the least. In this way, they set themselves up in permanent opposition and cannot renounce the idea that any possibility of revolution is blocked.

The schema proposed by the Frankfurt School made it possible, at one time, to open up an interesting reflection. Nevertheless, it does not seem to me sufficient for analyzing the radical transformation of society we are witnessing with the Internet, ecology, feminism or even in the medical field. On this last point, for example, we cannot deny that patients are no longer treated in the same way as they were 50 years ago. Such an evolution is not only the result of a multiplication of the number of machines. It is more surely attributable to the death of medical paternalism. Such changes cannot be blamed solely on a desire for recuperation. They must be understood from the standpoint of the aspiration for a better future.

They transform the society. They make it possible to create a new form of society that is very different from the one that existed before World War II. We experience it like fish that don't know they're wet.

*Armen Khatchatourov* – In your opinion, why has the recuperation model failed? Is it due to competition from other mechanisms? Is it simply forgotten because it is not promoted by intellectuals?

**Andrew Feenberg** – This model has failed not because recuperation no longer exists, quite the contrary, but because it has been dialecticized. In this perspective, it is not only the agency of the system that must be taken into account, but also the agency of the elements that are being recuperated, which provoke major changes. The concept of recuperation fails because recuperation is no longer part of a blocked revolutionary dynamic. At the same time, it is successful in that it leads to changes whose accumulation affects the initial pattern. The essential point is not that reformism blocks the revolution, but that it transforms society. However, it is impossible to predict how far this movement can go within the framework of capitalism. In his recent work, Bernard Stiegler seems to have imagined an alternative to the capitalist system without, however, it seems to me, having provided the details.

*Pierre-Antoine Chardel* – He highlights the modes of contribution allowed by digital technology that promote horizontality, by creating less vertical and less technocratic relationships. In connection with these transformations, you also address the question of collective identity and the way in which societies are built.

*Armen Khatchatourov* – Indeed, you are analyzing the way in which the actors position themselves in relation to each other. In this sense, it seems to me that "individual" identity benefits from being approached through the prism of phenomenology in that it involves from the outset the question of inter-subjectivity. If we were to define identity according to the landscape you have just outlined, we would be justified in jointly questioning how it is structured as agency and the effects of digital technology on this process. On this last point, it seems to me that there is a very strong interpenetration between technology as such and corresponding modes of governance. This

entanglement does not make it easy to evaluate the respective share of these two dimensions in the phenomenon of individuation. These questions open up anew the difficulty of defining the feeling of being oneself, of being a subject.

It is therefore interesting to follow the evolution of the concept of *privacy*, especially since it is primarily concerned with the circulation and protection of data. Identity seems, in this particular field, to be grappling with tensions that are as unprecedented as they are irreducible. While we share many personal elements, while we desire this sharing, we are also tempted to withdraw into ourselves. This paradoxical movement is accompanied by a growing demand for *privacy*. This is particularly supported by legislation on the protection of personal data, which sets out nothing more or less than a duty to protect oneself. Thus, withdrawal and the duty of protection go hand in hand here. The *right to be left alone* at the origin of the concept of *privacy* has not evaporated over time; it finds a new translation in this right to protection.

*Pierre-Antoine Chardel* – Transformations of our environment partly respond to constraints on the use of tools which are imposed against our will. They can just as well rely on our consent, whether it is explicit or, on the contrary, repressed.

**Andrew Feenberg** – Control and agentivity maintain a fundamental dialectical relationship that would be futile to attempt to unravel. Interaction between individuals and technology is constantly increasing, as evidenced by the transition from television to digital devices. These same individuals are, in return, as it were "recuperated" through the logic of Big Data. This has led to a reaction from users who have sought ways to thwart the control strategies through, for example, *peer to peer networking*. We cannot therefore claim that we have reached the end of history. I share Bernard Stiegler's conviction that there are opportunities for the future without the need to leave the world of networks. We can act upon it from within by mobilizing the immanent resistance theorized by Lukács. The formal system produces a residue that it cannot absorb.

This immanent resistance seems to me to be detectable in the emergence of social movements organized around the interests of network participants. This form of mobilization applies to a wide variety of fields and is based, in order to be fully deployed, on the new means of communication. The development of the environmental movement is a perfect illustration of this dynamic. It first took shape through the creation of controversies. There were popular protests against the use of pesticides and air pollution. Supported by the intervention of scientists, these have led to changes in the regulation and behavior of companies. The system has therefore been amended under the influence of this irreducible residue that I mentioned earlier.

Just as the formal economic system is not able to exhaust all interests, so too do individuals regularly exceed the technological networks used to support corporate programs. Those who are part of the system but not incorporated into these dominant programs develop anti-programs, to use Bruno Latour's words. And they have found in the Internet a new tool of communication made particularly effective given the spatial dispersion characteristic of technological networks. Indeed, if it has always been possible to mobilize local residents affected by the same problem, it was more difficult, before the emergence of the Internet, to bring together people suffering, for example, from an unusual disease.

The increase in the number of ways in which new technologies can bring people closer together is coupled with a movement to pool resources, along the lines of the Uber or Airbnb platforms. There are many experiments in this field that, imperceptibly, through networks, contribute to transforming everyday practices. This logic could have an impact on political behavior and on the organization of the system as such. However, it would be premature to claim that it offers a credible alternative to capitalism. We are already witnessing a re-cuperation of Airbnb from sharing logics, however limited they may be, to purely commercial logics, without it being certain that this recuperation will generate resistance. Similarly, while Uber drivers have a strong interest in self-organization, they have not yet succeeded in doing so and may never succeed.

*Armen Khatchatourov* – The system, including its technological dimensions, seems to favor an increasing atomization of individuals, even subjectivities themselves. The treatment of Uber's "employees", outside the regular framework of employment, feeds a new kind of socialization process. It has been rightly noted that the factory has long remained an essential place of socialization, even at the worst moments of the Industrial Revolution. Indeed, coming to and from work, common break times were the occasion for meetings. It is from this perfectly constrained organization that the struggle emerged. On the contrary, the current system seems to make it impossible: by imposing weakened forms of sociability, it atomizes individuals. Uber drivers do not have the opportunity, offered to yesterday's employees, to meet their colleagues, even if only in the canteen. They are at the service of what Deleuze called an "open-air factory".

*Pierre-Antoine Chardel* – The latter is nevertheless very constraining. In addition to the fact that it is far from having abandoned production rhythms and supervision, it has introduced a particularly pernicious rating system. This quietly imposes a new form of standardization that affects all dimensions of the activity. Uber drivers are thus forced to equip themselves with a black car, to offer their passengers a standardized bottle of water, to address to them a polite word written in advance, or even to pass through specific places. It seems that they are prescribed a black suit and a very short haircut. This form of reification, presented as the fruit of free consent, considerably impoverishes the relationship with *ipseity* and self-invention.

**Andrew Feenberg** – It would obviously be disastrous to have to build one's entire life around the model proposed by Uber. Nevertheless, I refuse to give in to a theory that would be too deterministic. On the contrary, in accordance with the principle of immanent resistance, I believe that drivers have the opportunity to mobilize using the same network that is used to control them.

The economic rationality of a company like Uber is entirely based on its ability to take over the transport monopoly. The colossal losses it records each year, estimated at several billion dollars, are made in the hope that it will succeed in totally dominating the market in the future. It is possible that it will not succeed. Nevertheless, investors easily accept such a risk: they have become accustomed to losing money as the economy has become more and more focused on providing widespread access to credit. But crises also open up opportunities. We do not know what will follow, for example, a possible bankruptcy of Uber.

If the number of outstanding loans is too high, a crisis occurs. The system always manages to absorb the financial consequences, at the cost of the suffering of the broad masses. Capitalism is inherently merciless, as much as it is persistent.

While some elements tend towards a standardization of identities, they go hand in hand with interesting potentialities. Individuals learn their subjectivity very early on, whether in the family or at school. They know how to resist, and from an early age. A 2-year-old child already says "no" to their heart's content. This contribution of experience can only be erased with difficulty by integrating it into a technological system.

*Pierre-Antoine Chardel* – Nevertheless, the digital age confronts us with the experience of indistinguishability. An anthropometric image generates an almost immediate impression of reification. However, while biometrics involves a process of identification by means of the body, it connects us to increasingly intangible devices as it relies on biological data as imperceptible to the naked eye as DNA. These devices would certainly seem unacceptable to us if they appeared to us to be material. This new form of immateriality, however chimeric it may be, further hinders our critical capacity. We can no longer grasp current machines as we could a car engine. Doesn't such a difficulty hinder our ability to become aware, to intervene in a critical sense – our ability to say "no"?

**Andrew Feenberg** – It is obviously difficult to criticize what we are struggling to understand. We must acquire a new culture. The general public cannot understand why insurance companies conduct genetic studies if they are unaware of DNA. The public is therefore not in a position to protect itself against this new form of discrimination and exploitation. The social process of learning new concepts that respond to new means of control is therefore a central issue. The effectiveness of this process depends to a large extent on the involvement of experts at the heart of public debates. To repeat the previous example, only biologists can make us aware of the importance of DNA in the insurance industry.

Inventions and innovations require a rethinking of the distribution of knowledge. It seems to me that this dynamic is fully at work even if the networks have become, in the hands of some, a formidable vehicle for propaganda. This phase, however unpleasant it may be, is only temporary: users are increasingly able to detect techniques for manipulating social networks. They quickly recognize posts left by *social bots*, these automated conversational agents. It is not uncommon to see them, in the thread of comments, ironically ask: "Are you a bot?"

*Pierre-Antoine Chardel* – You therefore postulate that a time of social appropriation of innovation is necessary. What about learning opportunities when confronted with the complexity of digital technologies? Gilbert Simondon argued that it is the technicians' duty to make public the complexity of technology and the resulting mode of the existence of objects.

**Andrew Feenberg** – Appropriation and learning go hand in hand. Indeed, we are able to construct an idea of DNA by the sole use of imagination, based on terms disseminated in the media, without the support of precise scientific knowledge. The construction of imaginary worlds was previously the responsibility of religions. Individuals entered into this without any difficulty whatsoever. In any case, the division of labor is unsurpassable: we cannot all become biologists.

Public technical universities are part of this dynamic. Similarly, television documentaries and online tutorials have pedagogical virtues.

*Armen Khatchatourov* – Watching them implies showing a minimum of curiosity, without there yet being any question of becoming a biologist. I am not sure that the majority have an interest in these themes. If identity is understood as the articulation between the narrative of oneself and projection towards the future, it is to be feared that curiosity and otherness have disappeared from this project. We let ourselves be trapped in information bubbles that are all the more unsurpassable as *feedbacks* feed off each other. Inevitably attracted by ergonomic highlights, we are no longer the driving force behind the process: we feel like we are, but we are simply acting.

**Andrew Feenberg** – Gamers who spend their entire lives playing video games are in constant interaction with consoles and can indeed be considered as agents of a perfectly empty world. If, on the other hand, network phenomena are placed in a broader context, in a context of daily life, then we can meet other sources of influence that will arouse our curiosity and encourage us to go in search of information. I don't think this technological system is completely closed in on itself.

For example, climate change is giving rise, on networks as well as in political systems, to a flood of propaganda fueled by supporters and opponents alike. Whoever is not interested in this topic can therefore ignore it completely until a heat wave, for example, imposes the phenomenon as a matter of course, a phenomenon that affects everyone personally. It becomes a subject of conversation between friends even though the information loops formed by Facebook had previously relegated it to the background.

To be sure, Facebook's project is questionable in that it tends to form online communities whose participants are described as "friends", a term that denotes a fundamental narcissistic dimension: the community is considered my own. Nevertheless, this same community can be the object of appropriation in the service of highly politicized objectives. The success of Michaël Geist's page, which was opened in opposition to Canadian Internet legislation similar to that of the United States, is a perfect illustration of this. In a few

weeks, he registered more than 60,000 "friends", pushing Facebook to limit their numbers. A means whose design is questionable can therefore be diverted to other purposes.

I refuse to consider only the negative effects that networks could have. I believe, contrary to any determinism, that these phenomena have contradictory aspects.

*Pierre-Antoine Chardel* – Based on the notion of temporality – on the changes that result from it and on the uncertainty with which the future is charged – your thinking has a dimension that is similar to existentialism. This leaves us thinking that we are approaching an informational and digital ecology that is now emerging as the environmental ecology of its time.

Such an approach is far from easy to implement. Indeed, we must learn to "take care of ourselves" in these technological environments that for the moment escape us, especially if we take account of the structural effects they induce on the scale of our social spaces.

*Armen Khatchatourov* – If identity is indeed the product of social structures and, among other things, the ways in which these structures are managed at the state level, we can borrow Weber's analysis of the managerial state to understand these social production procedures from which it is, by definition, impossible to escape. Such an approach raises, in turn, the question of legitimization and recognition. This point can be illustrated by the effort to legitimize the actors emerging from the circulation of data generated by smart cities. And indeed, it seems that we can only be actors if we identify ourselves first. If it is still possible to carry out protest actions in the public space, you must first identify yourself on a dedicated site to make your claims known. Previously, protesters were not immediately identifiable, unless they were already known to the police forces. On the contrary, we are now *prima facie* identified electronically. We are being watched and even hunted down. We must systematically provide our first and last names to contribute to a participatory city project. Identification is all the easier if the information is given voluntarily, in a user-friendly way.

**Andrew Feenberg** – The key issue is what the state or companies do with this information. The Turkish government had known the supporters of Fethullah Gülen, who inspired an opposition movement, for years before firing them *en masse*. The day when this information, which had remained ineffective for years, was used against those concerned, marked the transition from a liberal to a totalitarian state.

But it is not technological evolution alone that explains this escalation. To compensate for the lack of information systems only requires hiring more police officers. The police can always rely on the propensity of individuals to report on each other. Such a phenomenon worked to the full in East Germany before the fall of the Wall. Whistleblowers are not necessarily employed by the regime; in fact they are most often motivated by fear.

But phenomena of this kind also generate widespread lies. When the FBI came to my father's house to ask him about his colleagues, he systematically replied that they were too busy with their physics research to think about politics. These methods were, in truth, not very effective. Surveillance on networks may be more effective, but in the end it is the same type.

*Armen Khatchatourov* – They no longer need to go to the homes of the people they want to monitor: they are already there thanks to technology. However, it is true that a system, whatever it may be, has a structural flaw in it. In this case, the amount of information collected is so large that it is impossible to reprocess it effectively.

**Andrew Feenberg** – It would be naive to think that the implementation of an identification and surveillance system would be enough to cancel the dialectic between control and agentivity that I mentioned earlier. These new means only modify the field of power relations within which it is deployed.

*Armen Khatchatourov* – Beyond that, does the modification of the terms that constitute it not expose dialectics to a change of nature? The ability to act, to oppose, to criticize is acquired in response to constraints. It emerges all the more easily when the opposition is

identifiable, as is the case in disciplinary societies, or when it is structural, as observed in child development.

Is this mechanism, like the "pharmakon" theorized by Derrida, not called into question when constraints become less perceptible and when they are more like a modulation of behavior than an opposition in the proper sense?

**Andrew Feenberg** – The interplay of constraints that the individual cannot completely free him- or herself from refers in a way to the notion of *unidimensionality.* This notion allows Marcuse to describe the effectiveness of consumer society, and through it capitalism, as the ability to satisfy the desires of individuals that consumer society itself has imposed. No one has any reason to resist if the system offers them what they want. This coincidence, maintained by advertising and the promotion of an individualistic lifestyle, erases all forms of negativity and any possibility of resistance. According to Marcuse, it is equivalent to a *friendly fascism* that surprisingly foreshadows the current period.

Today, by contrast, capitalism aims at the accumulation of wealth, according to a process that tends towards a zero-sum game. Each increase in productivity allows a general increase in consumption as much as it sharpens the tendency of capital to monopolize the surpluses thus generated. However, this appetite no longer finds any significant political or trade union resistance in the face of it. Economist Thomas Piketty notes that more than half of the wealth created by technological progress goes to capital and not to labor, following a trend that has no reason to die out. This trend is not only driven by the exploitation of personal data. It can be seen just as much in the refusal to pay taxes, in the continuous reduction of wages or in the disqualification of entire sectors from the world of work. Many mechanisms are at work, old and new. For 40 years, they have allowed capital to be enriched more and more rapidly. In return, they produce waves of dissatisfaction. The same applies to the process of control as described by Deleuze. The standardization imposed by Uber that you mentioned is an example of a pure alienation that cannot be acceptable in the long term.

*Pierre-Antoine Chardel* – Control is reinforced by the rating given by increasingly demanding customers immediately after each Uber trip. But the scoring mechanism does not only sanction "bad" drivers. Taken on a broader scale, that of the generalization of scoring to all aspects of social life, this mechanism allows a form of social recognition that is also acquired through social networks, even if they are associated with underlying systems of data identification and exploitation.

**Andrew Feenberg** – Recognition is not only induced by recommendation and data processing systems: it is the result of friends whom we have ourselves introduced onto social networks. Just being on Facebook is not a source of pride in itself, nor is driving a beautiful car. It is the news posted by our friends about events we have shared that fuels our pride, and similarly the driver waits to be able to show off his vehicle in front of those who are waiting for him at the end of the road: the car is not just a utility.

*Pierre-Antoine Chardel* – Recognition is always found in the eyes of others. Nevertheless, new technologies have created particularly radical and rapid forms of social exclusion. When our credit card is blocked or our identification badge no longer works, it is enough to marginalize us. With these effects of recognition and identification, the system plays on a particularly sensitive string.

**Andrew Feenberg** – You are referring to phenomena related to the ability of everyone to earn a living, phenomena as old as the invention of work itself. Unemployment has always been a sign of a total lack of social recognition, long before it resulted in the impossibility of using a credit card.

*Armen Khatchatourov* – Salary is not the only issue. A badge that does not work may indicate a managerial decision and not only a *de facto* absence from work or a technical incident. Such an example illustrates the deleterious effects that diffuse power can have. As soon as it is embodied in a simple badge – which nevertheless mentions our names, first names, qualities – this power is reified. The absence of a badge is equivalent to non-existence.

**Andrew Feenberg** – The tools of power, whether digital or not, do indeed involve issues related to recognition. And it is certainly more difficult to oppose power as you describe it.

The question is whether the new technologies have qualitatively changed the unidimensionality described by Marcuse and the Frankfurt School. The theory of societies of control is based on a bold assumption: control would not be based on the internalization of artificial needs, but on the protocol of interaction between individuals. In other words, the protocol is capable, by itself, of organizing interactions such that they integrate individuals into the system.

The market is the most complete example of this model. As soon as, through a simple transaction, we subscribe to its protocol of buying and selling, we are integrated into the capitalist system without even having to resort to ideology. It does not seem to me that a phenomenon of equivalent power emerges from the networks even if their protocol, which includes technological monitoring elements, generates significant integration effects. These are reflected in the organization of Facebook around "me" or specific areas of interest, as well as in the way Big Data targets ads. However, I do not think that networks will have as decisive a role as the market in shaping identity or political behavior.

*Pierre-Antoine Chardel* – A system that is not closed in on itself cannot be thought of solely through the prism of unidimensionality. It would rather be the equivalent of how La Boétie describes custom: a form of servitude. For example, WhatsApp offers a geolocation system that, under the guise of user-friendliness, automatically makes public the place you frequent or the music you listen to. Those of you who don't choose to be in "phantom" mode feel reassured that you belong to a community.

**Andrew Feenberg** – You can immediately see the limit of such an application: users will quickly leave the network or become a "phantom" when they need to regain their privacy. For example, Facebook had to remove the automatic display of credit card purchases just days after activating this feature, as it could reveal very intimate behavior. The resistance, in the name of *privacy*, was

immediate and total. On the other hand, such a form of control could be required in companies for the sole purpose of supervising staff. Resistance would have to take different forms.

*Armen Khatchatourov* – That's already the case. Trucks are equipped with black boxes equivalent to those found on aircraft. They make it possible to know where the drivers are, how long their stops lasted. They are no longer just a simple cog in a large machine. It seems to me that such monitoring applied to the most everyday activities can have major consequences on identity. How can you feel that you are an actor of your own free will if you are constantly being hunted, if the autonomous car imposes a precise itinerary to save time or fuel? How, devoid of any form of freedom, can we retain the power to act, even if it is very localized?

**Andrew Feenberg** – What you describe amounts to destroying the individual's room for manoeuver, to depriving him or her of any tactical possibility, as in the paradigm developed by Michel de Certeau in *The Practice of Everyday Life*. In my opinion, the alternative would be the following: individuals internalize coercion, effectively surrendering their identity to a pathological extent; or, on the contrary, they enter into resistance, using the slightest margin of manoeuver left to them.

The Foxconn factories in China are very inventive in oppressing any attempt by employees to challenge them. Their workstations change every week so that they cannot make friends with their colleagues. The number of suicides has literally exploded. What means do we have to oppose such practices? Effective resistance must be collective. The unions have taken over the situation. In any case, employees will always find a way to oppose their employer if necessary, in their workplace, in their daily lives, or, in the extreme, through suicide. No one can be reduced to being just a machine. Hearing of the suicides, some in the United States threatened a boycott to put pressure on Foxconn. Is some kind of solidarity being expressed here, compensating for the loss of agency in the factory itself?

*Armen Khatchatourov* – You believe that the protocols of interaction instituted by digital technology will be less important than those of the market. On the contrary, it seems to me that their intertwining reinforces them mutually. In particular, temporal continuity plays a major role here. Factory work stops at the end of the shift, so employees are free to implement tactics of evasion. On the contrary, an Uber driver does not have the necessary leisure to avoid the surveillance that is required of him or her. And it seems to me that the temporal continuity of interactions is something that appears with the digital, not with the market as such.

**Andrew Feenberg** – Imposing dystopia is not an easy task: there are many forms of resistance. In some countries, Uber drivers have brought lawsuits to gain recognition as full employees. They have acquired social protection and the right to unionize. There is nothing to prevent them from pursuing this legal course more generally without refusing to wear a black suit or offer a bottle of water.

Some, such as Boltanski and Chiapello, support the thesis that workers would renounce any escape route on their own. Enthusiastic, they would fully engage in an organization that is closed onto itself. They would participate in it without any ulterior motives, like a satisfied programmer who finds pizzas and table soccer provided by the employer on his campus in Silicon Valley. Any exteriority would then be of no interest. This management model is said to be dominant, while the majority of employees experience a very different reality. The vast majority of individuals, however they are supervised, face the most ordinary working conditions. Pizzas or a ping-pong table can't change that. It is impossible to think of them as principal models of management.

*Pierre-Antoine Chardel* – Nevertheless, it remains necessary to remain attentive to developments: such a management model, without being omnipresent in fact, is an ideal to be achieved for millions of employees. Not to mention the ambition they have to become managers themselves. This system is undermined by contradictions, by a logic of alienation that does not speak its name.

*Armen Khatchatourov* – On a larger scale, it seems to me that the main issue is the transition from a disciplinary society to a society of control or modulation. One does not replace the other, as Deleuze and Foucault noted. The society of control both redistributes and complements disciplinary mechanisms. The disciplinary measures put in place by Foxconn, where one might in some ways think one is at the worst moments of the Industrial Revolution while we are in the "digital" era, testify to this easy coexistence. So the question for me is: how can I describe the specific impact of the society of control?

**Andrew Feenberg** – Some critics see the society of control as the beginning of a new era. On the contrary, I consider it as a continuation, by new means, of the unidimensionality that the Frankfurt School saw in the development of consumption and the media. It is very common to believe that one's own present represents an innovation, a radical break with the past.

Consumer society is based on the internalization and structural determination of needs. These are a formidable vector for integrating individuals into the system, a much more powerful vector than networks that are only complementary means at the service of this logic. The American urban model assumes that everyone has a car, a house, a washing machine and a dishwasher – as many objects that add up to link individuals to the system. Adding a Facebook page to it doesn't change the substance of the case. What is much more significant is the growing poverty of entire segments of the population, including in rich countries, which prevents them from participating fully in the life of society.

I remain convinced that the new technologies are part of the system that consumer society introduced after the war. The thinkers of the 1950s and 1960s described these mechanisms perfectly, to which social networks and the surveillance system only add. Identification procedures are becoming more stringent, even if it is undeniable that *privacy* has become an essential issue. There was a time when owning a house in the suburbs and a car to take refuge represented the imaginary possibility of freeing oneself from social constraints. Individuality, understood as an atomization, was then playing to its full potential. If the digital age sanctions the disappearance of this

form of intimacy, it is nevertheless based on the same register of satisfaction. What is new is not the form of the society but the increasing marginalization of many of those who can no longer be integrated through the consumer model.

Capitalism itself designed the system after the war. Its success led to the disappearance of forms of solidarity, with the gradual disappearance of trade unions and civil organizations. On the one hand, there is increased individualization and, on the other hand, the networks tend towards the disappearance of the conditions of intimacy that once supported individuation. But we must not fall into dystopia, because it is counterproductive if we want to develop an adequate critical theory of our digital environments.

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# Index




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