HUMANITY AND DIGITAL(S)

From the history of information technology in *societal expansion*...
to the capitalism of surveillance and influence (1890-2023)

Jérôme Valluy

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The history of digital computing, seen from the angle of its *societal expansion,* has remained confidential for a century. In 2001, however, it veered towards projects for the global surveillance of humanity, denying human beings any respect for their privacy, like animals to be observed and influenced. Five billion of the world's eight billion people are connected. Their personal data is captured and used without their knowledge. This poses new risks of persecution, totalitarianism and genocide... connected. This type of risk is of concern to the scientific network *Travaux, Études, Recherches sur les Réfugiés et l'Asile* (Terra, 2003), renamed Terra-HN in 2016 to discuss humanity in the digital age. "*Humanité et numérique(s)*" is the introduction to a book in preparation, the in-depth treatment of which, period by period, dimension by dimension, would risk losing the overall vision of ancient history right up to the "digital turn". It is also an introduction to a new subject in social science teaching, which requires specific research to train students in the rapidly changing digital society.

Computers, privacy, internet, digital, smartphones, personal data, surveillance capitalism, artificial intelligence

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I dedicate this book to my students at the *Université Paris 1 Panthéon-Sorbonne*, the *Institut National du Service Public* and the *Université Euro-Méditerranéenne de Fès*. They helped me a great deal with their reactions in class. Until I retire and beyond, I'll do my utmost to help them live in this massively digitized society we haven't chosen. I also dedicate this book to students all over the world.

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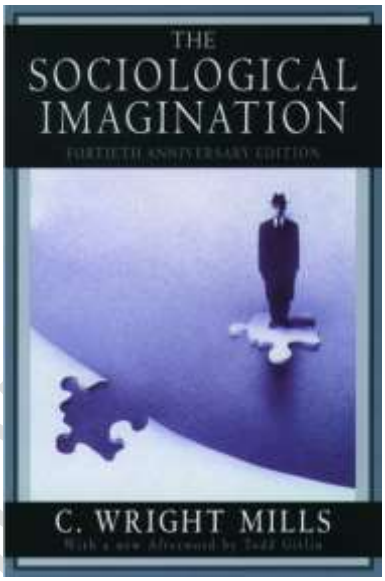
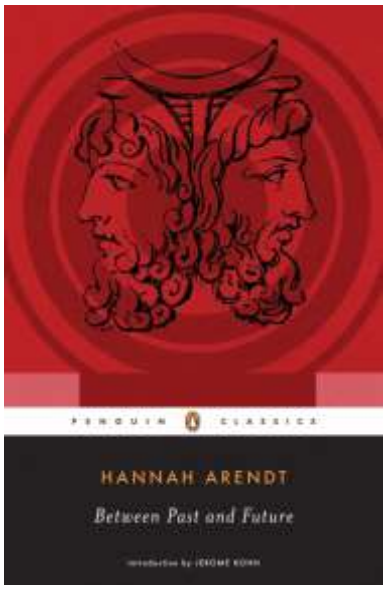
Contents

Introduction

It's not easy to give a simple overview of the digitized world, such is the complexity of the subject. From a historical (diachronic) point of view, we sometimes speak of the "digital turnaround" of societies to describe this phenomenon, and also of "digital transition" or "digital revolution", or even "digital tsunami", which is perhaps not the least relevant expression, given the cataclysmic aspects of the changes we will observe. From another (synchronic) point of view, considering the five billion human beings connected out of eight and their lack of political control over the phenomenon, the digital dimension of human societies in 2023 may also seem worrying, even sinister: what is sinister is, according to the dictionaries, that which "*presages misfortune*". This expression of concern does not imply any technophobia, but echoes the world's evolutions as they can be apprehended in social science research and the information available in the press over the last ten years or so. The author of these lines cannot conceal a long personal technophile inclination, with first an early discovery (1975-1995) of the computer world thanks to a computer scientist father, then an intensive and enthusiastic use (1995-2015) of new information and communication technologies, notably for the creation and development of the Terra-HN Scientific Research and Publication Network (2003-2023: http://www.reseau-terra.eu/). The "HN" was added to the acronym in December 2016, but its meaning is not fully expressed until 2023 with the present opuscule: the digital has not always been sinister; it has become so.



Saying this is a way of implementing the prescription of a great American sociologist**, Charles Wright Mills**, who in his classic book **"The Sociological Imagination" (1959**), reminds us: "*In formulating problems, one must make clear the values actually threatened on the occasion of trials and issues, show who lives them as values, and who, or what, threatens them*."[1] To say that the digital has become sinister is to express a fear about the future of humanity, in which all individual privacy would be abolished, and the related risk of digital totalitarianism, or even connected genocide, somewhere on the planet in this 21ème century, or quite simply the risk of persecution exacerbated by limitless digital surveillance. A leading expert in this field, the philosopher **Hannah Arendt,** in her book **"Between Past and Future" (1961),** wrote: "*The rise of totalitarianism, its claim to have subordinated all spheres of life to the demands of politics, and its logical non-recognition of civil rights, especially the rights of privacy and the right to be free from politics, make us doubt not only the coincidence of politics and freedom, but also their compatibility*."[2] . This doubt threatens massively digitized humanity. Fearing this doubt helps us to free ourselves from the enchanted visions of the digital that have prevailed for the past thirty years, and from the rhetorical floods as much as from the marketing, lobbying and media



[1] Charles Wright Mills, *The Sociological Imagination*, Paris: La Découverte, 2006, p.134.
[2] Hannah Arendt, "Qu'est-ce que la liberté?" (1961), in: *La crise de la culture*, Gallimard (Folio essais), 2006, p.193.

jargon of digital companies themselves. These jargons saturate the public sphere with enchanting discourses and promises of technological progress beneficial to humanity... without studying the consequences of the spread of technology in society - what we'll call "societal expansion" - and without examining the possible societal counterparts of these.

It is this asymmetry in the public arena, between the dominance - sometimes almost hegemonic - of enchanting discourses on the digital age and the extremely marginal audience for scientific discourse on the darker side of the digital age, that makes it necessary today to train students to take account of this cultural imbalance. Salespeople selling positive effects or fatalism are as numerous as they are diverse, giving rise to beliefs and illusions favorable to digital business. It's up to researchers and teachers to counterbalance this ideological dominance. In this effort to redress the balance, however, we must avoid any technophile or technophobic dogmatism, just as we must avoid any pessimism or optimism in the face of the "technological singularity"[3] of the digital turn.

The complexity of this new digital material is linked in particular to the speed of change in societies experiencing massive computerization of their social interactions at the end of the 20ème century and the beginning of the 21ème . This phenomenon interweaves traditional and digital relations to such an extent as to make them inseparable in analysis, and to create difficulties for

[3] BOISSEAU Eloïse (2022), "Singularité technologique (GP)", in Maxime Kristanek (ed.), *Encyclopédie philosophique*, https://encyclo-philo.fr/item/1726

researchers confronted with these new dimensions of their respective objects of study. This complexity is also linked to the "globalization" of communications, with the number of connected individuals rising from half a billion to five billion in the space of two decades. Society seems to be going global. Even the deconstruction of this belief, which is typical of the digital age, requires global, not to say stratospheric, analyses, which the professionalized social sciences of the second half of the 20th^{ème} century failed to train us for.

They were then based on relatively stable, possibly paradigmatic "worldviews" (*Weltanschauung),* forming common worlds in which researchers could study small, already interconnected objects in greater depth. They could, notes Charles Wright Mills, "*confine themselves to 'small-scale investigations' on the assumption that the results could be 'grouped', and so achieve an 'integrated sociology'*."[4] What was already debatable after the cataclysm of the Second World War by Charles Wright Mills, is also debatable at the beginning of the 21ème century when we discover the extent of the forms and effects of the digital turn or rather of the digital turns. After a century of slow computerization of societies, what we call the "digital turn" began in 1995 with the access of more and more non-specialized users to the Internet, and accelerated dramatically from 2001 onwards due to the geopolitical, economic and technological events we will be studying. No social science paradigm or theory from past centuries offers us a comprehensive picture of this massively digitized

[4] C. Wright Mills, op.cit., p.68.

world. As Shoshana Zuboff explains, "*One explanation for the many triumphs of surveillance capitalism dominates:* ***the unprecedented****. What is unprecedented is unrecognizable. When confronted with the unprecedented, we automatically interpret it through the prism of familiar categories, thus rendering invisible precisely what is unprecedented*." (ACS, p.30). This is the whole problem of the social sciences, whose analytical categories, paradigms and theories, derived from previous centuries, do not incorporate this digital dimension. This is not to say that these paradigms and theories have become useless, but that a new sorting out of concepts needs to be done in view of the empirical material of this massively digitized world. We need to reconstruct a global image of the world by starting from scratch, empirically speaking, and sorting through the theoretical heritage.

As Patrice Flichy observes: "*It is therefore up to the social sciences to criticize the many illusions that have accompanied the development of digital technology, by carrying out field surveys, to show what the 'Internet revolution' really is. It is indisputable that digital technology has given rise to a new form of globalized capitalism, even more powerful than its predecessor, which has left many companies and individuals behind. It is fair to consider that the Internet is above all a new generation of communication tools which, according to the model of creative destruction, has led to a renewal of the dominant players, without really modifying existing social practices, and without profoundly transforming the situation of the dominated. In this hypothesis, there's no need for a specific sociology of the Internet (or of the digital); we simply*

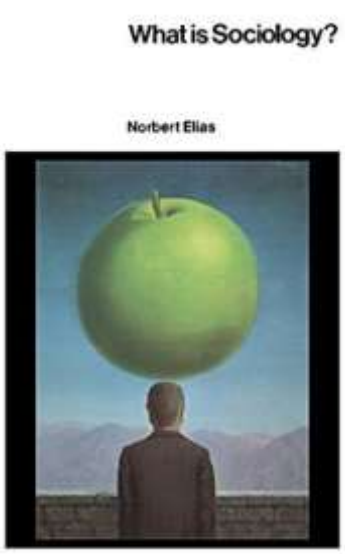
need to integrate the question of the digital into the various fields of the social sciences."[5]

The challenge is not new: the complexification of society was a classic theme of the social sciences at the end of the 19ème century, when they were confronted with the industrial revolution, new transport and communication technologies, the rural exodus... (before two world wars). For the social sciences, the situation at the beginning of the 21ème century is very similar to that at the end of the 19ème century. The world has changed so rapidly that it is first of all our vision of the world that needs to be rethought before we can delve any deeper into certain aspects of it. In this ambitious but essential undertaking, the fact that most social science theories are inadequate does not diminish the importance of the fertile intellectual heritage they have left us. Their models and concepts make it possible to analyze today's digitized societies. Hence the importance of indicating, in one form or another, the sources of inspiration for all digital social science research. It's not just a question of answering the classic question "*where are you talking from?*", but above all of recalling the indispensable nature of this intellectual and cultural heritage at a time when the "right to inventory" is becoming a methodological requirement. We can thus cite, without exhaustiveness, many old or recent authors who are likely to have inspired the present research, by retaining for each of them a date of publication allowing a chronological classification: Rousseau 1762, Sieyès

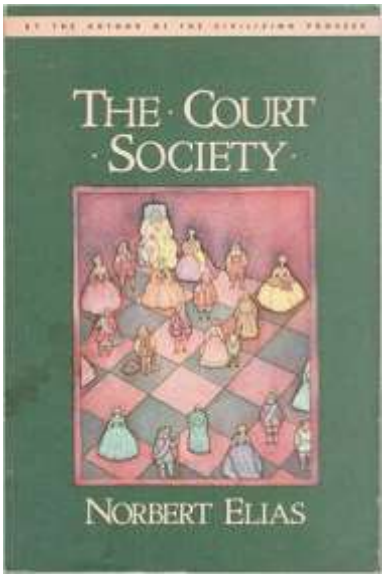
[5] FLICHY Patrice, "Afterword. "Une sociologie de l'hybridité", in: Olivier Martin ed, *Les liens sociaux numériques*. Paris, Armand Colin, "Sociologia", 2021, p. 287-299: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-liens-sociaux-numeriques--9782200626952-page-287.htm

1795, Kant 1795, Marx 1859, Durkheim 1892, Weber 1911, Mauss 1927, Elias 1939, Arendt 1951, Wright Mills 1956, Sartre 1944, Galbraith 1968, Carbonnier 1969, Bourdieu 1971, Foucault 1975, Delmas-Marty 2004, Breton 1987, Flichy 1991, Moulier Boutang 2010, Rochelandet 2010, Lardellier 2016, Tufekci 2017, Badouard 2017, Zuboff 2018, Desmurget 2019, Durand 2020.

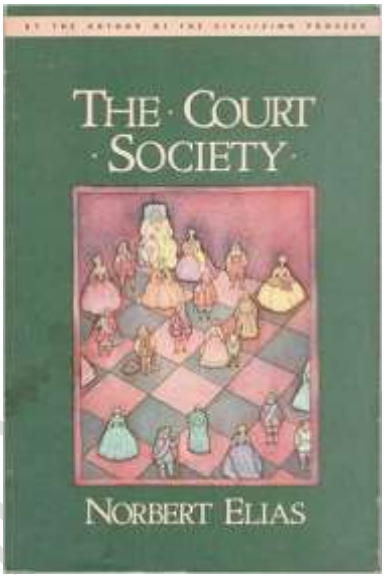
* * *



In particular, our study will be based on an old theory of general historical sociology, predating the digital turn, but highly suited to its analysis: **Norbert Elias**'s theory of social interdependence configurations and historical processes, summarized in a textbook entitled **"What is Sociology?" (1970)**. It presents an abstract, simplified version of his model of historical processes of transformation and lengthening of multi-level "chains of interdependence", with increasing opacity through societal complexification. The longer the networks of interdependencies between individual and/or collective social actors become sociologically and geographically, on the one hand, and the greater the speed of the historical processes of mutation of these networks, on the other, the more these two movements combined increase the social complexity of the overall configuration in the eyes of its actors, i.e. its relative opacity, and the more difficult it is for them to form a precise and relevant picture of the whole, and therefore to act

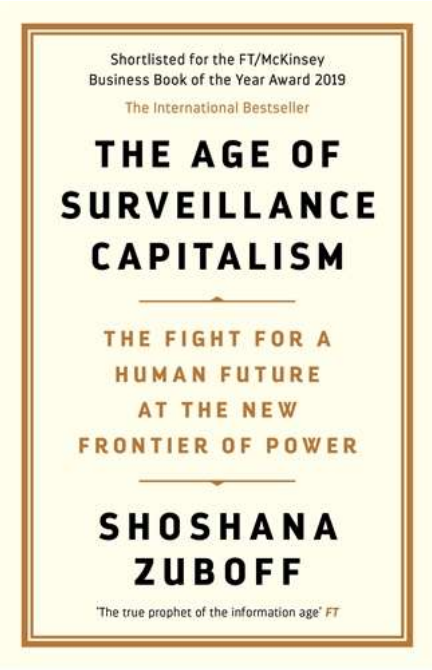


strategically. This Eliasian socio-historical approach (i.e., the complete works of Norbert Elias) will serve as an analytical prism throughout the book, in particular his essential text "**Sociology and History"** written as a foreword (**1969**) to ***The Court Society*** (Doctoral thesis, 1933; published in 1969).



Following Norbert Elias, we can say that the digital configuration is both a "network of interdependencies", communicational and technological, between individuals and/or collectives, and a "historical process" of transforming interdependencies. The abstract sociohistorical model seems to describe almost ideally the configuration formed by humanity in its current individual and global communications modalities, transformed by the extension of the computer-digital communications network over the last few decades:

"As the number of interdependent players increases, the configuration of the game (its evolution and direction) becomes less and less transparent to the individual player. Whatever his strength, he finds it increasingly difficult to master it. The interpenetration of an ever-growing number of players seems, in the eyes of this player, to possess an increasingly autonomous existence. Here again, only isolated individuals seem to be taking part in the game. The increase in the number of players has two consequences: firstly, the isolated player increasingly loses sight of the big picture and the direction of the game. Secondly, he gradually becomes aware of his powerlessness to dominate and control the game. The configuration of the game and the isolated player's image of it - the way he experiences the game - evolve together in a specific direction, in functional interdependence, like two inseparable dimensions of the same process. They can be considered separately, but they cannot be considered as separate**"** **Norbert Élias, *Qu'est-ce que la sociologie,* Éditions de l'Aube / Pocket-Agora, 1993. Cf. Chapter 3 - Subsection "Multi-level, multi-person games": quotation p. 98.**



Norbert Elias's sociohistory is a grid of analysis that connects perfectly with the recent paradigm based on knowledge of the empirical characteristics of massively digitized societies as they may be observed in 2023. **Shoshana Zuboff**'s theory, in "**The Age of Surveillance Capitalism**" (2018), probably constitutes the first paradigm for the social sciences of the 21ème century confronted with this type of society[6] . The acronym "ACS" is already frequently used by researchers to refer to the book. Today, it is Shoshana Zuboff's most recent and celebrated work. It has been translated in some twenty countries. It appears a little earlier in German translation (October 4, 2018, campus Verlag) than in its original language, English (January 15, 2019, Public Affairs) and on October 15, 2020 for the French translation (Zulma); I use the 2022 edition (Zulma). It's a voluminous work, 700 pages long and complex. So it's a slow-burning work that will have to wait years, if not decades, before it fully reaches the audience it should have by now. As **Olivier Aïm** observes in his fine textbook on "***Les théories de la surveillance - Du panoptique aux Surveillance Studies***" (Armand Colin, 2020), Zuboff's work is enjoying impressive worldwide success: "*In 2019, Shoshana Zuboff's 'The Age of Surveillance Capitalism' is published. It was a resounding success, to the point where the very expression 'surveillance capitalism' entered common parlance, particularly in the media.*

[6] See the French-language bibliography selected for the Cairn platform under the heading: "*Surveillance Capitalism - Concept theorized by Shoshana Zuboff and referring to what is probably the first paradigm* of *21st-century social sciences relating to massively digitized societies*." (12.06.2023); https://www.cairn.info/liste-00065336

The notion seems to federate the whole range of current issues, all the more so as its author brings together here a large number of reflections that she has been conducting on the subject for almost forty years. The combination of the terms surveillance and capitalism has also given rise to a number of debates, to which we'll return at the end."[7]

Zuboff's analyses do not seem to be linked to those of Norbert Elias, nor does she cite in her personal Pantheon of great authors who may have inspired her book or even her work: **Durkheim, Marx, Weber, Hannah Arendt, Theodore Adorno, Karl Polanyi, Jean-Paul Sartre, Stanley Milgram** (ACS p.45). The Zuboffian paradigm is based primarily on three classics, cited in order of importance for Zuboff: Durkheim, Marx and Weber. However, these three classics themselves inspired the Eliasian paradigm, since sociohistory cannot be reduced to them, and Elias constantly relies on a perfect knowledge of these three classics and many other authors.

Zuboff's book shines first and foremost in the impressive volume of empirical data and its updating up to summer 2018. She specifies the characteristics of her enormous corpus of diverse sources, mainly scientific and journalistic, but also institutional, administrative, associative... to which are added long series of semi-structured interviews notably with corporate employees and "data scientists": "*In studying the capitalist surveillance practices of Google, Facebook, Microsoft and other groups, I paid close attention to interviews, patents, funding calls, speeches,*

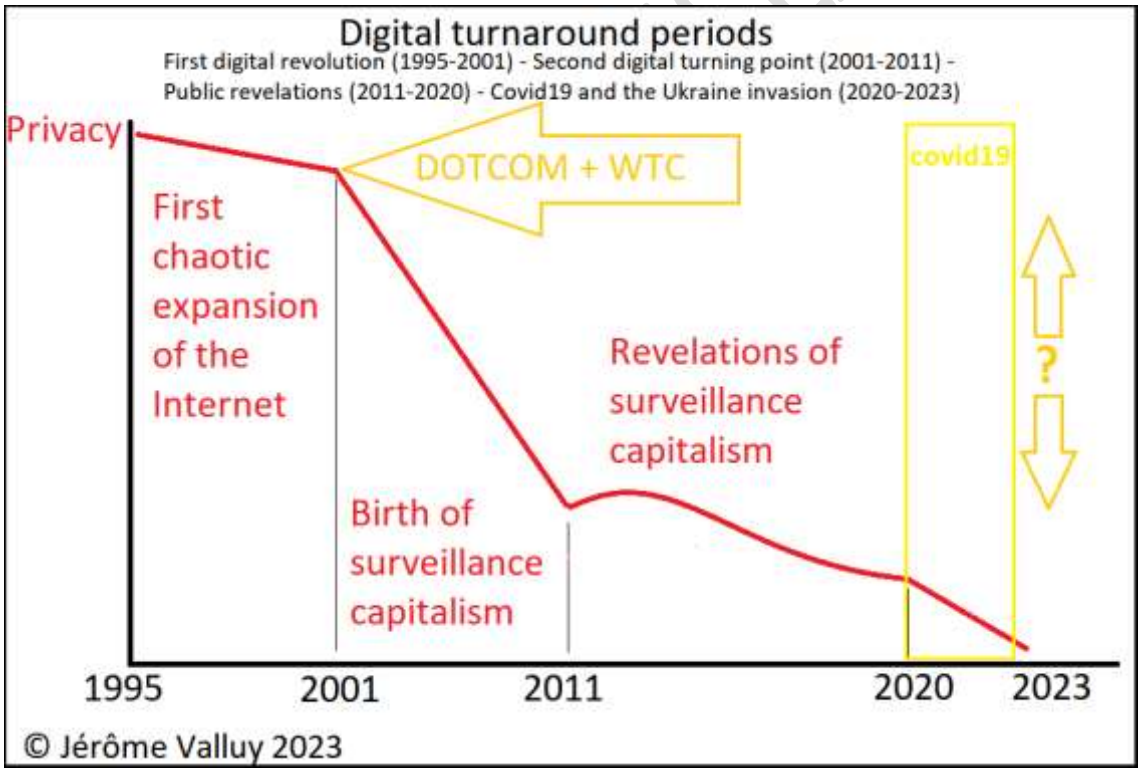
[7] AÏM Olivier, *Les théories de la surveillance - Du panoptique aux Surveillance Studies*, Armand Colin, 2020, p.128.

conferences, videos, as well as corporate programs and policies." (ACS p.45). On this basis, she founds her general theorization of what capitalism, American and then global, has become as it has become digitized, slowly from 1995 to 2001, then at breakneck speed from 2001 to 2011. These variations demarcate two periods of the "digital turn" from the point of view of invasions of privacy.

Shoshana Zuboff shows us the extent of the collapse of political concerns for privacy protection in the USA from 2001 onwards, but she does not overlook the importance of what happened just before, in the period of media and stock market turmoil of the first turning point from 1995 to 2001, and in particular the adoption in 1995/1996 of laws in the USA and Europe making digital platforms partially or totally unaccountable. These laws, to which we'll return later (see § 5.2 below), were a key element in the public policy regime that unleashed digital capitalism, paving the way for the second digital turning point of 2001/2011, triggered by the shock of the combined DOTCOM-2001 and WTC-2001 crises (see § 2.3 below). The two stages of the digital turnaround were also intensified by the "financialization of the economy" and very low interest rate policies[8] . **The digital turnaround can therefore be seen as a two-stage acceleration followed by a period of revelations**: an initial, chaotic period of commercial enthusiasm and political trial and error (1995-2001), followed by a second period of renunciation of privacy protection in favor of security surveillance (2001-2011), and then a period of revelations in the 2010s. We can add to Zuboff's analysis a period opened in 2020

[8] PEREZ Carlota, "The Double Bubble at the Turn of the Century: Technological Roots and Structural Implications" *Cambridge Journal of Economics*, Vol. 33, No. 4, pp. 779-805, 2009 : https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1433947#

by the Covid19 pandemic, which increases connection times and the capture of personal data[9] as well as the profits of surveillance capitalism: "*In November 2021, at the peak of the pandemic, the GAFAMs reached record margin rates: 38% for Microsoft, 37% for Meta, almost 30% for Alphabet and over 26% for Apple. In early December, Apple's market capitalization reached an all-time high for a US company at a staggering $2,650 billion, followed by Microsoft ($2,570 billion), Alphabet ($1,980 billion), Amazon ($1,850 billion) and Meta ($1,000 billion). The NASDAQ, an index of technology stocks, gained 64% in less than two years, between February 2020 and November 2021*."[10]



[9] "According to some estimates, the global volume of data could reach 175 zettabytes (1021 bytes) in 2025, an increase of 530% compared to 2018." SOUPIZET Jean-François, "Les États face aux géants du Net. Vers une alliance de raison?", *Futuribles*, 2023/3 (N° 454), p. 5-23: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-futuribles-2023-3-page-5.htm

[10] SMYRNAIOS Nikos, "Les GAFAM, entre emprise structurelle et crise d'hégémonie", *Pouvoirs*, 2023/2 (N° 185), p. 19-30 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-19.htm

Zuboff's in-depth study of the 2001-2018 period can also be linked to the secular history of computing and digital technology (1890-2023), from which the expansion of social uses of the Internet since 1995 has emerged. Shoshana Zuboff has not dealt with the history of computing and the digital during the 20th century, even though it seems certain - and she acknowledges this several times - that the industrial, technological and commercial structures put in place for computing over more than a century of history are still present in the digital world. While surveillance capitalism was indeed born in 2001 (with a gestation period between 1995 and 2001), its structural roots lie in a secular history that Shoshana Zuboff has not described... a fact for which she cannot be blamed, given the impressive and invaluable work she has already accomplished for the benefit of all. We will extend her analysis to the part of the story that runs from the birth of computing (known as "mechanography") in 1890 to that of computing (known as "digital") in 2001.

Shoshana Zuboff's first book, "*In the Age of* Smart *Machine: The Future of Work and Power*", published in 1988, was already highly critical - a rarity at the time. Shoshana Zuboff herself links[11] to *The Age of Surveillance Capitalism*. On *The Age of the Intelligent Machine,* a particularly meticulous presentation[12] makes it easy to get to grips with the object of study. This confirms (as do all his other intermediary publications) that the author has been

[11] Cf. his interview by Sen Rose in Études magazine: ROSE Sean (Interview collected and translated from English by Sean Rose): "Un capitalisme de surveillance - Entretien avec Shoshana Zuboff", Études, 2021/2 (February), pages 57 to 66: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-etudes-2021-2-page-57.htm?contenu=article

[12] L. Martin Cloutier, "XVII. Shoshana Zuboff - Insight into the influence of ICT on the transformation of capitalism", in: Isabelle Walsh ed, Les Grands Auteurs en Systèmes d'information. Caen, EMS Editions, 2018, p. 330-345: https://www.cairn.info/les-grands-auteurs-en-systemes-d-information-9782376871309-page-330.htm; see also: http://www.shoshanazuboff.com/new/about/

working in this field since that time. Of course, Zuboff hasn't discovered everything on her own: she pays tribute to the investigative journalism of the American press, which has provided most of the empirical foundations, particularly since the early 2010s, and she constantly draws on a very impressive state of scientific research in English, French and German, updated up to summer 2018. The scientific articles she uses for empirical analysis are very recent (often less than five years old, generally less than ten years old and rarely more than fifteen years old).

Focusing on the period 2001-2018, Zuboff uses in-depth empirical analysis to unfold the successive conjunctures in the genesis of surveillance capitalism. She thus creates a sociohistory, often microsociological, compatible with those of the authors who inspire her - Durkheim, Marx, Weber... and Norbert Elias. Confronted with unprecedented socio-technical phenomena, she creates **new concepts** that have become indispensable for talking about today's societies ("surveillance capitalism", "behavioral surplus", "decontrateness", "two texts", "ineluctabilism", "instrumentarism", etc.), but without esotericism, and always consistent with the classical theories that remain sources of inspiration even if not all their concepts are adapted anymore.

From this dual perspective, *Eliassian* and *Zuboffian,* this introduction will place great emphasis on chronology. It is essential to justify and set benchmark dates in order to group and structure the scientific knowledge available and transferable to students. From a certain point of view, paragraph 1.5 below, entitled "**Detailed chronology: 1890-2023 in ten key dates**", could almost replace this general introduction, so much so will it be

oriented by the concern for chronological precision and the possibilities of control that this precision gives over interpretations of history. It will also be guided by a concern to identify times, in the sense of periods, but also the rhythms of social change brought about by the computerization of the world. The main learning objective that I assign to Bachelor's students is to learn and master this chronology, so that they can relate it to other courses based on other questions.

From another point of view, the present study also reflects the four underlying thematic entries that organize the research: 1) **Sociohistory of** computer **technologies** in "societal expansion"; 2) **Economic history** of computing and "surveillance capitalism"; 3) **Cultural** and political **disruptions** of the digital age; 4) **The** computer-digital **State as user** rather than legislator. As a result, the plan of this book oscillates between a chronological underpinning and an apparent thematic structuring. This is a compromise between multiple teaching purposes, to set chronological benchmarks and highlight the issues at stake in social science research in the digital age of 2023. From this thematic point of view, the question posed in section 2 below is probably the most central: "*Technology, economics, politics: which determining factor?*". To ask this question is to broaden the scope of the debates that have focused for decades on the relationship between the economic factor and the political/cultural factor, without integrating the technological factor into the reflection on what determines the course of history. Such a broadening does not imply adherence to technological determinism, but rather a break with the

technological unthinkable of cultural underestimation of the technological dimension of the world, and the need to let the latest empirical studies on the 21ème century guide us in the intellectual reinvestment required for debates on these more or less determining variables of history.

1. Sociohistory of IT in "societal expansion

The history of computing needs to be redone... or made: for decades, the professionalized social sciences lost interest in this object of study. The historiography still massively present in libraries has therefore been produced by non-professionals in historical science.

1.1 An initial historiography reduced to design

This first historiography of computing was written by IBM executives or those close to them, or by executives of other companies in the IT sector. Four books, among many others, illustrate the approach: Robert Moreau (IBM France), *Ainsi naquit l'informatique* (1981); Robert Ligonnière (business economist), *Préhistoire et histoire des ordinateurs* (1987); Jean-Yves Birrien (management computer scientist), *Histoire de l'informatique* (PUF, "Que sais-je?" no. 2510, 1990); Alain Taurisson (mathematician), *Du boulier à l'informatique (*1991). The article by Pierre Goujon (mathematician), "*Informatique - histoire*" in *the Encyclopédia Universalis*[13] (2000?) belongs to this group, as do the first articles created on this subject in the early 2000s on Wikipedia.fr: "histoire des ordinateurs" (26/03/2002), "informatique" (11/09/2002), "chronologie de l'informatique" (23/08/2003), "histoire d'internet" (25/08/2003). This initial

[13] GOUJON Pierre, "INFORMATIQUE - Histoire", *Encyclopædia Universalis*, probably written in the early 2000s: http://www.universalis-edu.com.ezpaarse.univ-paris1.fr/encyclopedie/informatique-histoire/

historiography is driven by commercial interests, to promote computers for sale in a society that is unfamiliar with them and that needs to be trained. It thus generates intellectual support discourse that sometimes resembles advertising.

Produced by non-professionals in the field of historical science, the first historiography had no methodology: delimiting the field of observation by defining the central concept, taking stock of scientific knowledge, specifying the problem, setting out the corpus of empirical data used, presenting observation methodologies, justifying a main hypothesis, organizing developments in a rational plan with regard to the hypothesis... All this was absent. In the absence of a common concept, the authors follow different chronological threads of inventions according to various centers of interest.

Design"[14] , i.e. technological design, serves as an analytical prism for early historiography, focusing attention on what goes on in the world of engineers (rather than in society), or even in the "laboratory", whatever its form (including a DIY garage). This prism focuses attention on the inventor's initial training, on earlier inventions that may have inspired him, and on the stages or interactions that fostered his innovative creation. As a result, the stakes of symbolic paternity[15] over an invention open the bibliography to endless and sterile competitive variations (national, disciplinary, chronological...) on the identification of the

[14] VIAL Stéphane, *Le Design*. Presses Universitaires de France, "Que sais-je?", 2021: https://www-cairn-info.ezpaarse.univ-paris1.fr/le-design--9782715405646.htm

[15] In other words, the answer to the question "*who is the very first inventor, and therefore the true author, of a given technological innovation*?

"first" to have invented this or that. Finally, the design approach, which focuses on inventors, also leads us to examine the companies they have created to disseminate their inventions, or the companies that have disseminated these inventions after buying a patent or a start-up. But the consequences of technological diffusion in society are not taken into account.

Epistemologically and methodologically poorly constructed, this first history of computing has no limits in reasoning of this type: computing uses mathematics... so the entire history of mathematics, from prehistoric counting and the first abacuses, is included in the history of computing; computing uses printers... so the entire history of printing systems, from Gutenberg onwards, is included in the history of computing; computing uses punched cards... so all the earlier forms and uses of punched cards (player piano, barrel organ, loom, etc.) are included in the history of computing; computing uses computers... so the entire history of computing, from Gutenberg onwards, is included in the history of computing; computing uses printers... so the entire history of printing systems, from Gutenberg onwards, is included in the history of computing.) are included in the history of computing; computing uses cabinets, metal, electricity, electronics, screens, telecommunications... ditto; and so on. The history of humanity then seems to merge with that of computing... as if the latter needed to be humanized. There is no consensus between the authors on the chronology, and in particular its beginning, but they do not discuss their respective points of view as scientists would. Some go back to the calculating tablets of 3000 BC. The others focus on post-World War II computers. In "Que sais-je?"

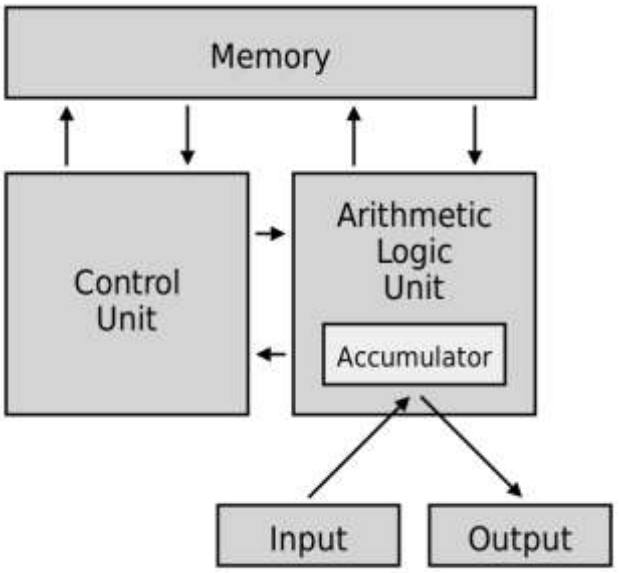
no. 2510, entitled "Histoire de l'informatique", chapter 2 goes "De -10000 à +1200", and the other chapters cover 12,000 years of the history of computing, right up to the absurd. The "chronology of computing" on Wikipedia.co.uk goes back "only" to 1632, while the "history of computers" begins in 1936, ignoring all that precedes it.

Computer scientist Gilles Dowek explains why: *"If we are too eager to defend the heritage of the current of thought which, from the scribes of Antiquity to the theory of calculability, has been centred on the concept of algorithm, or that which, from Archimedes' screw to Hollerith's machine, has been centred on the concept of machine, we run the risk of failing to perceive the true singularity of the birth of computer science: that several currents of thought, hitherto little linked, merged, finding common objectives, common objects of study, a common vocabulary, common values*... "[16] Gilles Dowek underlines the plurality of historiographies, linked to the complexity of what is referred to as computing, due to the very plurality of concepts and technologies aggregated in this metatechnology or system of systems that we will call "**mixed computing**". In comparison with the first historiography, Gilles Dowek has greatly broadened the focus on the history of computing by retaining four essential concepts to designate the technologies integrated into this mixed technology: algorithms, machines, languages and information. We will follow his example and abandon the more common schematization of mixed computing in the first chronotechnological approach. This

[16] Dowek Gilles, "Les origines de l'informatique", *Cahiers philosophiques*, 2015/2 (n° 141), p. 7-15: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-cahiers-philosophiques1-2015-2-page-7.htm

reduces the computer mix to its technical components, according to the representations inspired by the 1945 abstraction by mathematician John von Neumann (1903-1957), reflecting in his schema the machines invented earlier:

A von Neumann architecture scheme



Source : https://commons.wikimedia.org/w/index.php?title=File:Von_Neumann_architecture.svg&lang=en

In addition, the first historiography of computing used terms that were created during marketing operations and then spread throughout society: "mechanography", "computer", "computer", "digital", "virtual", "digital", etc. We need to distance ourselves from these terms. We need to distance ourselves from them. In particular, we will not consider the creation of the word "ordinateur"[17] by the[18] marketing department of IBM France to market the "IBM 650"[19] in 1955 to be sociologically relevant as a justification for a historical break, nor the creation in 1962 of the word "informatique" in French[20] (after the German Informatik in 1957) by Philippe Dreyfus, former director of Bull's Centre National de Calcul Électronique in the 50s, who first used the term to designate his company "Société

[17] Loïc Depecker, "What would you say about 'computer'?", *Bibnum*, Calculus and Computing, 1er June 2015: http://journals.openedition.org/bibnum/534

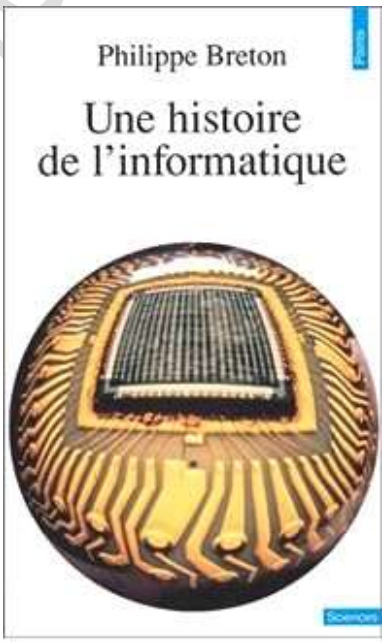
[18] See the blog commemorating 100 years of IBM in France: "Wednesday, April 16, 2014 - 1955: the term "Computer" is invented by Jacques Perret, at the request of IBM France": http://centenaireibmfrance.blogspot.com/2014/04/1955-terme-ordinateur-invente-par-jacques-perret.html

[19] Loïc Depecker, "How about 'computer'?", *Bibnum*, Calculus and Computing, 1er June 2015,: http://journals.openedition.org/bibnum/534

[20] Cf. TLFi: "informatique (...)" **Étymol. et Hist.** 1962 (term coined by Ph. Dreyfus after Gilb. 1971); 1966, Nov. 16 *(Le Monde, ibid.).* Der. from *informat(ion)*;* suff. *-ique**. **Bbg.** Bertini (M.-T.), Tallineau (Y.). Pt vocab. *L'Informat. nouv.* 1977, nº 80, p. 23. - Dossiers de mots. *Neol. Marche.* 1977, nº 3, p. 37. - Encyclop. (XII)... *L'Informat.* 1973, nº 45, p. 70; (XIII)... 1973, nº 46, pp. 61-64." https://www.cnrtl.fr/definition/informatique

d'Informatique Appliquée" (SIA)[21] . These marketing creations had no scientific purpose, and are problematic in that they have helped to mask (intentionally or unintentionally) the continuities between the first period of state computing, corporate computing and today's digital world.

1.2 Historiography of IT expansion since 1890

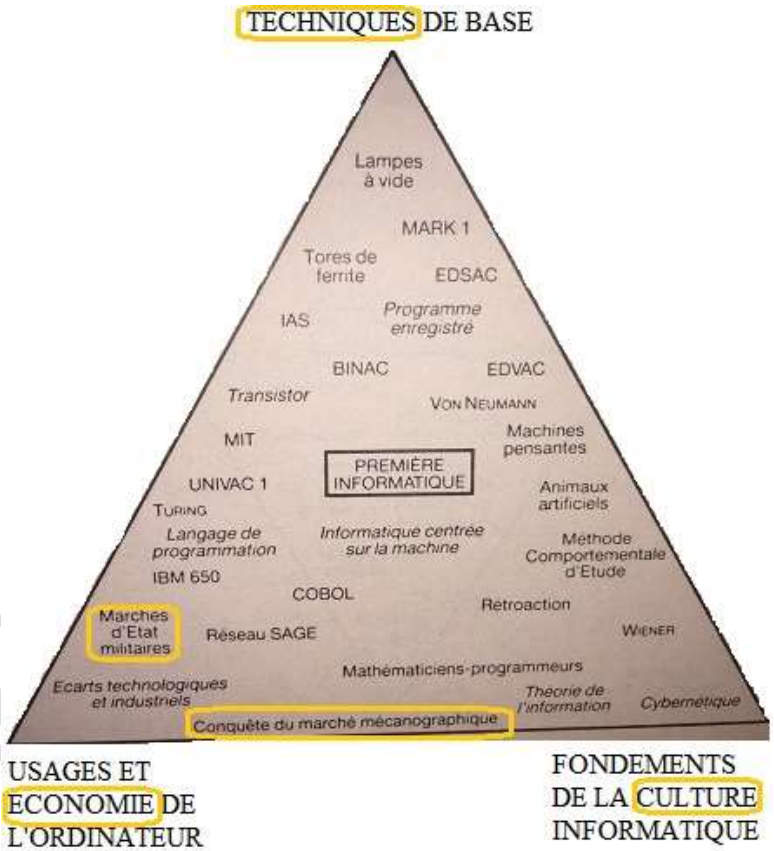


A handful of professional historians have criticized the chronotechnological history of computing and attempted to distance themselves from it, by producing another that focuses more on the effects of mass-market technologies on society. This is the case with **Philippe Breton's "Une histoire de l'informatique"** (1ère ed.: 1987), to which we'll return later, and **Emmanuel Lazard and Pierre-Emmanuel Mounier-Kuhn**'s "**Histoire illustrée de l'informatique**" (1st ed.: 2016). In the chapter introductions, the latter book evokes the demarcation of the two approaches and the concern to examine the consequences for society: "*This book is not a list of 'firsts'. The question "What was the first computer? (or the first transistor, etc.) is certainly of legitimate interest to inventors filing patents or researchers seeking recognition, as it is to organizers of commemorations. But it is of secondary interest to historians, who*

[21] Cf.: "Origine du mot informatique" at: https://web.maths.unsw.edu.au/~lafaye/CCM/detection/informatique.htm and http://www.apfa.asso.fr/historique/motdor/etymolog/informat.htm and Alain LE DIBERDER "Informatique", Le Monde, January 24, 2001: https://www.lemonde.fr/archives/article/2001/01/24/informatique_4150539_1819218.html

give just as much consideration to the processes of innovation and the diffusion of techniques in society and in everyday use - the diffusion that alone gives true historical significance to an idea, however brilliant it may be. (...) ***The dates indicated are therefore not necessarily those of the invention of techniques, but often those when the objects incorporating them became widespread on the market***" (p.14 - emphasis added). We shall retain this choice as a rule of socio-historical method: market diffusion is a very important dimension of the societal expansion of a technology. The chronotechnological plan of this book is less satisfactory (in that it remains dependent on the first historiography), but it brings Philippe Breton's research up to date. The two works share the same point of view, but do not give it a specific name. On Wikipedia.fr, this second historiography of computing appeared at the end of the 2000s and developed mainly in the 2010s, but again without a unifying concept. It can be found in the articles "digital revolution" (04/28/2009), "digital sovereignty" (06/08/2009), "digital humanities" (04/30/2012), "digital culture" (05/22/2013), "digital work" (10/22/2015). In the absence of a pre-existing title shared by the authors cited, we will group together the specific object of study of this second historiography, as well as the authors and texts selected, under the heading "**societal expansion**" of computing and digital technology.

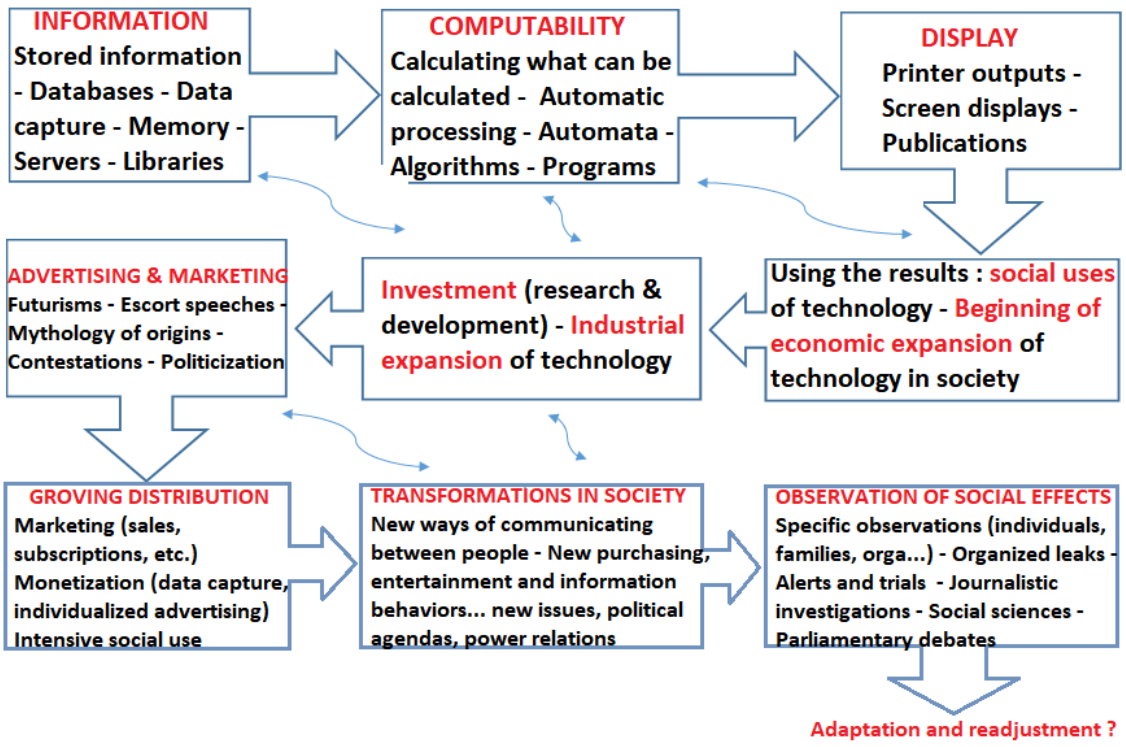
Philippe Breton deserves a special tribute. In 1987 in France, he was the first professional in the history of science and technology to tackle this field, and to distance himself in part from the chronotechnological history centered on design and/or machines: "*For a long time, the computer was the only showcase for computing in the eyes of the general public. Today, we are all more aware that this field has many dimensions* (...) A *few years ago, when computing was still a matter for specialists, the main issue was mastering hardware* (...). *Today,* ***the key issue in IT is mastering the issues raised by its integration into everyday life****. This is why we talk so much about 'computer culture*'" (p.7). To delimit his object of study, Philippe Breton adopts a computer science mix (automata + information + calculations), somewhat different from Dowek's (algorithms + machines + languages + information), but in both cases the word "information" is a very broad entry point for diverse cultural, economic and social variables. This broadening is best summarized by the three tables (one for each computing period) published by Philippe Breton. His tables offer a detailed vision of the IT mix situated between three dimensions:



Extrait de : **P.Breton, *Une histoire de l'informatique*, (1987) Seuil (Points), 1990, p.11** (marques en jaune de J.Valluy)

technical, economic and cultural. We'll follow this lead by extending the "IT mix" even further to include socio-economic variables, as shown in the diagram below, which illustrates in another way the evolutionary nature of IT as represented by Philippe Breton in successive diagrams:

socio-economic concept of mixed computing



Philippe Breton's skilful presentation of his work creates a double history, offering readers two possible "entry points" for reading the book: a "chronological entry point" that follows a chronological thread of technological inventions and their expansion in society (number of devices rented or sold, number of users...), followed by a "thematic entry point" that marginalizes technical developments and highlights the development of uses

and the computer industry, as well as the foundation of computer culture. Breton focuses his study on a short history of computing (1945-1987), while showing that computing inherits from mechanography. A close reading of his chapter on "*L'histoire du calcul artificiel" (The history of artificial calculation)* shows that he goes back to Hollerith in 1890 (p.65). We will therefore extend his chronological framework to 1890 and update the data to 2023.

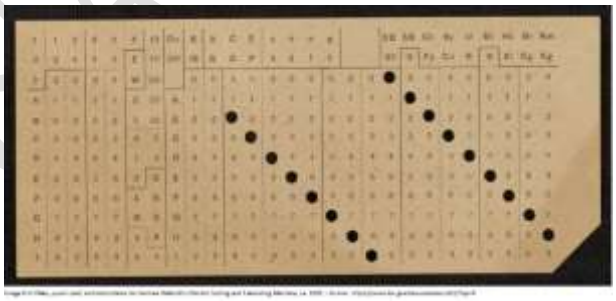
1890 The spectacular societal expansion of Hermann Hollerith's first "**statistical machine**"[22] sets it apart from all its predecessors. Blaise Pascal's "Pascaline" (1642) was certainly a calculating machine, but calculating is not the hallmark of computing, and this machine did not undergo societal expansion. Charles Babbage's "difference machine" (1820) was much more like a computer than Pascal's, but was not widely used (because it didn't work immediately), and Babbage confined himself to the abstract conception of a potential system. As for Joseph Marie Jacquard's programmable loom (1801), so often cited in chronotechnological history, its purpose is not to display calculations, but to produce fabrics. It has no place in the history of the societal expansion of information technology, except to include all the technological developments observable in the textile industry.

BELL Charles Milton, "Herman Hollerith, head-and-shoulders portrait, facing left" (1888), Library Of Congress, Bell Collection : https://www.loc.gov/item/96502521/

[22] AUSTRIAN Geoffrey D., *Herman Hollerith: Forgotten Giant of Information Processing* , Columbia University Press, 1984, 418 p. See also: Da Cruz, Frank (March 28, 2011). "Herman Hollerith". columbia.edu. Columbia University. Retrieved February 28, 2014: http://www.columbia.edu/cu/computinghistory/hollerith.html

The computer mix, including the socio-economic variables of societal expansion, did not come into existence until 1890, with Hermann Hollerith's invention of "statistical machines", but also of a new type of **punched card** known as a "Hollerith card" (with constraining and difficult-to-reproduce technical characteristics), which would account for up to a third of IBM's revenues in the following decades. The specificity of these inventions is so strong that the first computers will continue to be called "Hollerith machines" and the punched cards "Hollerith cards" until the Second World War.

"Tabulatrice" ou "machine à statistique" construite par H.Hollerith pour (concours) le recensement américain de 1890. Brevet déposé le 8 juin 1887. Source : Tabulatrice, selezionarice e perforatrice hollerith - Museo scienza tecnologia Milano - Repris sur : https://fr.wikipedia.org/wiki/Herman_Hollerith



What makes Hermann Hollerith so unique as an inventor is that he masters both the **social problems** (that of counting a large-scale census) with which he is confronted through his employment with the US Census Bureau (*USCB* or *Census*), and the **scientific knowledge,** from his training as an engineer, enabling him to design and tinker with an **innovative solution** (the mechanographic "statistics machine") while already mastering the **applicative outlet for** his innovation, in this case the assurance of a definite social utility for the State (1. Productivity gains of a third in the time taken to complete the survey; 2. $5 million reduction in costs, i.e. a third of the budget; 3. increase in the number of questions asked, from 5 in 1870 to 235 in 1880) and **widespread use** (63 million Americans), giving enormous publicity

to the invention for which he held the patent and which he presented at various trade fairs and exhibitions.

As the U.S. Census Bureau observes on its website (https://www.census.gov/), "*Hollerith's electric counting machines were a great success. In addition to earning their inventor a medal at the Chicago World's Fair in 1893, the tabulating machines significantly reduced tabulation time for the 1890 census, while providing more statistics at a lower processing cost. Its success in 1890 led to contracts with foreign governments eager to use its machines. Hollerith machines were used in 1891 for the censuses of Canada, Norway and Austria; railroad companies used them to calculate fares.*"[23]

After the USA, another major Hollerith customer was Tsar Nicholas II. "*Hollerith won contracts for the 1892 Canadian census, the 1895 Italian census and the 1895 Norwegian census. But the biggest contract was for the Russian census of 1897, the first census ever taken in this country of around one hundred and thirty million inhabitants. The machines were rented out to customers, probably because the Census Office was recreated every ten years, for each census. The staggered dates of the national censuses allowed Hollerith to use the same machines.*"[24] IBM was born as a computerized state census company. It would later diversify its customer base. "*Recognition in the United States and abroad was immediate. By 1891, Hollerith was renting out its machines for*

[23] Excerpt from "Herman Hollerith", Source: United States Census Bureau, Census History Staff, Last Revised: December 05, 2022 : https://www.census.gov/history/www/census_then_now/notable_alumni/herman_hollerith.html

[24] PEAUCELLE Jean-Louis, "A la fin du XIXe siècle, l'adoption de la mécanographie est-elle rationnelle?", *Gérer et comprendre*, sept. 2004, n°77, p.63 : https://annales.org/site/gc/2004/gc77/peaucelle060-075.pdf

censuses in Canada, Norway and Austria. Within a few years, Russia, France and many other countries followed, spreading the principle of mechanographic data processing.[25]

Herman Hollerith left the administration in 1896 and founded the *Tabulating Machine Company* (TMC), which merged in 1911 with *the International Time Recording Company* (ITRC) and three other companies, all owned by **Charles Flint** (1850-1934), to form the *Computing-Tabulating-Recording Company* (CTR, 1,300 employees in New York), whose management Flint entrusted to a salesman, **Thomas Watson,** who ran CTR from 1914 to 1956. The company was renamed "**International Business Machines Corporation**" or "**IBM**" in **1924**. Hermann Hollerith, a better engineer than manager, was dismissed by Flint and had no power from 1914 onwards. This is important for the rest of the story: Hermann Hollerith was not responsible for CTR's developments between 1914 and 1924, nor for those of IBM from 1924 onwards, nor for the creation in 1934 of *Dehomag*, IBM's German subsidiary (see § 2.1 below); he died in 1929. A presentation of Hollerith's work has been published online by a science and technology journalist on the INRIA website: "L'invention de la mécanographie" (26/01/2011 by Denis Favre, on "*Interstices*": https://interstices.info/linvention-de-la-mecanographie/).

[25] FAVRE Denis, "L'invention de la mécanographie", *Interstices.info* (magazine published since 2004 by Inria, the French national institute for research in computer science and control), January 26, 2011: https://interstices.info/linvention-de-la-mecanographie/

Starting with the history of computing in 1890, we will follow its societal expansion until 2023. Along this path, the social science bibliography, which was deserted (when we subtract books and articles belonging to the first historiography) is becoming more abundant again, but slowly since the 1980s, then more rapidly since the massification of smartphones in the early 2010s and even more rapidly since the Snowden revelations in 2013. One of the books we'll be citing the most, after Zuboff's, not least to encourage undergraduates to read it since it's more accessible than Zuboff's, is **Romain Badouard**'s particularly brilliant and pioneering 2017 book, ***Le désenchantement de l'internet. Disinformation, Rumor and Propaganda***[26] . This book is highly emblematic of the reversal of opinion taking place among researchers specializing in the social sciences of the digital and journalists specializing in the digital. The book reflects the growing interest among these specialists not in the enchanted and futuristic discourses relating to new technologies - which remain dominant in the public arena due to corporate communication and their academic (management sciences, marketing) and media (specialized press with little independence) relays - but in scientific observation of the consequences of large-scale technological dissemination on social relations and the state of societies. As early as 2010, doctors were expressing concern about

[26] BADOUARD Romain, *Le désenchantement de l'internet. Désinformation, rumeur et propagande*, Limoges, FYP éditions, series: "Présence/Questions de société", 2017, 180 p., ISBN: 978-2-36405-157-7.

the risks to children posed by technological change[27] . The impact of these changes is studied on the social modalities of knowledge acquisition, i.e. on primary socialization and on new social modalities of access to public information[28] . The impact of technological change on working conditions was also observed at an early stage,[29] , as were the political consequences of labor market transformations linked to technological change[30] . Even a long-used tool as old as e-mail is now being reconsidered in terms of its harmful effects, opening up a new stream of research, neither technophile nor technophobic, but rejecting all technological angelism, as researchers Hajer KEFI, Michel KALIKA and Najma SAIDANI point out: "*Our work thus makes a significant contribution to the emerging stream of research on the 'dark side', where positive, negative or neutral effects of ICT use can emerge*".[31] As the years go by, empirical evidence of the importance of this dark side of the digital world accumulates, and more and more studies focus on the societal expansion of technologies. These studies are to be found first and foremost in professionalized investigative journalism specializing in digital issues (e.g.: GOAR Matthieu, CHAPUIS Nicolas, "**Présidentielle 2022 : faut-il se couper de Twitter, huis clos politique devenu**

[27] MICHAUD Pierre-André, BELANGER Richard, "Les adolescents, internet et les nouvelles technologies: un nouveau pays des merveilles?", *Swiss Medical Journal*, n°253, June 16, 2010 : https://www.revmed.ch/revue-medicale-suisse/2010/revue-medicale-suisse-253/les-adolescents-internet-et-les-nouvelles-technologies-un-nouveau-pays-des-merveilles

[28] PERAYA Daniel, "What impact do technologies have on the production and dissemination of knowledge?", *Questions de communication*, 21 | 2012, 89-106 : http://journals.openedition.org/questionsdecommunication/6590

[29] GOMEZ Pierre-Yves, CHEVALLET Romain, "Impacts des technologies de l'information sur la santé au travail. Hypotheses and interpretations based on experimental observation", *Revue française de gestion*, 2011/5 (n° 214), p. 107-125 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-francaise-de-gestion-2011-5-page-107.htm

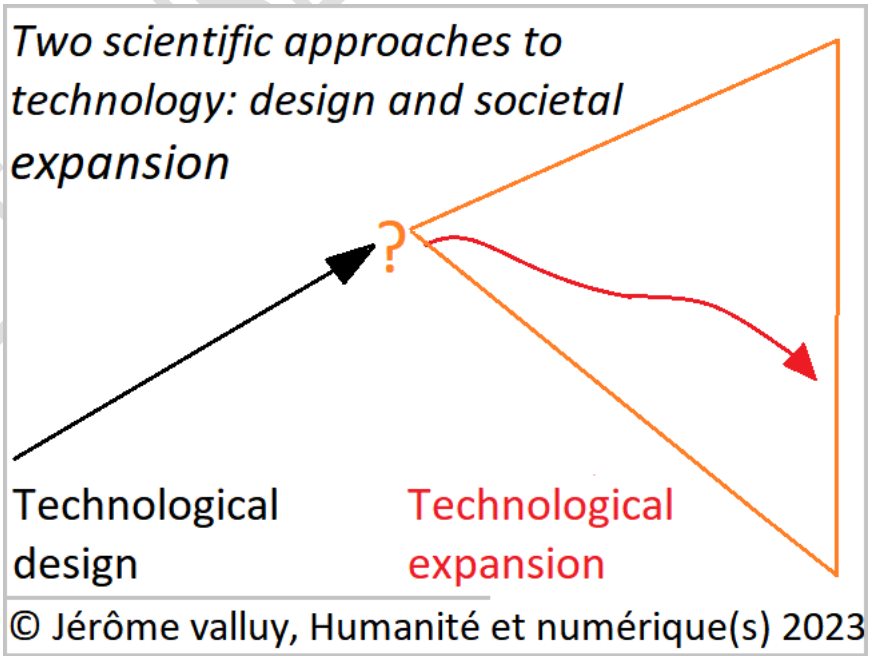
[30] PALIER Bruno, "The political consequences of technological change", *Cogito - Le magazine de la recherche*, April 13, 2019: https://www.sciencespo.fr/research/cogito/home/les-consequences-politiques-du-changement-technologique/

[31] KEFI Hajer, KALIKA Michel, SAIDANI Najma, " Dépendance au courrier électronique : effets sur le technostress et la surcharge informationnelle et répercussions sur la performance ", *Systèmes d'information & management*, 2021/1 (Volume 26), p. 45-83 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-systemes-d-information-et-management-2021-1-page-45.htm

hostile?", *Le Monde*, March 31, 2022[32]), then in digital social science research (e.g.: FATAH Lahcen, "**Twitter ou l'avènement d'un " Frankenstein 2.0 " ? L'impact des géants de la technologie sur la société et le poids des gouvernements face aux dérives technologiques**" *Revue Canadienne De Science Politique*, 1-10, 2023[33]).

1.3 The concept of expansion illustrated: the birth of the Internet (1995)

In line with this second historiography of computer science to digital technology, our study will focus not on the "**design**" of technologies - as the organizational cultures of university technology (engineering) and corporate environments encourage us to do, with good and/or bad reason - but on **the "societal expansion"** of technologies or "technological expansion".



By "**societal expansion" of a technology,** we mean all the social processes involved in the diffusion of a technology or of objects

[32] GOAR Matthieu, CHAPUIS Nicolas, "Présidentielle 2022 : faut-il se couper de Twitter, huis clos politique devenu hostile?", Le Monde / Pixels, March 31, 2022: https://www.lemonde.fr/politique/article/2022/03/31/presidentielle-2022-faut-il-se-couper-de-twitter-huis-clos-devenu-hostile_6119885_823448.html

[33] FATAH Lahcen (2023), "Twitter or the advent of a "Frankenstein 2.0"? L'impact des géants de la technologie sur la société et le poids des gouvernements face aux dérives technologiques". *Canadian Journal of Political Science/Revue Canadienne De Science Politique, 1-10.* https://www.cambridge.org/core/journals/canadian-journal-of-political-science-revue-canadienne-de-science-politique/article/twitter-ou-lavenement-dun-frankenstein-20/E9659776B42D9648C8020367007159BD

incorporating it in a society (in particular: numbers of objects sold, numbers of users of these objects, frequency of use of these objects...), as well as the transformations induced by this diffusion in human behavior, in their ways of communicating, but also of working, of entertaining themselves, of grouping together, of learning, of thinking, and so on. These transformations do not necessarily depend on the number of objects: a single atomic bomb is enough to produce deterrent and strategic reconfiguration effects. These transformations do not depend solely on the characteristics of the technology, since the same technology, as we can see with digital technology, brings about different changes from one society to another, whether that society is defined by its national history, by a common language or by a culture? What's more, these social changes vary within the same society, from one segment to another, be it a socio-professional milieu, a sector of public action, a scientific discipline, a social class or an age group... Segmentation is an essential dimension of technological expansion, but logically and sociologically it can only be observed years after the technology has been disseminated.

This time gap, between that of diffusion and that of the possible observation of transformations in society, can be schematized by drawing inspiration from the socio-economics of startups[34] , which speaks of the "life cycle" of innovations, companies and

[34] ENGLEBERT Philippe, *Startups in France*. Presses Universitaires de France, "Que sais-je?", 2021: https://www.cairn.info/les-startups en france--9782715406810.htm; BERTIN Clarice, "Proximité et facteurs organisationnels pour la collaboration startup - grande entreprise en contexte d'innovation ouverte", *Innovations*, 2019/1 (No. 58), p. 135-160: https://www.cairn.info/revue-innovations-2019-1-page-135.htm; GROSSETTI Michel, "1. L'engagement dans l'entrepreneuriat des créateurs de startups", *Regards croisés sur l'économie*, 2016/2 (No. 19), p. 14-24: https://www.cairn.info/revue-regards-croises-sur-l-economie-2016-2-page-14.htm

industries. If we reason about the technological innovation disseminated by a digital startup, the technology's societal expansion will probably undergo several stages, including these: 1) Design; 2) "Proof of Concept" (PoF); 3) Investment in "venture capital" and/or takeover of the "startup" by a large company; 4) **Diffusion** (commercialization, "open access" ...) and variable implementation of the technological innovation in various societies and sectors; 5) Economic, cultural and political **transformations** in societies; 6) Journalistic and scientific **observations of** these transformations; 7) **Adaptations** by social actors (including by designing new technologies) through revisions of their "worldview".

Looking at the history of computing not through the prism of design and attempts to launch technologies or companies ("Proof of Concept", "venture capital"...), but through that of the large-scale dissemination of technologies and the consequences of this dissemination in society radically changes the overall picture we can form of this history: ● *design* refers to the intentions of the inventor of a new technology, to the knowledge he incorporates into his invention, to the meaning he gives it, to the anticipations he makes about its future use(s). It's also the **first type of discourse, generally enchanted, that we can hear about a technological innovation**. ● *The societal expansion of* a technology partly escapes its inventor. In a way, it's the "diffusion" and "implementation" of the new technology in this or that society. And it's the moment when society discovers social effects that may not have been anticipated at the design stage, and thus the moment for a **second, more critical type of discourse on a**

new technology and, in particular, on its perverse effects on society. Hence the **inevitable time lag, of several years or even decades, between two types of discourse on a technology: the delighted discourses of invention, innovation marketing and their media, academic and political relays... always precede by several years or decades the personal, journalistic and scientific discoveries of the deleterious consequences on society**. And when the first type of discourse becomes hegemonic in the mass media, to the detriment of any critical spirit, this conjuncture then forms a period of collective enthusiasm, which can blind even the most pragmatic investors, as was the case during the two speculative bubbles marking the history of computing: ● the electronics and computing bubble (1958-1962), ● the internet bubble (1995-2001).

The change in historical perspective changes the chronology of reference, as the example of perceptions of the "beginning" of the Internet shows: the design approach places this beginning in 1963; the societal expansion approach in 1995. A gap of more than thirty years between the two points of view: this gives a measure of the distance separating the two historiographies.

1995 Design-oriented historiography saw the birth of the Internet phenomenon in the 1960s, when American academics and military personnel created the Arpanet. But the network remained military-university, experimental and confidential for over twenty years (only 562 computers were connected in 1983).

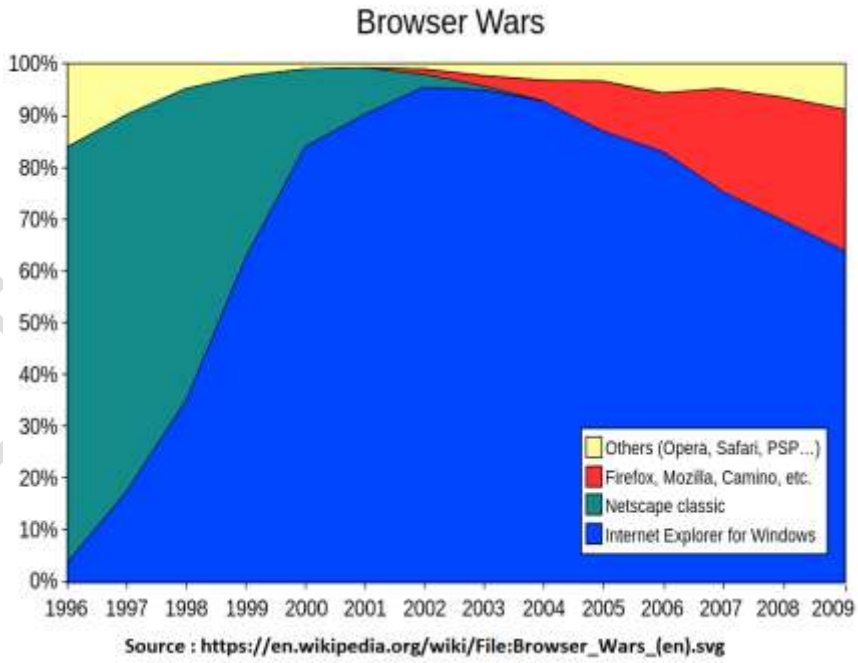
The societal expansion of the Internet[35] didn't really get underway until the invention of the World Wide Web in the early 1990s, at a time of unprecedented media agitation around the Internet and its derivatives, notably e-commerce. In September 1993, American Online (AOL), an online services company (games, etc.), added access to Usenet ("UNIX User Network", one of the ancestors of the Internet[36]) to its functionalities, triggering an influx of newcomers that can be seen as a preliminary stage in the expansion of the Internet. But it was above all the appearance of the first consumer browsers from 1994 onwards, including Netscape, which opened up Internet access even more widely, reaching 90% of the market in 1996. It was also this Netscape browser that introduced the use of "cookies" for an e-commerce application (1997 technical proposal: RFC 2109 and 1998 patent). This use of cookies was still limited to maintaining browsing information (e.g.: "shopping cart" pending) so that the user could retrieve it the next time he or she visited the website. With the IPO of Netscape (summer 1995), the worlds of finance and media became aware of the emergence of the Internet phenomenon. In 1995, Microsoft overtook IBM in market capitalization, putting an end to a century (1896-1995) of domination, while reproducing and prolonging the abuse of dominant position that characterized IBM's history before characterizing "its" Microsoft startup[37] . In

[35] MAIGRET Éric, "Chapitre 16. internet et le numérique, au-delà de l'utopie. Le problème du retour aux objets", in: MAIGRET Éric, *Sociologie de la communication et des médias*, Armand Colin, 2022, p. 293-330: https://www-cairn-info.ezpaarse.univ-paris1.fr/sociologie-de-la-communication-et-des-medias--9782200633783-page-293.htm

[36] MOUNIER Pierre "2. Usenet, une communauté égalitaire", in: *Les Maîtres du réseau. Les enjeux politiques d'internet*, Paris, La Découverte, "Cahiers libres", 2002, p. 39-63.: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-maitres-du-reseau--9782707135216-page-39.htm

[37] HALLOUL Rached, " Le réseau stratégique et la concurrence illustrés par le cas M/N (Microsoft versus Netscape) ", *Innovations*, 2005/1 (no 21), p. 197-216 : https://www.cairn.info/revue-innovations-2005-1-page-197.htm ; see also : MOUNIER Pierre " 4. Les trois guerres de Microsoft ", in : *Les Maîtres du réseau. Les enjeux politiques d'internet*, Paris, La Découverte, 2002, p. 81-116: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-maitres-du-reseau--9782707135216-page-81.htm

2004, the trade journal ZDNet recounted more than ten years of legal proceedings in the USA and Europe involving abuses by Microsoft[38] : the company imposed its operating system on manufacturers, to the detriment of competitors, then imposed its browser, made available "free of charge", with the immediate effect of sinking the browser and the Netscape company, through unfair competition[39] . The U.S. Department of Justice and twenty U.S. states took Microsoft to court for antitrust violations. The courts consistently ruled in their favor, finding Microsoft guilty as early as 1999[40] and until the end of the proceedings in 2002. The slogan "*Adopt, expand and stifle*", corresponding to Microsoft's predatory strategy, was objectified[41] , but the end of the trial, after the double crisis of 2001, was a judicial compromise which reduced the risks of heavy



Source : https://en.wikipedia.org/wiki/File:Browser_Wars_(en).svg

[38] ZDNet, "Affaire Microsoft: plus de dix ans de procédures aux États-Unis et en Europe - Informatique : ZDNet retraces more than ten years of legal and administrative proceedings into accusations of monopolistic practices against the world's number one software company", Rédaction de ZDNet.fr, Wednesday March 24, 2004: https://www.zdnet.fr/actualites/affaire-microsoft-plus-de-dix-ans-de-procedures-aux-tats-unis-et-en-europe-39146527.htm

[39] DUMEZ Hervé, "Le procès Microsoft : un " thriller " économique", revue *Sociétal*, n°28, mars 2000, p.13 et s. : https://www.societal.fr/sites/societal/files/old_site/societal-28-4-dumez-reperesettendances.pdf

[40] Le Monde, "La procédure antitrust contre le géant du logiciel", *Le Monde*, December 9, 1999: https://www.lemonde.fr/archives/article/1999/12/09/la-procedure-antitrust-contre-le-geant-du-logiciel_3603086_1819218.html

[41] Cf.: sources used on WP.fr, article ""Embrace, extend and extinguish", Wikipedia.fr, version dated April 15, 2023: https://fr.wikipedia.org/w/index.php?title=Embrace,_extend_and_extinguish&oldid=203344000 and article "Affaires et controverses de Microsoft", Wikipedia.fr, version dated June 17, 2023: https://fr.wikipedia.org/w/index.php?title=Affaires_et_controverses_de_Microsoft&oldid=205246516

sanctions weighing on the company, in particular its dismantling[42] . This outcome reveals the reluctance of the American judicial authorities, after the crises of 2001, to enforce antitrust law.

In this euphoric period, the "Declaration of Independence of Cyberspace" (cf. § 5.2 below) expressed in Davos in 1996 the commercial dreams of a digital capitalism freed from States. In *the* same year, 1996, the US *Communications Decency Act* was adopted, establishing the relative irresponsibility of platforms with regard to the content they broadcast; European states would align themselves with this legal regime (see § 5.2 below): "*Adopted in 1996, section 230 exempts major platforms from liability when they host content produced by Internet users and contrary to the law, unless this content has been reported to them as illegal. Often criticized, Section 230 is a legal and political compromise that has inspired legislation in most Western countries, including France*."[43]

Over 50,000 companies were set up to market the Internet[44] , benefiting from the financial facilities available at the time. The need for technological regulatory bodies was felt. They were created in the USA in private or public forms, but always politically dependent on the federal state, notably the W3C in 1994, a veritable technical-political self-government of companies (cf.

[42] RIOUX Michèle, "Une victoire pour Microsoft?", *Observatoire des Amériques*, Institut d'études internationales de Montréal (IEIM-UQAM) February 2003 : https://www.ieim.uqam.ca/IMG/pdf/Chro_US2.pdf
[43] LELOUP Damien, PIQUARD Alexandre, "Modération des contenus : comment l'affaire " Gonzalez vs Google " pourrait redéfinir la responsabilité des plateformes numériques - La Cour suprême américaine examine mardi la plainte déposée par la famille d'une des victimes des attentats de Paris de novembre 2015.", *Le Monde*, February 21, 2023 : https://www.lemonde.fr/pixels/article/2023/02/21/moderation-des-contenus-comment-l-affaire-gonzalez-vs-google-pourrait-redefinir-la-responsabilite-des-plates-formes-numeriques_6162643_4408996.html
[44] PEREZ Carlota, "The Double Bubble at the Turn of the Century: Technological Roots and Structural Implications" *Cambridge Journal of Economics*, Vol. 33, No. 4, pp. 779-805, 2009 : https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1433947#

below § 5.3) and the Icann in 1998, which contributed to the digital domination of the USA through control of[45] domain names, and was the object of ongoing recriminations from other countries, notably China and Russia.

During this period, and against a backdrop of increasing numbers of Internet users worldwide, an international controversy arose over Icann, which Romain Badouard summarizes in a very instructive way: "Against *this backdrop, in the early 2000s, the UN announced the organization of a World Summit on the Information Society (WSIS). (...) At the heart of the controversy is ICANN (Internet Corporation for Assigned Names and Numbers), the organization that manages the Domain Name Systems (DNS), one of the resources critical to the smooth running of the Internet insofar as it matches the domain names of websites with the IP addresses of the servers that host them. When we surf the web, the address that often begins with "http" and ends with an extension such as ".fr" or ".com" is what enables our browser to locate the site we wish to visit. Without DNS, we'd have to enter a site's IP into our browser, which is made up of a series of numbers like a Social Security number. (...) In addition to managing the DNS, ICANN is also the agency that controls the production of domain extensions. In the late 1990s, for example, when European institutions wanted to create the .eu domain, they had to apply to ICANN. The organization initially refused on the grounds that TLDs*

[45] MOUNIER Pierre, "9. L'ICANN : une démocratie pour le réseau ?", in: *Les Maîtres du réseau. Les enjeux politiques d'internet*, Paris, La Découverte, 2002, p. 186-200 : https://www-cairn-info.ezpaarse.univ-paris1.fr/les-maitres-du-reseau--9782707135216-page-186.htm ; BARBET Philippe, "Le marché des noms de domaine à l'aube du " Big bang " de la libéralisation", *Revue internationale de droit économique*, 2010/3 (t.XXIV), p. 373-393 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-internationale-de-droit-economique-2010-3-page-373.htm

were reserved for individual countries. A diplomatic battle then ensued between the Commission and the American government, leading to the entry into force of ".eu" in 2006. (...) ICANN is criticized for being a non-profit organization governed by California law and linked to the Department of Commerce. In practice, this means that the U.S. government has the final say on all decisions concerning the allocation of domain names. At the WSIS in 2003 and again in 2005, calls were made for ICANN to be placed under UN supervision. Following Washington's initial refusal, China threatened to create its own DNS and thus dissociate itself from the Internet. Faced with the real risk of fragmenting the network into closed "national internets", the US government backed down. In 2009, it raised the possibility of modifying the organization's bylaws and liberalizing the production of domain names. (...) "[46] The rest of the story doesn't change the situation: after announcements and U.S. domestic policy reversals, Icann remains an American organization wielding global power over other countries.

Russia embarked on its own digital turnaround (1994-2012), which took longer than that of the West, while at the same time groping its way through the first attempts at content control. Its first surveillance policy was formulated in 1999. Europe, for its part, followed American economic trends by accepting the localization of[47] "personal data" outside its territory (Safe Harbor

[46] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p. 153 ff.

[47] The European Consumers' Organisation (BEUC) defines personal data as: "Any information that can identify you directly or indirectly. This includes, for example, your name, address or e-mail, your location, or your browsing history. This also includes online identifiers such as your computer's IP address or cookies stored in your web browser and used to associate you with the devices and services you use.", in: BEUC, *The new European data protection law, what's it all about for you*, BEUC brochure, 2018: https://www.beuc.eu/sites/default/files/publications/beuc-x-2018-039_loi_europeenne_sur_la_protection_des_donnees.pdf

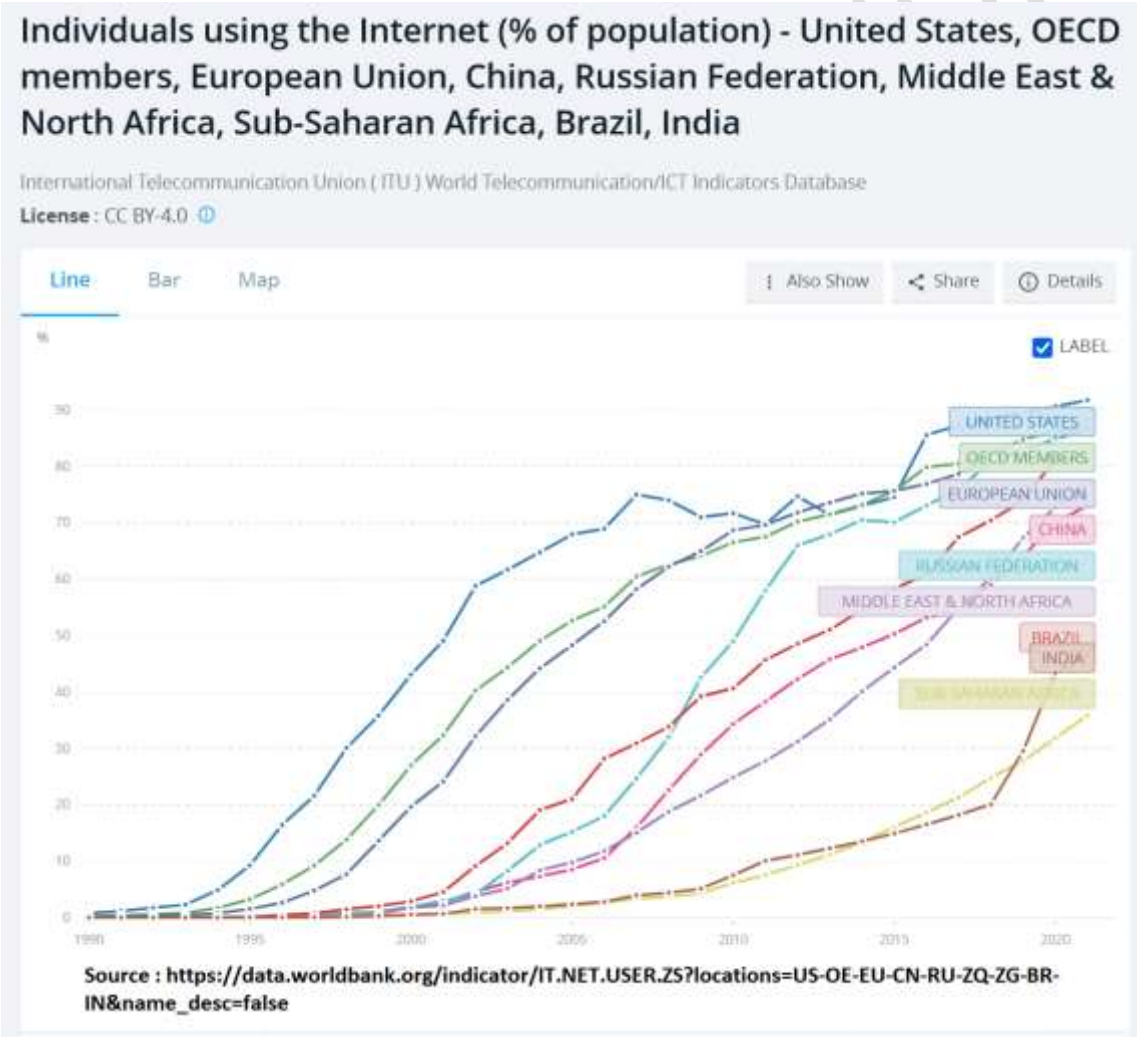
Agreement of 1998). In turn credited with the best and the worst, the Internet fascinates and arouses all kinds of covetousness, leading to a speculative bubble at the end of the 1990s, demonstrating that investors can be blinded by media coverage and the flow of opinions, even against their own interests.

But the number of Internet users in the first half of the **1990s was** no more than **a few million** worldwide - many of them computer scientists and academics - and represented less than 1% of the world's population. This number reached **45 million in 1995**, and **only 500 million users in 2000**, then one **billion in 2005, two billion in 2010**, **three billion in 2014** and **five billion in 2023**. It was the rise in cell phone equipment rates worldwide, including in developing countries, at the end of the 2000s that brought about this change of scale characteristic of the new digital "medium" and, from 2010 onwards, radically altered the situation not only in rich countries, but also in developing countries with regard to the Internet and "ubiquitous computing"[48] and, more recently, the inexpensive, connected "Internet of Things" and "connected cities" (2010-2023...). More than ever, Mc Luhan's conceptual intuition holds true for the new digital "**medium**": "(...) *in reality and in practice, the real message is the medium itself, that is, quite simply,* ***that the effects of a medium on the individual or on society depend on the change of scale*** *that each new technology,*

[48] GENTÈS, Annie. " 16. Informatique ubiquitaire, Intelligence ambiante, Informatique pervasive", in: *Abécédaire des architectures distribuées*, Paris: Presses des Mines, 2015: http://books.openedition.org/pressesmines/2121 and PUCHEU David, "L'altérité à l'épreuve de l'ubiquité informnelle", *Hermès*, 2014/1 (n° 68), p. 115-122: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-hermes-la-revue-2014-1-page-115.htm

each extension of ourselves, produces in our lives." (*Understanding the Media* 1964).

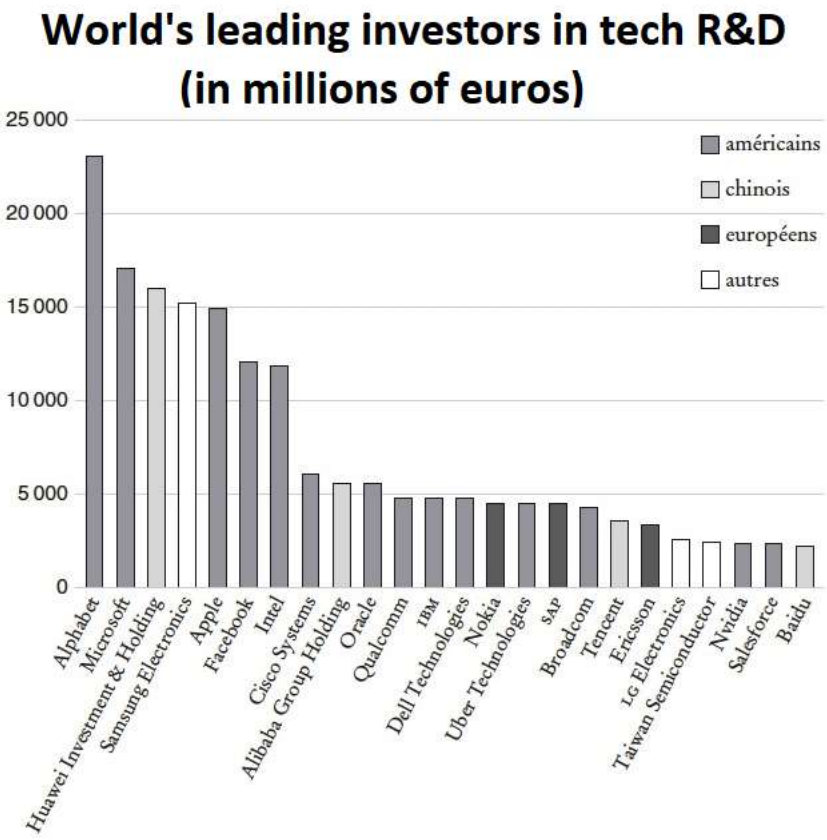
But this change of scale is not occurring at the same time in all countries, which has an impact on social perceptions of the digital revolution and its potential threats. The first expansion of the Internet worldwide widened the gap between **three groups of countries** :



1) behind the **USA, OECD and European Union countries** saw a sharp rise in the proportion of their populations connected to the Internet - reaching 50% in the early 2000s - during the first digital

turnaround (1995-2001); 2) other countries, starting with **Russia, China and North Africa,** experienced this increase later, reaching 50% between 2010 (Russia) and 2015 (China, Brazil, North Africa and the Middle East); 3) the third group, including **sub-Saharan Africa and India,** have more limited connection rates.

Finally, the image of the world produced by reference to population connection rates should not be misleading: the digital economy, in particular, its profitability and the forms of power associated with it depend not only on the number of Internet users, but also on the research and development investment capacities of the biggest companies. And from this point of view, the USA's long-standing and continuing lead leaves Europe and Africa far behind the USA and China.



Source : Gilles Babinet et Olivier Coste, « Technologies numériques : comprendre le retard croissant de l'Europe en huit graphiques », InstitutMontaigne.org, 30 novembre 2022. Cite par : O Cédric, « Pour des GAFAM européens », *Pouvoirs*, 2023/2 (N° 185), p. 135-145 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-135.htm

1.4 Five periods of computer-digital expansion

The overall picture that emerges from the societal expansion of the history of computing through to the digital age, or ***computer-***

digital history, is changing so profoundly that words in common use from the first historiography focused on design are becoming misleading. In particular, the words used to describe the first machines and techniques at the end of the 19th^{ème} century (=> "mechanography", "Hollerith machines", "statistical machines", "punched cards", "perforators" & "tabulators" & "filing machines"), the progressive integration of electronics into mechanography in the mid-20th century (=> "computers" 1955, "computing" 1955, "computers" 1955, "computers" 1955, "computers" 1955, "computers" 1955, "computers" 1955), the progressive integration of electronics into mechanography in the mid-20th century (=> "computers" 1955, "computers" 1955, "computers" 1955, "computers" "computers" 1955, "informatique" 1957/1962) and the digital turn in the 21ème century (=> "internet", "digital", "digital", "virtual", "Artificial Intelligences") mask both the continuity of the historical process that has been developing for one hundred and thirty-three years and the real caesuras that enable a reasoned periodization.

From the point of view of societal expansion, the spread of digital computing and the transformations in society brought about by this spread form a sufficiently continuous and homogeneous whole to be studied, as a single historical process ranging from the first "Hollerith machine" used in the 1890 American census to the Internet connection of billions of humans via "smartphones" at the start of the 21ème century. From the same point of view, the concept of societal expansion makes it possible to objectify chronological milestones and a periodization indispensable to the organization, discussion and transmission of scientific knowledge.

Five dates stand out, corresponding to accelerations in technological expansion: **1890, 1958, 1995, 2011, 2020**. In each period, however, there is a **second**, more secondary **date** that also corresponds to a form of acceleration.

1890: State computing (68 years) - The first large-scale use of a "Hollerith machine" in the American census of 1890, then in European censuses, ushered in a 68-year period of what could be called "State computing", marked from **1933** onwards by the computerization of the Nazi regime and the computerization of genocide by the IBM company.

1958: private computing (37 years) - 1958 saw the start of the first speculative bubble in electronics & computing, revealing the over-investment associated with the rapid spread of machines that were being reduced in size and cost, thanks to electronics, in companies and then, twenty years later (Apple II **1978**), in families, ushering in a 37-year period of what came to be known as "private computing".

1995: digital turning point(s) (16 years) - 1995 corresponds to the public expansion of Internet access, by AOL in 1993, but above all in 1995 by Netscape's consumer browser making minimal use of "cookies" before intensive use characteristic of the second digital turning point from **2001** onwards. This marks the start of a 16-year "digital turn" in two phases (1995/2001 - 2001/2011).

2011: public revelations (9 years) - This period, which is less clear as to its starting date, corresponds to the first "revelations" to a wider public of the extent of the digital transformations of human societies ("Arab springs" 2011...), of the new economic-police

system created in the USA during the second digital turn (Snowden revelations **2013...**), of the possibilities of manipulating public debates and election campaigns thanks to personal data and "artificial intelligence" (Cambridge-Analytica 2018...).

2020: accelerations and adaptations? (3 years?) - corresponds to the explosion in digital uses during the Covid19 pandemic, and therefore in the capture of personal data, database sizes and training rates of "artificial intelligences". This current three-year period is marked in **2022** by the Russian invasion of Ukraine and the brutal geopolitical reconfiguration of a world already digitized[49] with 5 billion out of 8 human beings connected, but also by the open access of so-called "generative" "artificial intelligences" (ChatGPT and Bard in particular).

1.5 Detailed chronology: 1890-2023 in ten key dates

In-depth analysis of each date, event or conjuncture is not possible in the small book volume. The most detailed way of presenting this sociohistory of the societal expansion of digital computing in just a few pages is in the form of a chronological table, with only the ten most important dates analyzed in detail.

1890-2023 THE HISTORY OF DIGITAL- COMPUTING IN SOCIETAL EXPANSION ***TEN DATES - CHRONOLOGICAL LANDMARKS***	
1890/58 - Mechanographic invention of the computer for US state censuses (launch: June 2, 1890) - USA: 1er article of	**1890-1958** **STATE DATA PROCESSING**

[49] SOUPIZET Jean-François, "Les États face aux géants du Net. Vers une alliance de raison?", *Futuribles*, 2023/3 (N° 454), p. 5-23 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-futuribles-2023-3-page-5.htm

legal doctrine on "privacy" (Dec. 15, 1890). 1890) - Genesis of IBM's worldwide empire (1896-1995), in the American tradition of unbridled capitalism at the end of 19ème (unfair competition, swindles, judicial blackmail, vandalism...) - IBM's "punched card" technology lucrative for almost a century - **Expansion (30 to 50% per year) of the state census market in Europe** (Austria 1891, Canada 1892, Norway 1895, Italy 1895, France 1896, Russia 1897, England 1901...) + large public companies (transport, social protection...) and private companies (insurance...) - Birth of Bull in France (1930) - Informatics *driven* by user states that do not self-regulate (*Rechtsstaat*) their own uses. **1933/58** - **Nazi state censuses + military-industrial apparatus + genocide... computerized by IBM (1933-44)** - Four decades of social taboo on the subject (1944-1984) - Technological acceleration linked to the 39/45 war - Trials, country reconstruction and 1ère cold war: state computing sees academic, military and public service interests converge. - **Proclamation of privacy as a human right by the UN (UDHR-1948 art.12)** - Publication of George Orwell's novel "1984" (1949).	(state censuses in the USA and Europe) **68 years**
1958/78 - **Societal expansion of computing in companies** - First electronic & computer speculative bubble (1958-62) - Miniaturization (size and cost), "mainframes", "minicomputers", "transportables" - **First constitutional decisions on "privacy" / human right** (USA 1965, FRG 1969) - Birth of "Micro-soft" near IBM (1975) - Mobilizations in Europe against computerized state censuses and files. **1978/95** - **Societal expansion of personal computers** (Apple-II 1978 & IBM-PC 1981 ...) - Growth in individual equipment in companies, administrations and families - **First regulations (not very restrictive) from European States** - Four requests for regulation from the European Parliament to the Commission after three without response (1975, 1976, 1979, 1982) - Publication of "*Die restlose Erfassung*" by Aly and Roth revealing the computerization of the Shoah (1984) and "*Une histoire de l'informatique*" by Philippe Breton (1987).	**1958-1995** Private **COMPUTING** of companies, families, individuals and public administrations (The State remains a major consumer, but is becoming more of a regulator) **37 years**
1995/01 - **45 M Internet users** - **Chaotic societal expansion of the Internet** - Media hype / digital futures - Overinvestment / speculative bubble - Expanded Internet access / AOL (1993) - Creation of W3C (1994) - Russia: digital turn, oscillating expansion and censorship (1994-2012) - USA : Netscape's	**1995-2011** **DIGITAL REVOLUTION (I)** (First managerial steps, media enthusiasm,

limited cookies (1995)... sunk by Microsoft's unfair competition - Microsoft overtakes IBM in market capitalization (1995) - Declaration of independence for cyberspace at Davos (1996) - **Platforms' legal disclaimer laws (1996)** - W3C privacy projects : P3P" prototypes by Microsoft and Netscape (1997) - Birth of Google (1998) - Creation of Icann (1998) - EU/US "Safe Harbor" agreement (1998/2000) - USA bans cookies on federal websites (June 2000) - First Russian doctrine (1999) extension of surveillance, law 144-FZ (2000) **2001/11** - **500 M Internet users** - Second IT & digital speculative bubble burst, known as the **DOTCOM crisis (Nov. 2000 / June 2001) + WTC attacks (Sept. 11, 2001) = American culture shock** - *Patriot Act* (Oct. 26, 2001), Total Information Awareness and other programs... - Political consensus on "security versus freedom" from Republicans to Democrats, beginning of the "NSA & GAFAM System", birth of "surveillance capitalism". 2001), *Total Information Awareness* and other programs... - Political consensus "security versus freedom" from Republicans to Democrats, beginning of the "NSA & GAFAM System", birth of "surveillance capitalism" -- *Cookies unbridled* by discovery of "behavioral surplus" at Google (after Microsoft and Apple) (2002) -- First of nine Google patents: "*Generating User Information for Use in Targeted Advertising*" (2003) - Birth of Facebook (2004) - **Rapid growth in smartphone ownership worldwide (2005/10)** - Russian Personal Data Act 152-FZ (2007) and creation of Roskomnadzor (2008).	financial speculation, political trial and error...) **2001-2011** **DIGITAL SHIFT (II)** **Birth and influence of "surveillance capitalism** **16 years**
2011/13 - **2000 M Internet users** - "Wikileaks" media coverage (2010/11) - Apple in 1ère world market capitalization overtakes Exxon Mobil (2011) - Israeli software "Pegasus" sold in Mexico (2011) - "Arab Spring" (2011/12) - "Right to be forgotten" trial in Spain (2011/14) - BRICS announce submarine cable bypassing USA (March 2012) - Russia : Putin's return and political takeover of digital (2012-2023...) - Russia: "Blacklist" of banned sites (2012) - ITU meeting in Dubai: Russia (Putin) challenges US hegemony over digital (dec.2012) - **Snowden revelations: 1.7 M NSA documents to journalists (June 6 / Dec. 2013) arrival in Russia on June 23, 2013** - Recentralization of Chinese digital, announcement of "Social Credit System" for citizens (CCP Oct.2013 - EC Jan.2014) - Recentralization of Russian digital; law 242-FZ data localization (2014) and law 398-FZ political censorship (2014)	**2011-2020** **REVELATIONS** Disruptions indicative of the digital revolution + Snowden revelations on the "NSA & GAFAM System". +

- Russian media takeover; Sputnik launched after Crimea annexation (2014). **2013/20** - **3000 M Internet users** - Period of Snowden revelations to the general public by American and Western professional journalists (2013-18) - **Invalidation of the "Safe Harbor" agreement (Schrems case) by the ECJ (2015)** - Second Russian doctrine (2015) laws 374 FZ and 375 FZ access to ISP data by FSB et al. (2016) - Predictive statistics overestimating future sales of connected objects (2014-17) - First discovery of "Pegasus" use (2016) -Naissance of "Forbidden Stories" by journalists' association *Freedom Voices Network* (2017) **Cambridge Analytica revelations (2018)** - Disenchantment with the internet - Releases of Zuboff's "The Age of Surveillance Capitalism" (2018-RFA, 2019-USA, 2020-RF)	C.A. revelations on electoral influence and manipulation) **9 years**
2020/21 - **Covid19: explosion of social uses of digital technology**, capture of personal data, size of databases, speed of A.I. training... **2022/23** - **5000 M Internet users** - **Invasion of Ukraine,** second "Cold War": segmentation of the Internet - **Decoupling of armies and merchants in relations with China...** - Public discovery of the A.I. performance of Google, Microsoft et al: Bard, ChatGPT, Midjourney.... - Public discovery of the Israeli infiltration and manipulation company "*Team Jorge*" - **"*Silicon Valley Bank*" goes bankrupt** after bank interest rates rise (purging speculative bubble on connected objects?)	**2020-2023 READJUSTMENTS?** (changes in "worldviews" and private or public action strategies) **3 years**

2. Technology, economics, politics: what are the determining factors?

An important question concerns the factor or factors that most drive this story: **is it the inventor's genius that makes a technological innovation (here, computing) a success in society, or is it the "business model" that supports it, or the political authorizations (even implicit) given to this business?** We'll show that computer science developed mainly thanks to public funding between 1890 and 1950, with the American state financing university research, knowledge transfer to the army and the first large machines purchased with public funds. As Yann Moulier Boutang observes, "*These builders of the new factories of the 21st century set up shop on campuses, and their outbuildings were largely paid for by the military or by foundations*." (*Cognitive Capitalism*, 2007, p.21). This original tendency of computer history to be initiated, financed and authorized by the state is sometimes (abusively) denied by the first historiography driven by the marketing of private companies; yet it is confirmed again in the birth of "surveillance capitalism" according to Shoshana Zuboff's recent analysis of it in her book: "The age of surveillance capitalism" (2018). This new capitalist regime developed on an impulse in 2001, apparently that of the future "GAFAMs"[50] , an impulse certainly greatly facilitated by the financial facilities of the time[51] , but which would probably not have been possible without

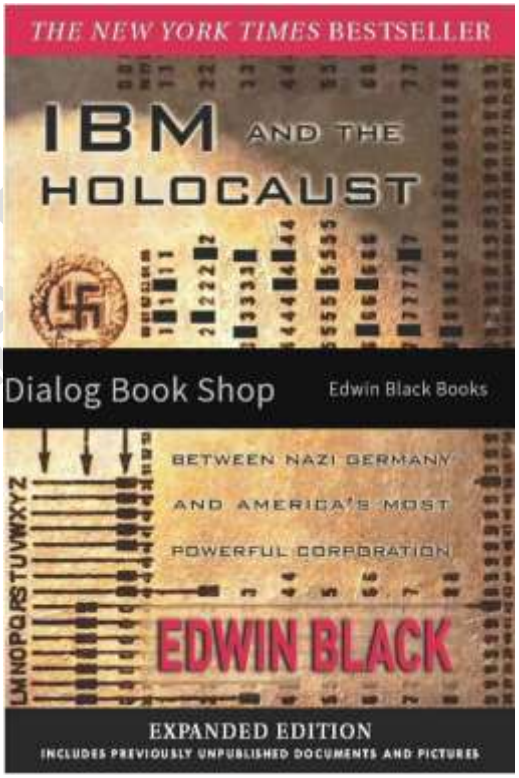
[50] ISAAC Henri, "Pour en finir avec l'acronyme GAFAM", *Pouvoirs*, 2023/2 (N° 185), p. 7-17 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-7.htm
[51] Cf. Y. Moulier Boutang, *L'abeille et l'économiste*, Carnets nord, Ch.2 "Une petite histoire de la crise", p.87-114.

the authorizations and political pressure of the American government, via the NSA (National Security Agency) in particular, for an historically unprecedented intensification of the surveillance of American and global populations by capturing personal data. This process extends far beyond what was permitted by American and international legal systems in terms of privacy protection. We will therefore follow the hypothesis of a political-economic (and not technological) determination of the societal expansion of computing into the digital age, placing the issue of privacy at the heart of our research.

2.1 1933: IBM computerizes the Nazi regime and the Shoah

1933 is a milestone in the history of computing. From 1933 onwards, the IBM company, developed thanks to state censuses, and in a hegemonic position in world computing, sold all the "statistical machines" (computers) needed by the Nazis to carry out population censuses, in Germany and then in other countries, for the purpose of persecuting Jews and other victims. This is one of the great taboos of the first computer historiography, which conceals IBM's moral responsibility in a totalitarianism that philosopher Hannah Arendt has shown to be distinguished from classic forms of authoritarianism precisely by its denial of any respect for privacy. The discovery was made recently, in 1984, by two German historians, one a journalist and the other a researcher, **Götz Ali and Karl Heinz Roth**, in a relatively unnoticed book

entitled: ***Die restlose Erfassung - Volkszählen, Identifizieren, Aussondern im Nationalsozialismus*** ("*The integral census - Census, identification, sorting under National Socialism*." - Rotbuch Verlag, 1984, 157 pp.). The book was not translated into English until twenty years later. In 1995, a journalist from *The Washington Post,* also a specialist in the Holocaust, took up the investigation with tenfold greater resources, and in 2001 brought this technological dimension to the world's attention: **Edwin Black, *IBM et l'holocauste - L'alliance stratégique entre l'Allemagne nazie et la plus puissante multinationale américaine***, Robert Laffont, 2001, 610 p. "*I became literally obsessed*," writes Black, "*with a question whose answer had long eluded historians. The Germans had always been in possession of nominal lists of Jews. One fine day, an SS squadron would burst into a town square and post a notice ordering those whose names appeared on the list to report to the station the next day for deportation to the East. But how did the Nazis compile these lists? For decades, no one knew. Few people asked the question. Here's the answer: it was thanks to the census operations and other counts and registrations carried out by IBM with its cutting-edge technology*" (p.12).

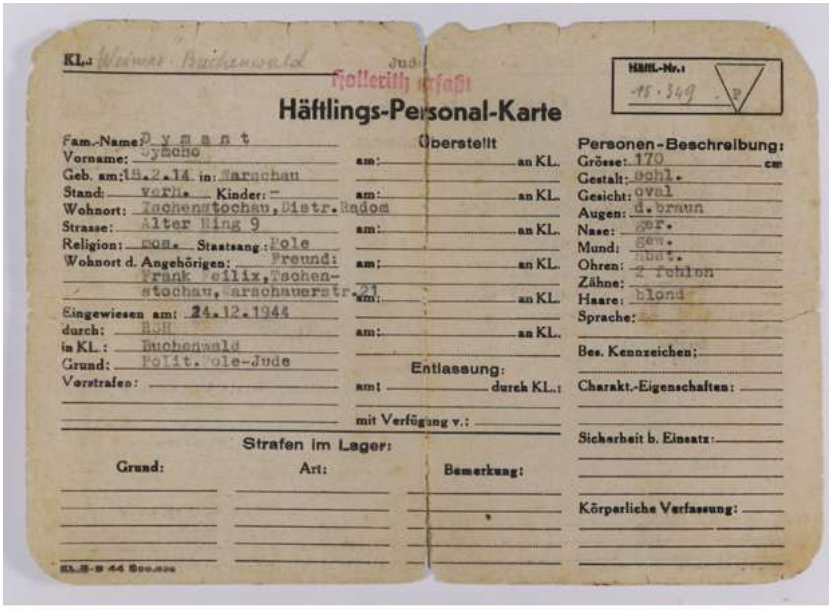


Between 1933 and 1944, IBM executives (post-Hollerith), especially Charles Ranlett Flint and Thomas J. Watson, as well as IBM executives in New York, Geneva, Berlin and Paris, provided

the Nazis with the tools they needed to carry out persecutions of which the whole world was aware, which were chronicled in the American press, and which anti-Nazi movements in the USA wrote about in books and demonstrations in major American cities. They thus placed themselves at the service of persecution and the death machine. In 1937, IBM president Thomas J. Watson received a medal from Hitler for services to the 3ème Reich. He had the tactical astuteness to return it to its donor, which helped him to dupe America and disguise his business. He was able to compartmentalize information between the USA and Germany, where his business greatly intensified the tracking and rounding-up of Jews. The numbers on personal identification cards, such as that of Symcho Dymant opposite or, for a time, the numbers tattooed on arms like that of Pierre Durand below, were linked to IBM punch cards and processed by machines supplied by the company to those responsible for roundups and extermination. "*Every day we received new convoys of prisoners. They were identified using*

IBM President Thomas J. Watson meets with Hitler in Berlin, June 1937, just before receiving medal for "service to the Reich."

Photo extraite de: Edwin Black, "The Nazi Party: IBM & "Death's Calculator"", The Hewish Virtual Library - A Project of Aice : https://www.jewishvirtuallibrary.org/ibm-and-quot-death-s-calculator-quot



KL.: Weimar-Buchenwald — Jud. — Hollerith erfaßt

Häftlings-Personal-Karte

Fam.-Name: Dymant
Vorname: Symcho
Geb. am: 18.2.14 in: Warschau
Stand: verh. — Kinder: —
Wohnort: Tschenstochau, Distr. Radom
Strasse: Alter Ring 9
Religion: mos. — Staatsang.: Pole
Wohnort d. Angehörigen: Freund: Frank Felix, Tschenstochau, Warschauerstr. 21
Eingewiesen am: 24.12.1944
durch: Gestapo
in KL.: Buchenwald
Grund: Polit. Pole-Jude
Vorstrafen: —

Überstellt: am: ... an KL. ...

Entlassung: am: ... durch KL.: ... mit Verfügung v.: ...

Strafen im Lager: Grund: / Art: / Bemerkung:

Häftl.-Nr.: 45.349

Personen-Beschreibung:
Grösse: 170 cm
Gestalt: schl.
Gesicht: oval
Augen: d.braun
Nase: ger.
Mund: gew.
Ohren: anl.
Zähne: 2 fehlen
Haare: blond
Sprache:
Bes. Kennzeichen:
Charakt.-Eigenschaften:
Sicherheit b. Einsatz:
Körperliche Verfassung:

Fiche personnelle d'un détenu du camp de Buchenwald pourvue d'un tampon rouge « **Traité par Hollerith** ». Source : Cercle d'étude de la Déportation et de la Shoah, page "Le système des rapports mécanographiques - Comme l'informatique avant la lettre a servi les objectifs du nazisme", 7 août 2020 : https://www.cercleshoah.org/spip.php?article835

Hollerith cards, whose columns and perforations corresponded to various characteristics: nationality, date of birth, marital status, number of children, reason for detention, special features and skills. Columns 3 and 4 covered sixteen categories of inmate, distinguished by the location of the perforation: hole no. 3 was reserved for homosexuals, hole no. 9 for asocials, hole no. 12 for gypsies. Hole 8 was for Jews. Prisoners were also classified by their personal code number on lists drawn up from cards[8] . Column 34 was marked "Reason for departure". Code 2 meant that the prisoner had been transferred to another camp to continue working there. Death from "natural" causes was code 3. Execution was n°4. Suicide was n°5. Code 6 was reserved for "special treatment", a euphemism for "extermination", whether by gas chamber or bullet to the head[9] . As trains and trucks arrived from Belgium, France and Holland, thousands of punch cards were analyzed and processed. The information was then transmitted to the statistics department of the SS Central Economic Management Office in Oranienburg. [52]

Fiche Hollerith de Pierre Durand, Mle 49749 à Buchenwald

Photo extraite de : Claude SIMON (Amicale de Mauthausen), "Interamicale : table ronde des « Rendez-vous de l'histoire » de Blois 2017", *Le Serment*, n°368, Mars, Avril, Mai 2018, p.8 : https://asso-buchenwald-dora.com/wp-content/uploads/2018/06/serment_368_02032018.pdf

[52] Ibid, op. cit. p.31 - Notes: 8. *idem*; see NA Rg242/238, T1021, Roll 5, frame 126 - 9. Documents de Rudolf Martin Cheim, *op.cit.*, p.26-27, YVO Rg804; see NA Rg242/238, T1021, Roll 5, frame 126; Testimony of sur Irma Gresse, in "Excerpts from *The Belsen Trial, Part 5 of 5: The Trial of Adolf Eichmann, Session 101 (Pt. 3 of 4)*"; Jamie Mc Carthy and Ken Mc Vay, "The Meaning of Special

IBM executives contributed to the genocide, which would not have claimed so many lives without the use of these machines. No one seems to have realized the importance of this technological aspect before these two books. As Claude Simon, a member of the Amicale de Mauthausen, observes, "***As for innovation, it seems to consist essentially in the adaptation to human beings of technologies hitherto used for beasts or things.***"[53] It is precisely this type of adaptation that Shoshana Zuboff refers to with her concept of "instrumentarism", to which we shall return (cf. § 5.4 below). We can also observe that these forty years of technological unthinking have not helped humanity to become aware of the risks inherent in the computerization of relations between the State and civil society. And there's something pathetic about the incredulous pride of a few academics specializing in this field, who in 2001 (when Edwin Black's book was published) discovered this ignored reality in their own field of specialization. We'll probably never know the difference in the number of deaths that resulted from the illegal provision of American computer technology to the Nazis, but there's no doubt about the scale and cynicism of IBM's collaboration with the Nazis. Unlike other companies that collaborated with the Nazis, IBM was not punished at the end of the war, benefiting from the American policy of not purging German employers by the American liberator[54] . Did this staggering collaboration between IBM and the

Treatment, Pt.1 of 3", *Deceit and Misrepresentation: The Techniques of Holocaust Denial*, The Nizkor Project, http://www.nizkor.org; Raul Hilberg, *Documents of Destruction: Germany and Jewry 1944-1945* (Chicago, Quandrangle Books, 1971), p.219-223.

[53] Claude Simon, (Amicale de Mauthausen), "Interamicale : table ronde des " Rendez-vous de l'histoire " de Blois 2017", *Le Serment*, n°368, Mars, Avril, Mai 2018, p.8 : https://asso-buchenwald-dora.com/wp-content/uploads/2018/06/serment_368_02032018.pdf

[54] DE ROCHEBRUNE Renaud, HAZERA Jean-Claude, *Les patrons sous l'Occupation*. Odile Jacob, 2013: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-patrons-sous-l-occupation--9782738129383.htm ; LACROIX-RIZ Annie, " La non-épuration américaine de l'oligarchie financière allemande : une vieille affaire, 1918-1945 ", *Droits*, 2019/1 (n° 69), p. 29-74 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-droits-2019-1-page-29.htm

Nazis influence the drafters of the first political recognition of "privacy" as a fundamental right in Article 12 of the "Universal Declaration of Human Rights", a declarative (i.e.: political, not legal) text adopted by the UN General Assembly in 1948? This is not certain. Is this collaboration reflected in George Orwell's famous dystopian fiction "1984", published in 1949, the only novel to have become ubiquitous in journalistic and scientific computer studies since then? There's nothing to suggest this, either in the work itself or in its commentaries.

2.2 Computer expansion and privacy protection (1948...1965...)


HARVARD

LAW REVIEW.

THE RIGHT TO PRIVACY

The relationship between the history of privacy as a politico-legal idea and the societal expansion of information technology seems to have been close since the first American census in 1890: this first computerized census was launched on June 2, 1890, and the first article in American legal doctrine on the protection of privacy appeared on December 15, 1890: **Warren and Brandeis, "The Right to Privacy" *Harvard Law Review*, 4, 1890, pp. 193-220.** However, the article makes no mention of the census. Is this a chronological coincidence, or simply a coincidence six months apart? Or did the launch of the first computerized census create a social context and discussions conducive to the article's appearance? One uncertainty remains.

Comparative studies by historian Jean-Louis Halpérin[55] show that the notion circulated between countries in the 19ème century, but was not central to either the United States or European countries. We'll come back to this point later, to note a historical impenetrability and a general embarrassment on the subject (cf. below, § 4.2). The American courts began to develop a body of case law with the *Pavesich* decision of the Georgia Supreme Court in 1905, which was slowly confirmed in the 1930s and 1940s, but without any real protection of a human right. "*The path taken by American law appears to be very different, and has not resulted in a law (whether federal or state) protecting privacy from both civil and criminal standpoints. Starting out in 1890 with a doctrinal article, and as such devoid of any authority, this process began with lawsuits concerning the advertising use of family names or photographs without the authorization of the persons concerned. After several decisions refusing to consider such behaviour as wrong, state courts began to rule in favour of the plaintiffs, starting with the Pavesich case decided by the Georgia Supreme Court in 1905(13). The Restatement of Torts of 1939 took this into account, and over twenty states passed legislation recognizing this new form of civil liability*.[56]

The first international political formulation of the desire to protect privacy can be found in **Article 12 of the 1948 UN Universal Declaration of Human Rights**: "*No one shall be subjected to*

[55] HALPERIN Jean-Louis, " L'essor de la " privacy " et l'usage des concepts juridiques ", *Droit et société*, vol. 61, no. 3, 2005, pp. 765-782 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-droit-et-societe1-2005-3-page-765.htm and " Protection de la vie privée et privacy : deux traditions juridiques différentes ? ", *Les Nouveaux Cahiers du Conseil constitutionnel*, vol. 48, no. 3, 2015, pp. 59-68: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-les-nouveaux-cahiers-du-conseil-constitutionnel-2015-3-page-59.htm .

[56] HALPERIN J.L., "Protection de la vie privée et privacy...", op. cit. ; Note 13: (13) William L. Prosser, "Privacy", *California Law Review* 1960, 48/3, pp. 383-423.

arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honor and reputation. Everyone has the right to the protection of the law against such interference or attacks". This text has no legal force: it is not a treaty, but a unilateral declaration by the UN Plenary Assembly. But it is taken up and quoted by the **Convention for the Protection of Human Rights and Fundamental Freedoms adopted by the members of the Council of Europe in 1950**: "*Article 8 - Right to respect for private and family life - 1) Everyone has the right to respect for his private and family life, his home and his correspondence. 2) There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security or public safety, for the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.*"

It was not until the 1960s, when the societal expansion of private computing began, that the debate on *privacy* was revived in the United States. As Julien Rossi observes: "*The way in which the appearance of the electronic computer was perceived in the United States in the 1950s and 1960s as a problem in the making, the end of the McCarthy era, and the context of the civil rights movement all combined to put the question of privacy rights back on the agenda of the country's jurists and politicians. The work of William Prosser (Prosser, 1960), inspired by the right to privacy theorized at the end of the 19th century by Samuel Warren and Louis Brandeis (1890), led to the evolution and clarification of*

American legal doctrine, specifying the content of the right to privacy".[57] During this period, jurist William Prosser (1898-1972) drew up a famous typology of torts affecting privacy, distinguishing between intrusion into private space, publication of embarrassing facts relating to personal privacy, defamation and impersonation[58] . Between 1961 and 1963, federal funding for statistical surveys jumped by 23%. The number of computers rose from 350 to 700 in the US Air Force alone. In 1964, the State of New York launched a plan called the "*State Identification and Intelligence System*", designed to gather information from 3,600 different sources into computers, in particular to improve police efficiency. In 1964, *The New York Times* revealed one of the first sales of personal data. In 1965, the *Social Science Research Council* (SSRC) published a report denouncing the scattering throughout 20 federal statistical agencies of more than 600 data sets spread over a hundred million punch cards and some thirty thousand magnetic tapes, access to which for scientific research purposes was very complicated... which led, a year later, to the proposal to create a "*national data center*" to bring these databases together. The announcement of the proposal to create a national data center in turn provoked reactions in the press. In August 1966, the *Pittsburgh Post-Gazette* headlined "*Computer as Big Brother*". The *Wall Street Journal* also expressed concern about the threat to civil liberties posed by such a data center, and in August 1966, a

[57] Julien Rossi, *Protection des données personnelles et droit à la vie privée : enquête sur la notion controversée de " donnée à caractère personnel*, Doctorant en Sciences de l'information et de la communication, Dir. V.Julliard, J.Valluy, UTC Costech, July 2, 2020 : http://www.theses.fr/2020COMP2549/document (p.257)
[58] PROSSER W., 1960, "Privacy", *California Law Review*, 48, 3, pp. 383 ff: https://www.jstor.org/stable/3478805

New York Times editorial described the project as an "Orwellian *nightmare*".

In 1965, in Griswold *v. Connecticut* (381 U.S. 479), the Supreme Court first recognized the existence of a constitutional right to privacy. Then, in 1967, in *Katz v. United States (*Katz v. United States, 389 U.S. 347, 1967), it reversed an earlier decision, *Olmstead v. United States* of 1928 (Olmstead v. United States, 277 U.S. 438, 1928), recognizing that a wiretap constitutes an invasion of the right to privacy (which it had ruled out at the time!). Finally, in 1977, in *Whalen v. Roe* (429 U.S. 589, 1977), it recognized the existence of a right to informational privacy, i.e. the fact that the right to privacy implies placing certain restrictions on the free circulation of information concerning the private lives of citizens.

In European countries, debates on privacy, particularly in relation to developments in information technology, began at the same time as in the United States, but in a different way: **it was government censuses that provoked hostile reactions and, from this theme onwards, the fear of excessive state surveillance through the creation of interconnected databases**.

After the United States, **Germany is the** European country that is making the earliest and fastest progress. In 1968, Schleswig-Holstein passed a law setting up computerized data processing centers. In 1969, the Federal Constitutional Court handed down its "*Mikrozensus*" ruling (July 16, 1969), in which it was declared contrary to the principle of human dignity (*Würde der Menschen*) for the State to force individuals to reveal all aspects of their personality, in order to have them entered into a data file, even

for the purposes of anonymized statistical surveys (BVerfG, July 16, 1969 - 1 BvL 19/63, "*Mikrozensus*"). On October 7, 1970, the state of Hesse adopted one of the world's first regulations, **the "*Datenschutzgesetz*" (Data Protection Act), and created the world's first data protection authority, the *Datenschutz-beauftragter* (Data Protection Officer).** She was responsible for monitoring the application of the law and for drafting public reports on the development of IT in the state administration (ten years before the 1978 law and the creation of the CNIL in France). In 1974, the state of Rhineland-Palatinate also passed a law "against the misuse of data". At federal level, a draft data protection law was drawn up in 1972, but it wasn't until 1977 that such a law was passed.

Sweden is also a pioneer in this field[59] . The principle of free access to administrative documents dates back to the Freedom of the Press Act of 1766. The introduction of a personal identification number in 1947, coupled with information in files on individuals held by the State from 1963, and the principle of free access to this information held by the administration, led to fears about the confidentiality of data that could contain information on people's private lives. Particular attention was paid to census data. A parliamentary commission was set up on the subject in 1969, and reported its findings in 1972. In 1973, Sweden passed its first national law on the protection of personal data: two laws are

[59] Gloria González Fuster, *The Emergence of Personal Data Protection as a Fundamental Right of the EU*, Springer Science & Business, April 28, 2014, p.58 et s. ; DIGOIX Marie, LE BOUTEILLEC Nathalie, "Régulation de la vie privée dans le contrat social en Islande et en Suède", Savoir/Agir, 2012/2 (n° 20), p. 61-70 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-savoir-agir-2012-2-page-61.htm ; Sören Öman, "Implementing Data Protection in Law", in : IT Law - Scandinavian Studies in Law Volume 47, 2004, s. 389-403 : https://lawpub.se/en/artikel/5546

opposite each other, the Freedom of the Press Act, which promotes openness and free access, and the Data Protection Act, which protects individual freedoms (*Datalagen*). In the Netherlands, in 1972, computerized census files also came in for criticism. Based on the Swedish model, the Dutch government set up the Koopmans Commission (*Staatscommissie-Koopmans), a committee* set up by Royal Decree no. 70 of February 21, 1972, and inaugurated on March 16 of the same year, to formulate proposals for the regulation of data processing in order to protect citizens' privacy.

In France, the government commissioned a report from the Conseil d'État in 1969 on "*the consequences of the development of information technology on public freedoms and administrative decisions*" (Conseil d'État (France), 1970). In 1970, Law no. 70-643 of July 17, 1970, aimed at strengthening the guarantee of citizens' individual rights, added an **article 9 to the Civil Code, affirming the right of individuals to respect for their private lives**. A series of bills were tabled by French MPs, including one in October 1970 by Michel Poniatowski, a member of the Fédération nationale des républicains indépendants, led by Valéry Giscard d'Estaing. His proposal included the creation of a "Comité de surveillance de l'informatique". In 1974, an article by Philippe Boucher (Boucher, 1974) in *Le Monde* on the "*Système automatisé pour les fichiers administratifs et le répertoire des individus*" (or SAFARI project) put the issue of the impact of data processing on individual rights and freedoms, including the right to privacy, on the media agenda. Then, in the mid-1970s, the *GAMIN* ("*Gestion automatisée de médecine infantile"*) project sparked off protests, particularly

among doctors and social workers who were to supply the file with health data, in violation of the principle of medical confidentiality: the revelation of the existence of the SAFARI file provoked reactions in circles close to the CFDT and the Syndicat de la Magistrature, then in the press, in a political context still close to the events of May 68. In 1974, a decree (Décret n° 74-938 du 8 novembre 1974 portant création de la commission informatique et libertés) signed by Valéry Giscard d'Estaing created, under the authority of Jean Lecanuet, Minister of Justice, a "Commission Informatique et Libertés", chaired by Bernard Chenot, then Vice-President of the Conseil d'État. The commission's report was drafted by Bernard Tricot, its rapporteur, and submitted in June 1975. It concludes with a series of proposals, including that of creating, as in Hesse/Germany and Sweden, an independent authority capable of exercising control over the use of information technology, first and foremost by legal entities under public law, but also, to some extent, by the private sector. The report's conclusions were incorporated into a draft law. This bill was presented to the Council of Ministers in July 1976, then placed on the table of the National Assembly on August 9 of the same year. After being debated and amended by Parliament, it was finally promulgated on January 6, 1978, and became law no. 78-17 relating to information technology, files and freedoms, more commonly known as the Loi Informatique et

Libertés. Constitutionalization, however, came even later, and after much longer hesitation[60] .

Unlike other fundamental rights, whose origins date back to the 18ème century, recognition of this right came late in law: 1965 in the USA, 1969 in Germany... and only in 1999 in France. Generally speaking, in the various countries concerned, it is the higher courts of justice that set out the new constitutional principle, and not elected representatives, parties or voters, at a time of accelerating computerization through the integration of electronics into mechanographic systems, and of numerous challenges in Europe to computerized state censuses. This weak basis of political legitimacy makes the constitutionalization of privacy slow, fluctuating and fragile in both the USA and Europe.

2.3 The trauma of 2001 and the birth of surveillance capitalism

2001 is another very important date **to understand** in this first American-European story[61] . It was the year of the bursting of the speculative bubble in the "venture capital" market dedicated to new technologies ("DOT-

Photo du WTC après les attentats du 11 septembre 2001 extraite de : Roberto Lucchini - The Conversation « Amiante, métaux lourds… Comment l'attentat du World Trade Center tue encore 20 ans après », *Science & Vie*, 09 Septembre 2022 : https://www.science-et-vie.com/societe/amiante-metaux-lourds-attentat-world-trade-center-tue-20-ans-apres-91981.html

[60] On France: Mazeaud Vincent, "La constitutionnalisation du droit au respect de la vie privée", Les Nouveaux Cahiers du Conseil constitutionnel, 2015/3 (No. 48), pp. 5-20. URL: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-les-nouveaux-cahiers-du-conseil-constitutionnel-2015-3-page-5.htm

[61] LYON David, "6. Le 11 septembre, la 'guerre au terrorisme' et la surveillance généralisée", in: Didier Bigo ed, *Au nom du 11 septembre...Les démocraties à l'épreuve de l'antiterrorisme*. Paris, La Découverte, "Cahiers libres", 2008, p. 90-103: https://www-cairn-info.ezpaarse.univ-paris1.fr/au-nom-du-onze-septembre--9782707153296-page-90.htm

COM[62] 2001") and the attacks on the World Trade Center ("WTC 2001"). Social perceptions of these events differ in Europe and the United States. Europeans witnessed the collapse of the WTC towers on television, as did Americans. However, the latter perceived the events **in** a different way: **it was the first time their territory had been affected by an act of war,** which led to the questioning of many beliefs about territorial security that had been observed since the creation of the Republic two centuries ago. In the same year, the DOT-COM Crash affected the United States' confidence in its technological superiority, despite having dominated the sector for over a century. It'**s as if two fundamental pillars (among others) of the American cultural and political system - security and business - had collapsed**. We can think of 2001 as a traumatic shock whose amnesiac effects will linger in American political culture for more than a decade. Americans would somehow forget the founding principles of their republic, including the one enunciated by Benjamin Franklin in 1755: "*Those who can give up essential liberty to buy a little temporary security deserve neither liberty nor security*." This is precisely what the American authorities did, under the presidency of George W. Bush (2001-2009) and Barack Obama (2009-2017), when they renounced the fundamental freedom (which serves as a foundation for others) - which has become essential in the face of digital computing - of protecting privacy in order to reinforce security, so that an attack like that on the WTC 2001 could never happen again. This "never again" has become a commonplace in

[62] "DOT-COM" or "DOTCOM", for "dot com" (".com"), refers to the domain name extension most widely used at the time by digital companies doing most of their business online. (Definition of dotcom from the *Cambridge Advanced Learner's Dictionary & Thesaurus* © Cambridge University Press.

American political culture, crossing the Republican/Democrat divide like a self-evident truth that needs no explanation. The mere mention of 2001 is enough for Americans to refer to the obvious, recognized by almost everyone...

Shoshana Zuboff evokes the year 2001 with astonishing conciseness, as if the American perception were self-evident in other countries. This is not the case, but once we understand the scale of the traumatic shock of 2001 in the United States, we can better understand how the world's most stable democracy could so quickly renounce one of its founding principles. The American secret services, which failed to prevent the 2001 WTC attack, are under enormous pressure to increase surveillance tenfold. Aware that companies were innovating faster than the State, the services intervened in Silicon Valley by creating start-ups (such as[63] "Palentir Technologies"[64] in 2003), poaching computer scientists, partnering with companies and gaining direct access to company servers, in order to increase global surveillance resources. They are thus putting companies under pressure. At the same time, the 2001 DOT-COM crisis dried up the venture capital market on which

Extrait de : Wikipedia.fr, Wikimedi Commons, Licence CC 3.0
https://commons.wikimedia.org/wiki/File:Googleplex_Pride_Logo.jpg

[63] Cf.: SEIBT Sébastian, "In-Q-Tel : le discret activisme du fonds d'investissement de la CIA à l'étranger", France24, 20/10/2021 : https://www.france24.com/fr/am%C3%A9riques/20211020-in-q-tel-le-discret-activisme-du-fond-d-investissement-de-la-cia-%C3%A0-l-%C3%A9tranger

[64] Cf. : LELOUP Damien, " Palantir, l'embarrassant poisson-pilote du big data ", Le Monde / Pixels, 09 octobre 2018 : https://www.lemonde.fr/pixels/article/2018/10/09/palantir-l-embarrassant-poisson-pilote-du-big-data_5366568_4408996.html and " Palentir Technologies ", Wikipedia.fr, version du 26 mai 2023 : https://fr.wikipedia.org/w/index.php?title=Palantir_Technologies&oldid=204618280

many start-ups, such as Google, were living on the verge of bankruptcy, unable to raise new NASDAQ-type funds and forced to find new products and revenues. Since 1998, the Google-Search engine had been generating digital traces with no known value: user queries scrolled at dizzying speed across a giant screen in the *Googleplex* lobby, with no other purpose than to display the search engine's success. The founders had an anti-advertising philosophy for their search engine, conceived as an academic commons. They published an article in 1998, shortly after the engine's creation, criticizing the effects of advertising on search engines and announcing that Google would remain a university-managed "commons": **Serge Brin, Lawrence Page, "The Anatomy of a Large-Scale Hyper-textual Web Search Engine", *Computer Network and ISDN Systems*, 30, n°1-7, 1998**[65] . In 2001, Microsoft almost sank Netscape through unfair competition, putting an end to the limited use of "cookies" to charge for online services; in 2001, Apple experimented with the use of "cookies" in profiling and individual targeting indexed on musical preferences on the iPod, enabling it to reach the top of the market capitalization. In 2001, they abandoned their disinterested philosophy in the space of a few months, when they realized that this personal data reflected a new source of revenue,


COMPUTER NETWORKS and ISDN SYSTEMS

The anatomy of a large-scale hypertextual Web search engine

Sergey Brin, Lawrence Page

Abstract

[65] Online: https://snap.stanford.edu/class/cs224w-readings/Brin98Anatomy.pdf

what Zuboff calls "**behavioral surplus**"[66] , a fraction of what Marx called "**surplus value"**, which could be monetized on the advertising market, thanks to profiling and individualized advertising to influence the Internet user-consumer.

A few years later, in an interview given to the *Financial Times on the* occasion of Google's spectacular IPO, Lary Page plays on a classic register of American political culture, which is more suspicious of the state than of corporations: "*In general, it's **better that our data is in the hands of companies like Google** than in the hands of a state that has no regulations in place to get that data, because we obviously care about our reputation. I'm not sure the government cares that much*."[67] In 2003, three Google computer scientists filed a patent application "**Generating User Information for Use in Targeted Advertising**" (US9235849 B2; filed December 31, 2003)... which was only the first in a long series of nine patents on the same theme filed by Google employees between 2003 and 2014. By 2004, the company had indexed over 6 billion web pages and already had 800 employees. It goes public with a share price of $85... which will be worth three times as much a year later at $250 in 2005, $460 in 2006, $712 in 2007... In 2011, answering a simple question, "What is ***Google?****",* Lary Page is very clear: *"If we had to have a category, it would be **personal data** (...). Places you've seen. Communications... sensors are really cheap. People are going to generate huge amounts of data (...). Everything*

[66] Until now, keywords entered into Google-Search by Internet users were seen as a residual by-product of the search engine's operation. Now that they are seen as indications of the personal preferences of Internet users, they provide additional information on their behavior, and this "behavioral surplus" has a value on the advertising market. It can therefore be monetized.
[67] Zuboff, ibid, op.cit, p.91

you've ever heard, seen or felt will become searchable. Your whole life will be searchable.[68]

2.4 The Snowden revelations of 2013: the "NSA & GAFAM system" (SNG)

2013 In this context, personal data converged police and business interests for over ten years from 2001 to 2011/13: it became essential information for anticipating the behavior of both potential terrorists and potential consumers. The convergence between police and business has created a very powerful lobby in Washington in favor of generalized surveillance versus the protection of privacy. Police/merchant collaborations are nothing new in a capitalist regime, but, unbridled by the political authorizations of 2001, they are being exacerbated beyond all the safeguards invented historically by American democracy, which is attached to "*Checks and Balances*". We see the **secret services intervening directly in the algorithmic design of platforms and telecommunications systems to facilitate subsequent surveillance by installing "backdoors"** (a backdoor is a computer device unknown to the legitimate user, which provides "secret" access to the software)[69] . The GAFAMs,[70] but above all Google, Microsoft and Facebook, can then thrive on a capitalism of personal data plundering accepted by both American Republican and Democratic leaders, but also by European ones. From 1975 to

[68] Quotations from : EDWARDS Douglas, *I'm Feeling Lucky*, Houghton Mifflin Harcourt, 2011, p.291; S.Zuboff, ibid. op. cit. p.141.
[69] LEWIS James A, "A preliminary study of cybersecurity analytics: the Snowden affair as a case study", *Herodotus*, 2014/1-2 (no. 152-153), pp. 26-34: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-26.htm
[70] ISAAC Henri, " Pour en finir avec l'acronyme GAFAM ", Pouvoirs, 2023/2 (N° 185), p. 7-17. DOI : 10.3917/pouv.185.0007. URL: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-7.htm

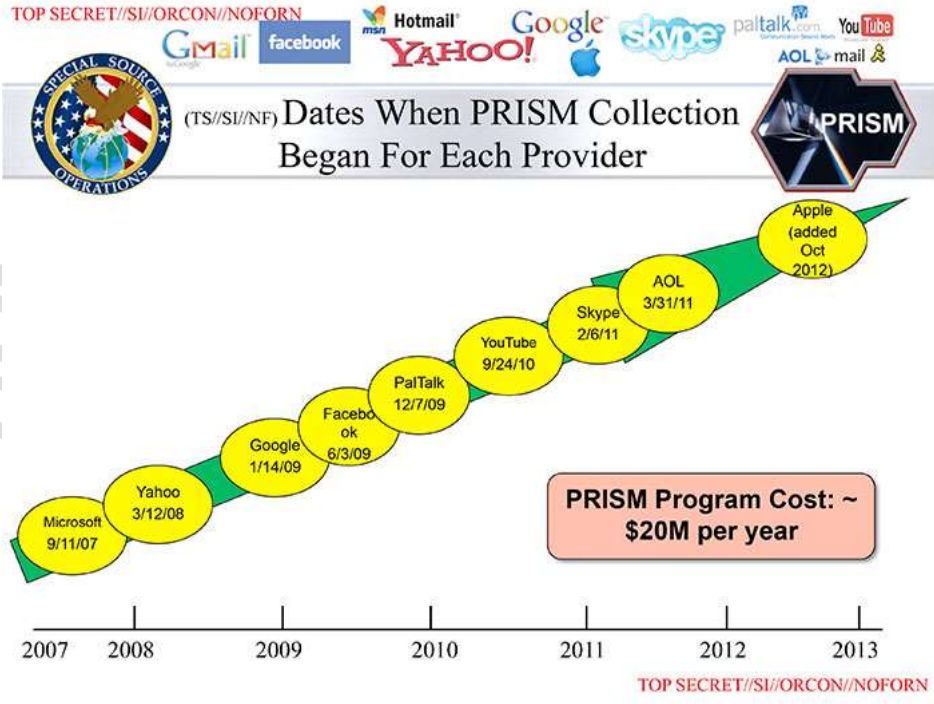
1995, the European Commission refused to comply with the European Parliament's repeated requests for database regulations (see § 5.2 below).

Databases, notably those of Google, Microsoft and Facebook, are growing in volume at a dizzying pace, but also confidentially producing another splitting, this time of computer codes and worlds: ● on the one hand, a limited amount of personal data can be known by users, via dedicated file export applications; ● on the other, tens of thousands of pieces of data per person are stored in systems inaccessible to users. This is how the "**two texts**" (Zuboff) of information technology that contribute to the opacity of the new economic system are dissociated. Such a theory, which might have been suspected of "conspiracy" before 2013, can no longer be so once the two million NSA documents published by Edward Snowden provide empirical proof of the conspiracy. What we'll call the **"NSA & GAFAM system" (American SNG) has been in** place since 2001, notably as part of the implementation of the *Patriot Act* signed on October 26, 2001, article 213 of which authorizes searches without the knowledge of the person concerned, and article 215 of which authorizes generalized intrusions into personal data, then as part of multiple American programs for the surveillance of global communications by the NSA, including the famous *Total Information Awareness* (TIA)[71] . Mark Sidel offers an in-depth analysis of this second wave of

[71] Report to Congress regarding the Terrorism Information Awareness Program In response to Consolidated Appropriations Resolution, 2003, Pub. L. No. 108-7, Division M, § 111(b) May 20, 2003 : https://epic.org/wp-content/uploads/privacy/profiling/tia/may03_report.pdf and " Le Patriot Act : Coopération entre services chargés de la prévention et services chargés de la répression du terrorisme - États-Unis ", République Française, Sénat, Direction de l'initiative parlementaire et des délégations, LC263, Note de législation comparée, February 2016, 17 p. : https://www.senat.fr/lc/lc263/lc263.pdf

measures, less well known than the Patriot Act: "*Much less well known is the second, more diffuse wave, made up of a multiplicity of programs, regulations and funding decisions, all means by which the Bush administration is striving to build and impose an incredible security apparatus on the country, and which are provoking increasingly informed resistance*." [72] And, as Olivier Kempf observes, "*The NSA system is gigantic: it has one hundred thousand employees and a budget of ten billion dollars (a third of the French defense budget).*"[73] But it would only be revealed gradually, in the American parliamentary debates of the 2000s and more widely in the rest of the world from 2011 onwards (in the eyes of some)

Extrait de la présentation Microsoft PowerPoint de la NSA remise par Edward Snowden aux médias, portant sur l'échantillonnage de PRISM.
Source : https://en.wikipedia.org/wiki/File:Prism_slide_2.jpg



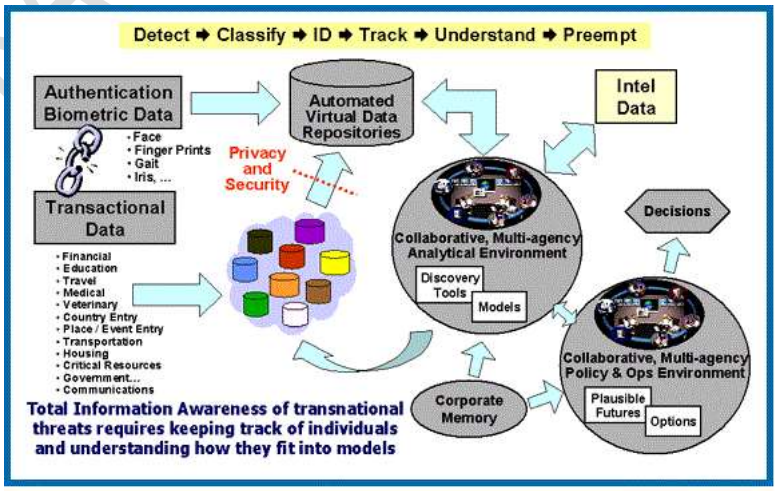
Extrait de la présentation Microsoft PowerPoint de la NSA remise par Edward Snowden aux médias, portant sur l'échantillonnage de PRISM.
Source : https://commons.wikimedia.org/wiki/File:PRISM_Collection_Details.jpg?uselang=fr

[72] SIDEL Mark, "Après le Patriot Act : la seconde vague de l'antiterrorisme aux États-Unis", *Critique internationale*, 2006/3 (nº 32), pp. 23-37 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-critique-internationale-2006-3-page-23.htm

[73] KEMPF Olivier, "Cyberspace and border dynamics", *Inflexions*, 2015/3 (No. 30), pp. 141-149: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-inflexions-2015-3-page-141.htm

then and above all proven in 2013 in the eyes of all by the Snowden documents as journalistic verifications and publications progressed (between 2013 and 2018 mainly). The *Terrorist surveillance program* of 2001, which authorized by presidential decree the warrantless surveillance of external communications in the USA, was criticized and replaced by the famous "PRISM" program revealed by Snowden in 2013. It extends the previous program from 2009 onwards, allowing the NSA direct access to platform servers without having to go through the (routine) procedure of prior judicial authorization. This surveillance began in 2007 with the agreement of Microsoft, Yahoo in 2008, Google in 2009, Facebook in 2009, YouTube in 2010, Skype in 2011, AOL in 2011, Apple in 2012...

As Christopher Barry, who studies global forms of surveillance, explains so well, the "NSA & GAFAM System" is vast in scope: "*The NSA has two major sources of information on interaction between people: Internet metadata and telephone metadata (numbers, addresses, senders, recipients, places of transmission, durations....). They enable mass surveillance through the use of software and algorithms that enable the digital management of an enormous quantity of data impossible to process by telephone tapping and the traditional "human" peeling of their content.*



Extrait de : https://en.wikipedia.org/wiki/File:Total_Information_Awareness_--_system_diagram.gif

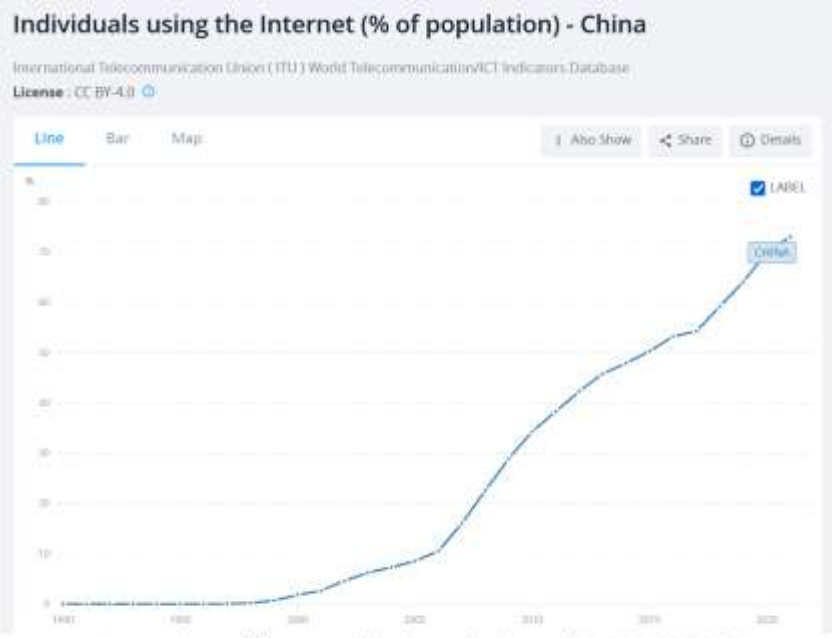
Thanks to the documents revealed by Snowden, we now know that the NSA collects up to five billion cell phone records worldwide every day. ***This enables it to identify, locate and track the movements of hundreds of millions of individuals. It also enables the NSA to individually target any mobile-owning person on the move****, at home, in their daily life, while traveling (past and present) and to reconstruct, through the metadata collected, their behavior, contacts, interlocutors, social network, identity. And when it maps all contacts up to three degrees of separation of an individual targeted for "suspicious" behavior (person who contacted a person who contacted a...), the number of citizens who have not broken the law caught in the State's security net can reach up to two and a half million for each targeting*."[74] This system of police-corporate collaboration and generalized surveillance is historically unprecedented in its scale, on both counts. Hence the need to give it a name. We'll call it the "**NSA & GAFAM System**" or the "**American NSE**".

2.5 American NSE and international reactions (Russia, China, BRICS...)

Did the creation of this American SNG and, above all, the public revelation of its existence between June and December 2013, produce ripple effects - by legitimizing global, centralized surveillance, for example - on the political decisions of the Chinese and Russian governments and other countries (Brazil, India, African countries...)? This is one of the questions to be

[74] BARRY John Christopher, "If you see something, say something." Edward Snowden and the National Security State", *Inflexions*, 2014/3 (No. 27), pp. 135-147: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-inflexions-2014-3-page-135.htm

answered in this study, while retaining the advice of a competent and cautious observer: "*we should not assume that the Chinese learned about American espionage activities from the Snowden affair and were surprised by it.*"[75] We'll extend the advice to other countries and in particular to Russia, which has been trying to regain some political control of the Runet since Putin returned to the presidency of the Russian federation on May 7, 2012, and which welcomed Edward Snowden 17 days after the NSA documents began to be disclosed on June 6, 2013. It is indeed likely that governments learned much earlier, from their counter-espionage services, what journalists would only discover gradually from 2013 onwards, and what the public would only learn years later...



Source : https://data.worldbank.org/indicator/IT.NET.USER.ZS?

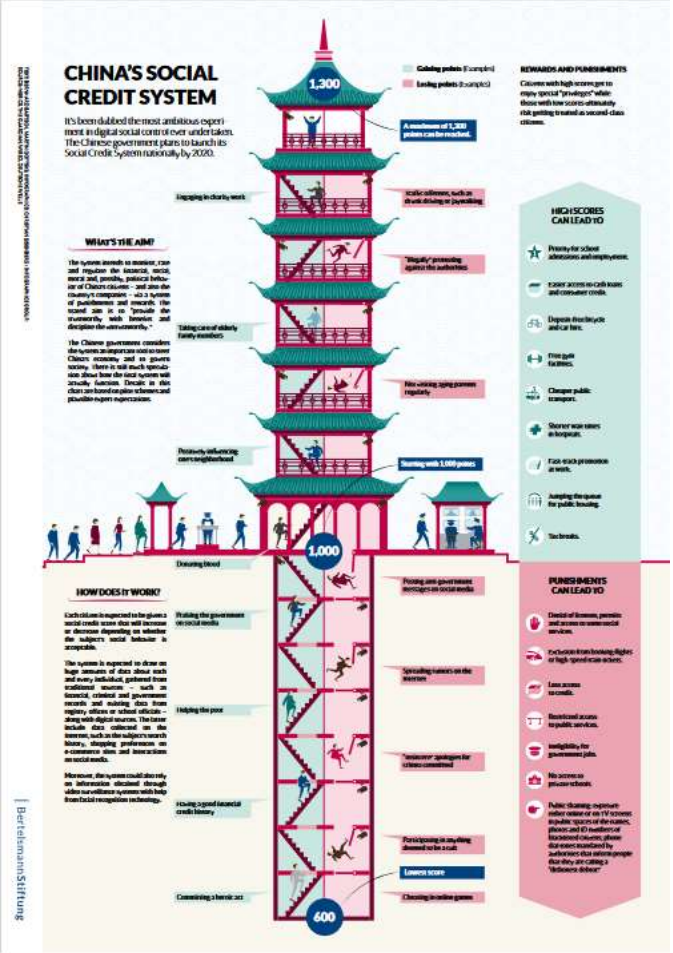
In China, the proportion of connected people in the population fell from just over 0% in 1998 to 1% in 1999, and only increased significantly from 2006 (11%) to reach 50% in 2015 and 73% in 2021. The break in the curve in 2006 corresponds to what specialist Wang Wenting describes: "*In China, the year 2007 had not yet come to an end when Internet users were*

[75] LEWIS James A, "A preliminary study of cybersecurity analytics: the Snowden affair as a case study", *Herodotus*, 2014/1-2 (no. 152-153), pp. 26-34: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-26.htm

already calling it 'the year zero of public Internet events'. The appearance and widespread use of a new term in Chinese "public internet event 网络公共事件 wǎng luò gōng gòng shì jiàn" (henceforth EPI) reflect the awareness of a new phenomenon, by the actors themselves, of the irruption of events subject to conflicting interpretations and massively discussed on the internet in the strict geographical sense from the four corners of the country."[76] At the end of 2013, a year in which the connection rate had already reached 46%, the government announced at the 18ème congress of the Chinese Communist Party its plan to extend to citizens the ***"social credit system" (Chinese SCS)*** for evaluating, rating, rewarding and punishing companies according to the way they manage staff and act on the markets vis-à-vis consumers and/or other companies. The arrival of the first capitalist companies in the Communist system since the 1990s is not at all obvious to Chinese citizens. Thirty years of partial introduction of capitalism in a system devoid of the organizational cultures and regulations specific to capitalism have produced a jungle. Embezzlement of public funds and abuse of social assets, violations of environmental, food and economic regulations, corruption, prevarication and de facto management are so commonplace as to surprise foreigners and erode Chinese confidence in social and economic relations. The evaluation, rating and sanctioning of new capitalist enterprises was the State's first response to the fears of the Communist population (in

[76] Announcement on LIER/EHESS of : WENTING Wang, "Réfléxivités numériques - Les effets réciproques des " évènements publics internet " et des pratiques médiatiques en Chine contemporaine (2007-2018)", defense announcement on May 31, 2023 from 2pm to 6pm, 54 boulevard Raspail. Room A07-37: https://lier-fyt.ehess.fr/evenement/reflexivites-numeriques-les-effets-reciproques-des-evenements-publics-internet-et-des

terms of training, culture, etc.) about these new capitalist enterprises, of which they had heard nothing but bad things for forty years. We can assume that Chinese citizens appreciated this monitoring of companies, and the official indications given about the best of them and the worst on "blacklists". But the project "*Valuing sincerity and punishing insincerity*" (in English on the blog of Rogier Creemers, Univ. Oxford) discussed at the ***3ème plenum of the 18ème congress*** in November 2013 and published by the ***Council for State Affairs in January 2014*** is of a completely different nature: it's about creating a citizen SCS reinforcing the dictatorship's generalized surveillance by interconnecting and centralizing (a technically difficult and time-consuming operation) databases currently scattered between local governments, various state services and companies. Above all, the aim is to evaluate, rate and punish citizens, including for gestures or behavior that might seem insignificant: crossing next to a crosswalk is enough, after facial recognition by a city camera, to receive a few seconds later on your smartphone a notification of a drop in SCS points. The infographic published by the Bertelsmann Stiftung clearly illustrates the system, its general logic and the mix of criteria that raise or lower each



Bertelsmann Stiftung, « China's social credit system », https://www.bertelsmann-stiftung.de/fileadmin/files/aam/Asia-Book_A_03_China_Social_Credit_System.pdf

citizen's score: " China's social credit system ". "*A "controlocracy" made possible thanks to all kinds of parameters and artificial intelligence*" headlines Brice Pedrolettit in Le Monde[77] . Emmanuel Dubois de Prisque observes that a number of Chinese cities have already introduced various systems for rating citizens: "*The one in Rongcheng, in Shandong, is perhaps the most advanced today. It establishes six possible categories, according to the number of points possessed by each person:*

- *AAA (over 1,050 points): exemplary citizen.*
- *AA (between 1,030 and 1,049 points): excellent citizen.*
- *A (between 960 and 1,029 points): honest citizen.*
- *B (between 850 and 959): relatively honest.*
- *C (between 600 and 849): warning level.*
- *D (549 and under): dishonesty.*

From the outset, citizens are endowed with a capital of 1,000 points (which implies that the authorities consider every citizen to be honest), a capital that they can increase through good deeds and risk depleting through bad ones. They are then classified as good or bad citizens, according to their level of points. Blacklisted individuals are directly integrated into categories C or D[6] ."[78]

Séverine Arsène presents an official review of China's SCS in 2018: "*In a "2018 Annual Analysis Report on Blacklists of Dishonest People" (shi xin, literally: "who are no longer trustworthy"), produced by China's National Public Social Credit Information*

[77] PEDROLETTI Brice, "En Chine, le " crédit social " des citoyens fait passer les devoirs avant les droits - This concept lends credence to the idea of a "capital of points" granted by the State to the citizen, which can be enhanced or eroded. A 'controlocracy' made possible by all kinds of parameters and artificial intelligence", *Le Monde*, January 16, 2020: https://www.lemonde.fr/idees/article/2020/01/16/le-credit-social-les-devoirs-avant-les-droits_6026047_3232.html

[78] DUBOIS DE PRISQUE Emmanuel, "China's social credit system. Comment Pékin évalue, récompense et punit sa population", Futuribles, 2020/1 (No. 434), p. 27-48: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-futuribles-2020-1-page-27.htm - Note 6: "Measures for rating and evaluating the social credit of the city of Rongcheng", website of the city of Rongcheng, February 14, 2019, in Chinese. URL: http://www.darongcheng.com/portal.php?mod=view&aid=30276 . Accessed October 23, 2019.

Center, we read that the introduction of a system of joint punishments has led to 3594000 entities (individuals or companies) being placed on various blacklists. One million of them are banned from participating in tenders, 37900 cannot obtain land, financing or import quotas from the government, and 12200 cannot issue corporate bonds. Notably, by the end of 2018, Chinese courts had placed 12.77 million people on a list of people who had failed to comply with the terms of a judgment, and banned 17.46 million people from booking airline tickets. In addition, according to China's State Administration of Taxation, 16642 cases of tax violations had led to 12920 taxpayers being excluded from access to credit and 128 taxpayers being banned from leaving the country. The report praises the effectiveness of these measures, indicating that more than 2 million people had corrected their behavior and were thus removed from the blacklists."[79]

The new Chinese Civil Code adopted on May 28, 2020 distinguishes between legal and illegal capture, leaving the way open for multiple commercial and police uses of this data[80] . One of the questions that has often been raised is that of the possible convergence or divergence of Chinese and American systems, particularly since 2014: "*The same questions arise as much for the Chinese social credit system as for the multiple administrative and commercial evaluation*

[79] ARSENE Séverine, "Le système de crédit social, ou la gestion technocratique de l'ordre public", in: CHENG Anne (dir.), *Penser en Chine*, Gallimard 2021, p.332
[80] RUSSO Sandra, "Libertés, droits de la personnalité et technologies - Le paradoxe chinois à la lumière du Code civil", *Cahiers Droit, Sciences & Technologies*, 14 | 2022 : http://journals.openedition.org/cdst/6134

devices that are developed in Western societies." (p.155) observes Cédric Durand referring to the study on eBay and Uber carried out in comparison to the Chinese SCS by Daithí Mac Sithigh and Mathias Siems[81] . "**Chinese SCS = American SNG?"** ...could we say to sum up a highly topical issue in 2023 for European and African leaders and entrepreneurs, but also for all citizens on these two continents that we will be studying in particular.

In Russia, Vladimir Putin returned to power in 2012 and, as far as digital technology is concerned, challenged American hegemony as early as December at a meeting of the International Telecommunication Union (ITU, Dubai, Dec. 2012) a few months before the Snowden revelations were published[82] . Since the "fall of the Berlin Wall" in 1989, followed by the end of the USSR in 1991, "*the country is not quite the 'digital desert' that its technological backwardness in IT presumes. Almost a thousand Soviet citizens are already connected to the UNIX network (one of the many ancestors of today's Internet), and the USSR has had its own Internet Service Provider (ISP) since 1989*"[83] observes Kévin Limonier, who refers to the creation of the Demos company, the first ISP (Internet Service Provider) and the foundation stone of "Runet" (various Russian systems and the Russian-speaking part of global digital communications). **After decades of closure or**

[81] MAC SÍTHIGH, Daithí, SIEMS, Mathias, "The Chinese social credit system: a model for other countries?", *EUI LAW*, 2019/01 - https://cadmus.eui.eu/bitstream/handle/1814/60424/LAW_2019_01.pdf

[82] DOUZET Frédérick, LIMONIER Kévin, ROBINE Jérémy et al, " Les nouveaux territoires stratégiques du cyberespace : le cas de la Russie ", Stratégique, 2017/4 (N° 117), p. 169-186 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-strategique-2017-4-page-169.htm

[83] LIMONIER Kévin, "Des cyberespaces souverains? Le cas de la Russie", in: Stéphane Taillat ed, *La Cyberdéfense. Politique de l'espace numérique*. Paris, Armand Colin, "Collection U", 2018, p. 123-129: https://www-cairn-info.ezpaarse.univ-paris1.fr/cyberdefense-politique-de-l-espace-numerique--9782200621292-page-123.htm

Soviet control of internal and external communications[84] until the fall of the Berlin Wall in 1989 and the USSR in 1991, Russia experienced five years of relative marginality in the face of the first Western expansion of the Internet between 1989 and 1994.

The Russians saw the development of specific and above all highly decentralized Russian-speaking digital systems (nearly 13,000 ISPs in 2000, compared with around ten in France) in the post-Soviet phase, when the central political system was still unstable and weak[85] . As in China, this construction was carried out by local authorities, public services and enterprises, and the first capitalist companies. This original dispersion led to major disparities between the structures of databases and traffic networks, making it more difficult for the Kremlin to recentralize and regain political control of digital communications[86] . The diagram below shows the continuous growth in the number of ISPs from the early 1990s to 2016, followed by a reduction in their number from 2016 onwards, corresponding to a desire to regain control that will be asserted in several laws and a new "Revizor" mechanism imposed on ISPs to enable the Russian state to control content and flows.

[84] AUDINET Maxime, MARANGé Céline, "Chapter 4. La Russie : " l'espace informationnel " comme terrain de conflictualité", in: Céline Marangé ed, *Les guerres de l'information à l'ère numérique*. Paris cedex 14, PUF, "Hors collection", 2021, p. 115-136: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-guerres-de-l-information-a-l-ere-numerique--9782130822431-page-115.htm

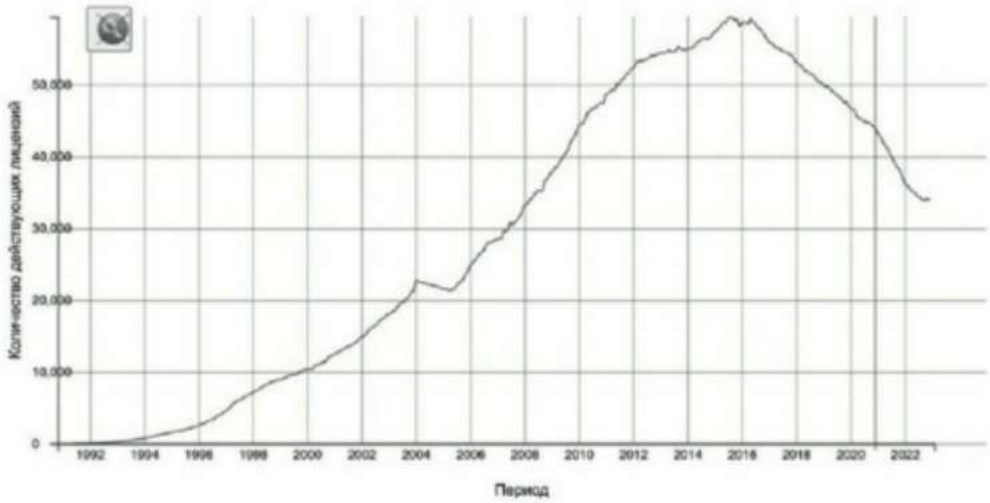
[85] LIMONIER Kévin, "La Russie dans le cyberespace : représentations et enjeux", *Hérodote*, 2014/1-2 (n° 152-153), p. 140-160 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-140.htm

[86] LIMONIER Kevin, "internet en URSS: à la barbe du régime", *Le Monde Diplomatique*, November 7, 2015: https://www.diploweb.com/internet-en-URSS-a-la-barbe-du.html

Active licenses issued in the telecommunications field

Figure 3. Licences actives délivrées dans le domaine des télécommunications.

Действующие лицензии в области связи РФ с 1991 г.



Agrandir Original (jpeg, 24k)

Source : https://ifreedomlab.net/connectivity-rating/licenses-russia/

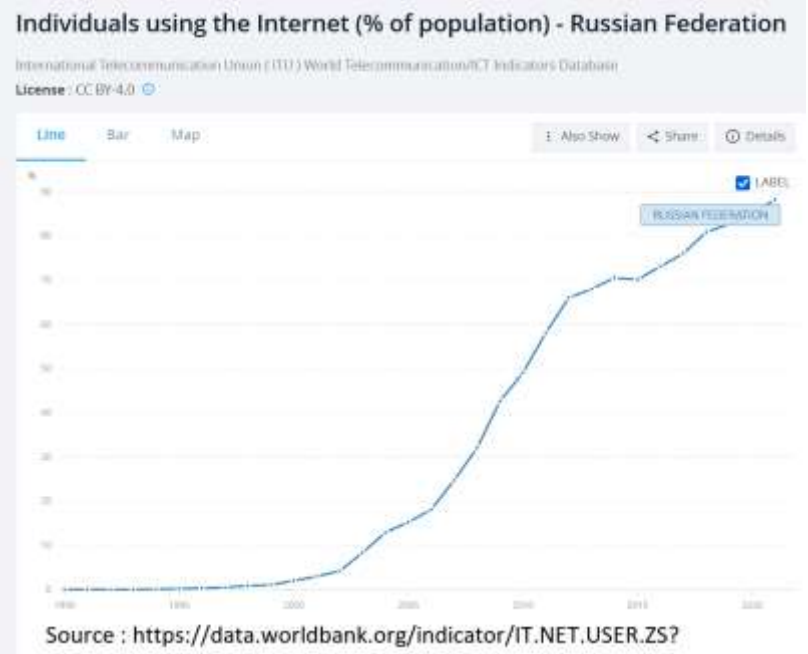
Licences délivrées aux FAI en Russie. Schéma extrait de : ERMOSHINA, Ksenia ; LOVELUCK, Benjamin ; et MUSIANI, Francesca. "Chapitre 2. Surveillance et censure des infrastructures Internet en Russie : marchés, régulation et boîtes noires" In : *Genèse d'un autoritarisme numérique,* Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/907

Almost twenty years before "Revizor" (2016), the first Russian digital surveillance system (**SORM-1**) was created in 1995, and was extended and strengthened in 2000 (**SORM-2**)[87] . "*SORM is a system for the lawful interception of telecommunications. It is a distributed object made up of switches, servers, data storage volumes, extractors, remote control terminals and software installed at the operators' expense, but directly controlled by the FSB (Federal Security Service) and accessible on request to other agencies and police services (tax, customs, border police, etc.).*

[87] Statewatch, "Russia: Surveillance of communications", January 1, 2000: https://www.statewatch.org/statewatch-database/russia-surveillance-of-communications/

SORM-1 was set up in 1995 for wiretapping and telephone surveillance. It has since evolved into SORM-2, adapted for the Internet in 1998, and SORM-3 in 2014, which included specifications for the collection of metadata (such as time and date, location, message sender and recipients) and multimedia files."[88] SORM requires operators to integrate government devices into their systems. Content filtering and traffic monitoring boxes are thus imposed on ISPs[89] . This is tantamount to systematizing the "backdoors" used on the Western Internet, but making them more official and more secure (less accessible to non-police actors).

Until 1999, however, the Russian connection rate was less than 1% of the total population. This rose to 2% in 2000, 3% in 2001 and 4% in 2002[90] . Nevertheless, this slow growth was enough to prompt the emergence of *reputedly subversive* uses, such as the *Antikompromat.ru* site, which



[88] ERMOSHINA Ksenia; LOVELUCK Benjamin; and MUSIANI Francesca. "Chapter 2. Surveillance and censorship of internet infrastructures in Russia: markets, regulation and black boxes", In: *Genèse d'un autoritarisme numérique*. Paris: Presses des Mines, 2023: http://books.openedition.org/pressesmines/9073

[89] ERMOSHINA, Ksenia; LOVELUCK Benjamin; and MUSIANI Francesca. "Chapter 2. Surveillance and censorship of internet infrastructures in Russia: markets, regulation and black boxes", In: *Genèse d'un autoritarisme numérique*. Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9073

[90] Sources: World Bank data on the number of Internet users as a proportion of the total population: https://donnees.banquemondiale.org/indicateur/IT.NET.USER.ZS?end=2021&locations=RU&start=1990

concentrates articles and sources on corruption and clientelism[91] . The **Yandex.ru** search engine was launched in 1997 (competing with Google in Russian social usage)[92] . The first Russian digital policy doctrine dates back to 1999[93] and focuses public action on surveillance. "**VKontakte**, Russia's Facebook competitor, was launched in 2007[94] . Between 2002 and 2012, the growth in the number of connections accelerated, despite attempts at state control, which did nothing to halt the expansion of social uses, although these tended to remain confined to the Runet. **Russia remained relatively marginalized from Western Internet expansion until 2012, while experiencing its own "digital turnaround" from 1994 to 2012.** In domestic politics, this period was marked by oscillations in the expansion of social uses of the Internet and repeated attempts at political control. It was the period of the first websites, the first digital companies, including Domos, the first information aggregators and the first connected mobilizations. In 2023, after an in-depth study of connected mobilizations and protests in Russia, Perrine Poupin came to conclusions similar to those of Zeynep Tufekci in other fields: "the *Internet is used as much for information exchange, political discussion and the organization of protest activities as it is for surveillance, communication and repression by the state or by nationalist, pro-government organizations. The Russian case is of*

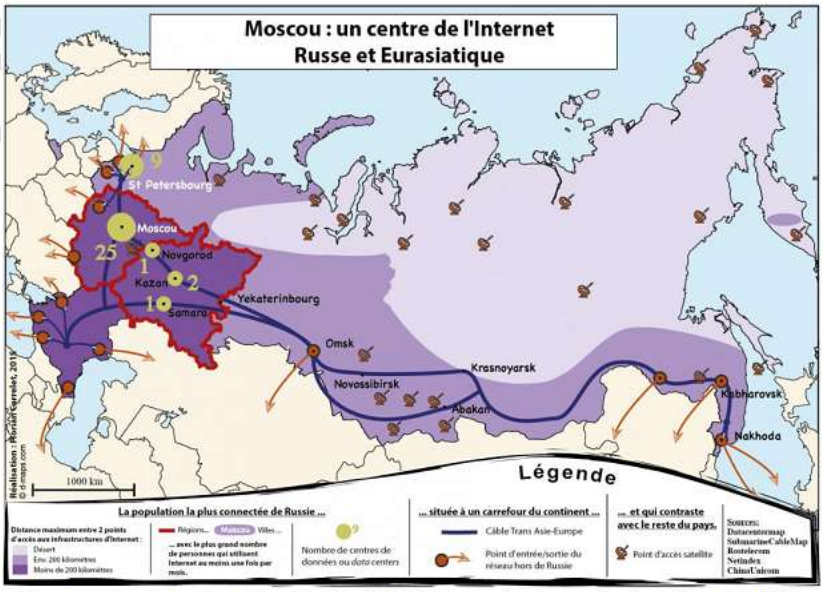
[91] LIMONIER Kévin, BERTRAN Marie-Gabrielle, "Enquêtes et renseignement numérique dans la guerre en Ukraine", Multitudes, 2022/4 (n° 89), p. 88-94 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-multitudes-2022-4-page-88.htm
[92] DAUCÉ, Françoise,; LOVELUCK, Benjamin, "Chapter 3. Disciplining the digital public space: the news aggregator Yandex.News" In: *Genèse d'un autoritarisme numérique*. Paris: Presses des Mines, 2023: http://books.openedition.org/pressesmines/9083; see also the "Timeline" website, specialized in the recent history (2010-2023) of Russian digital history, produced by CERCEC, Centre d'études des Mondes Russe, Caucasien & Centre-Européen (UMR CNRS / EHESS), as part of the ResisTIC project, funded by the Agence nationale de la recherche: https://timeline.resistic.fr/resistic/timeline
[93] LIMONIER K., "Des cyberespaces souverains?", op. cit.
[94] Source: op. cit, "Timeline": https://timeline.resistic.fr/resistic/timeline

interest for the question of the effects of online activism on offline protest activities. On the one hand, the Internet makes visible mobilizations and public problems that are emerging over an immense territory. But activism in Russia remains a very high-risk activity, requiring preparation for face-to-face situations, which the internet does not prepare for."[95] As a result, the Kremlin perceived these anti-establishment developments as disruptive, even subversive. This was also the period of the first political doctrines of Internet control, the first surveillance laws and the first SORM systems for monitoring Internet content[96] .

In the first phase of Russia's digital turnaround (1994-2005), the Runet was still relatively cut off from the rest of the world. This segmentation was due to Russia's telecoms infrastructure, the linguistic constraints of the Russian-speaking world reducing interaction with the rest of the world, and the reluctance of international investors unattracted by the economic instability of post-

Moscow: a Russian and Eurasian Internet hub

Figure 1 : Le RuNet en 2015, un cyberespace géographiquement délimité



(Source : cyberstrategie.org) Extrait : OMC (Observatoire du monde cybernétique / DGRIS), "Le Runet, construction politique ou réalité technique ?", Lettre n°69, Décembre 2017 : https://archives.defense.gouv.fr/content/download/527379/9103424/file/OBS_Monde%20cybern%C3%A9tique_201712.pdf

[95] POUPIN Perrine, "Chapitre 7. Mobilisations et contestations sur les blogs et réseaux sociaux ", In : DAUCE Françoise, LOVELUCK Benjamin, MUSIANI Francesca (dir.), *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9118

[96] Source: op. cit, "Timeline": https://timeline.resistic.fr/resistic/timeline

Soviet Russia. In 2005, the installation of the "TEA" (Trans Europe Asia) fiber optic submarine cable opened up the Runet and accelerated the growth of the[97] connection rate. Between 2005 and 2011, this figure rose from 15% to almost 60%, according to data from the International Telecommunication Union, published by the World Bank[98] . Echoing this trend, Russia's first personal data law (152-FZ) was passed in 2007.

Law 152-FZ of 2007 created the notorious and infamous ***Roskomnadzor (RKN)***[99] (Russian: https://rkn.gov.ru/; English: https://eng.rkn.gov.ru/), a federal agency for the supervision of communications, information technology and mass media. This major federal surveillance and censorship directorate came into operation in 2008, the year of Russia's intervention in Georgia. As Françoise Daucé, Benjamin Loveluck and Francesca Musiani observe, the RKN is a network head: "*Roskomnadzor (RKN), the communications control body set up in 2008, has seen its jurisdiction and scope rapidly extend to areas as varied as online content control, a right to block websites and the registration of blocked sites on blacklists, with the possibility of significantly increased censorship. This control relies on its extensive network of relations and collaborations with all state security institutions at all levels of power, federal and regional. The Ministry of the Interior (MVD), the Federal Security Service (FSB), the judiciary, the Public Prosecutor's Office and the*

Emblem of Roskomnadzor https://en.wikipedia.org/wiki/File:Emblem_of_Roskomnadzor.svg

[97] LIMONIER K., "Des cyberespaces souverains?", op. cit.
[98] See: https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=RU
[99] Cf. "Roskomnadzor", Wikipedia.en, version of July 6, 2023: https://en.wikipedia.org/w/index.php?title=Roskomnadzor&oldid=1163710386

various control agencies (health, consumer affairs, youth, tax, etc.) make up the regalian fabric that criss-crosses society and relays the directives drawn up at the top of the State. It can also be supported, at the local level, by conservative associations of citizens mobilized in the service of policing, online and offline (cyberpatrols, vigilantism movements, "patriots", Cossacks - see [Daucé et al., 2019])."[100] RKN's activity is rapidly intensifying, as Valery Kossov notes when studying RKN's activity reports: "*If in 2008, the year of its creation, RKN reported 49 warnings to the media for disseminating extremist materials, drug propaganda, pornography or violence[4] , by 2020, the agency was responsible for blocking several hundred thousand websites[5] .*"[101]

2012 was the year of strongest annual growth in the Russian connection rate, which rose from 58% in 2011 to 66% in 2012 (+17). It was also the year in which the Russian connection rate reached the level of OECD countries, already at 70%. Finally, 2012 was marked by Putin's return to the helm of the Russian Federation (May 7, 2012). Political concerns about internal stability, for Russian leaders, become central, especially after the massive post-election protests of December 2011. "*The first to be affected were opposition digital media such as Grani.ru or Kasparov.ru, banned after the adoption of the Lugovoi Law in 2013 (398-FZ). Indeed, following the entry into force in 2012 of law 139-FZ, which introduced the system of "blacklists" of sites containing*

[100] DAUCÉ, Françoise ; LOVELUCK, Benjamin ; and MUSIANI, Francesca, " Introduction " In : *Genèse d'un autoritarisme numérique*. Paris: Presses des Mines, 2023: http://books.openedition.org/pressesmines/9058

[101] KOSSOV, Valery. "Chapter 1. Legal oppression and digital remedies: law, laws and judgments" In: *Genesis of a digital authoritarianism*. Paris: Presses des Mines, 2023: http://books.openedition.org/pressesmines/9063 - Notes: 4 RKN activity report for 2008 https://digital.gov.ru/ru/events/20581/ consulted December 2, 2022. 5 RKN activity report for 2021 https://rkn.gov.ru/plan-and-reports/reports/p449 /consulted December 2, 2022.

illicit information, the Lougovoï law extends the scope of the ban to political opposition media blocked by order of RKN and without a court ruling. At the same time, the application of these laws requires ISPs to block illegal content and install a "Revizor" box for this purpose, enabling RKN to monitor the execution of filtering"[102] . Sometimes referred to as the "White Revolution" or the "Russian Spring", these protests challenged the results of the December 4, 2011 parliamentary elections, in which Russian leaders, for their part, accused the Americans of interfering in the Russian election[103] . The possibility of interference from American sources (individuals? private organizations? public services?...) cannot be ruled out, given the vastly superior computer-digital capabilities of the United States. All the more so as "*American funding of Russian opponents is also claimed by the United States: not only do several foundations regularly publish their lists of donations, but State Department spokesman Mark Toner declared on December 6 that funding for Russian NGOs and 'independent media' would be increased in 2012 (notably for the March presidential election) to just over $9 million (7).*"[104] Hillary Clinton declared on December 8, 2011, at NATO headquarters, "*that the United States supported 'the rights of the Russian people' and their hopes for 'a better future', following the parliamentary elections*" notes *Le Monde* and in return "*Vladimir Putin accused the head of American diplomacy, Hillary Clinton, of having 'given the starting signal' for the contestation of the parliamentary results, and felt*

[102] KOSSOV, Valery. "Chapter 1. Legal oppression and digital remedies: law, laws and judgments" In: Genesis of digital authoritarianism. Paris: Presses des Mines, 2023: http://books.openedition.org/pressesmines/9063
[103] CHAUVIER Jean-Marie, "White revolution, red flags and shadow forces", *Le Monde Diplomatique*, December 22, 2011: https://www.monde-diplomatique.fr/carnet/2011-12-22-Revolution-blanche-drapeaux-rouges ; see also: Sputnik (official Russian news agency), "Putin says U.S. encouraging Russian opposition" 08.12.2011: https://sputnikglobe.com/20111208/169482978.html
[104] J.Chauvier, ibid. op. cit. ("Note 7: December 5 press conference, on the State Department website").

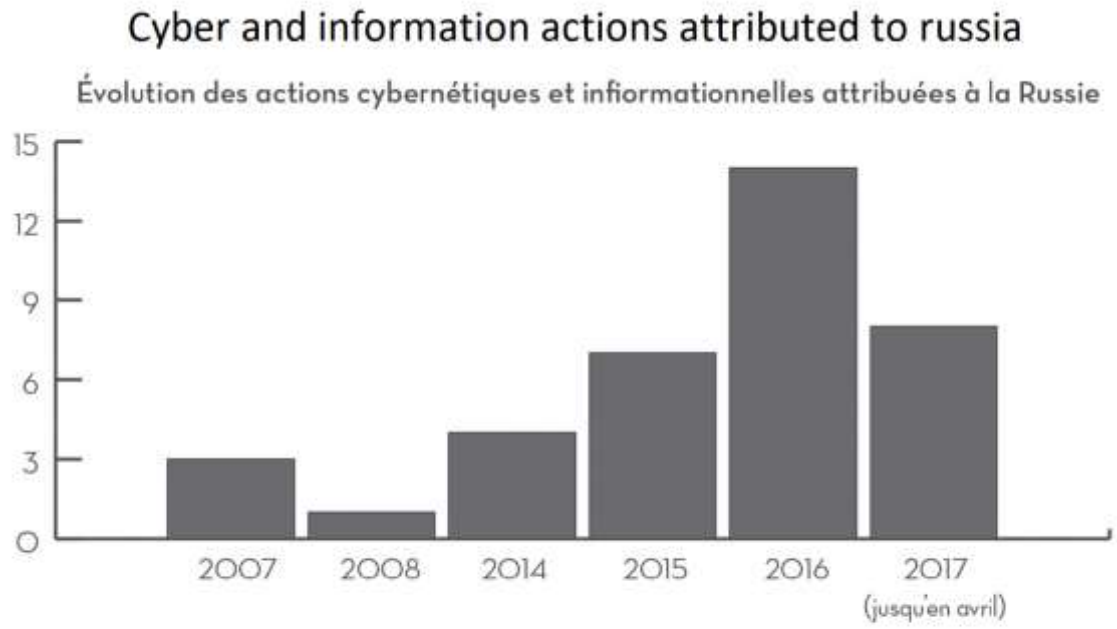
that the opponents were acting 'with the support' of Washington."[105]

The 2012 dispute was obviously amplified spectacularly by the Snowden revelations, observes Kévin Limonier. These revelations strengthened the Russian government's position against the USA: "*By revealing the extent of the NSA's surveillance system, Snowden made a major contribution to weakening the legitimacy of the US position on Net governance, and consequently to strengthening Russia's position. Henceforth, and without even considering Snowden's presence in Russia, the Russian government relied heavily on this affair to strengthen its conception of "digital sovereignty" and to designate the United States as an adversary. Thus, in* ***July 2014, the Russian Parliament passed its famous law nº 242 obliging platforms to host data belonging to Russian individuals and legal entities on Russian territory****. Widely presented as a measure to restrict the grip of those "big ears of America" that Snowden had revealed to world public opinion, this law was widely condemned by the world's major Net companies, with Google outright closing its Moscow office (Luhn, 2014).*" (ibid., op. cit.). Two laws controlling content on the Internet were passed in 2014: law 242-FZ on data localization and law 398-FZ on political censorship.

Another dimension of Runet, which is more difficult to objectivize, concerns its international dimension and the interventions of Russian Internet users abroad. Since 2007, Russia has regularly

[105] Le Monde/AFP, "Manifestations en Russie : Clinton soutient 'les droits du peuple' - Russia's prime minister has accused the United States of supporting protesters challenging the outcome of parliamentary elections," Le Monde, Dec. 8, 2011 :

been accused of being behind cyberattacks against other countries, although these accusations cannot be proven, nor can those originating from other countries. But accusations or, to use the technical term, "attributions" of cyberattacks to Russian origins increased significantly from 2014 onwards.



Sources : *Données de l'Observatoire de l'Infosphère russophone, avril 2017.*
Graphique conçu par Kévin Limonier
HÉRODOTE N°166-167

LIMONIER Kévin, GëRARD Colin, « Guerre hybride russe dans le cyberespace », *Hérodote*, 2017/3-4 (N° 166-167), p. 145-163 : https://www.cairn.info/revue-herodote-2017-3-page-145.htm

However, the history of Russian digital technology between 1989 and 2012 suffices to demonstrate that the Soviet tradition of controlling communications continued after the end of the USSR, despite a phase of relative overflow from the Russian Federation during this period of oscillating expansions in digital usage and attempts at political control of content. This tradition did not wait for the Snowden revelations to come into being. As early as 2011, the **"*League for a Safe Internet*"** was created, which runs online content control "patrols" claiming nearly 20,000 members across

the country, and entered into an agreement with **VKontakte** authorizing these patrols on the network. In July 2012, the Duma approved a law creating a centralized register of banned sites, and in December 2012, at the ITU (International Telecommunication Union), Putin challenged the hegemony of the USA. All this predates the Snowden revelations. **While the Snowden revelations provided Russia with new arguments on the international stage against US hegemony and for global control of digital communications via the ITU, they were not at the origin of Russia's digital policy to control content in Russia and neighboring countries.** This can be traced back to the Russian digital turnaround of 1994-2012 (concomitant with that of the West, but different), based on the know-how of a long tradition of surveillance and clandestine resistance networks stemming from the Soviet legacy. The Russian government's aims and motivations in favor of centralized control of digital communications have been asserted in domestic politics since 1994, notably in connection with events in Georgia and Ukraine. **Russian policies seem to evolve according to three parameters of decreasing importance: 1) domestic politics; 2) neighboring events (Georgia August 2008, Ukraine March 2014...); 3) leaks and revelations in the West of Western surveillance.** In 2013, Putin dissolved the RIA Novosti news agency as part of a takeover and replaced it with *Rossia Segodnia*, whose international propaganda arm, *Sputnik*, was launched in 2014[106] . Several laws tightening surveillance were passed that year, and the second Russian Doctrine was

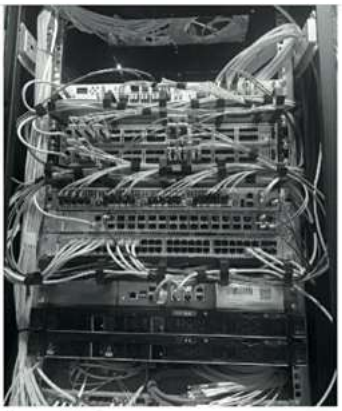
[106] AUDINET Maxime, MARANGé Céline, "Chapter 4. La Russie : " l'espace informationnel " comme terrain de conflictualité ", op.cit.

formulated in 2015. It toughened surveillance arrangements and resulted in new laws 374 FZ and 375 FZ (2016) forcing internet service providers to make their data available to the FSB and other surveillance services shortly after the first invasion of Ukraine[107] . "*In December 2016, in order to better control the uniform application of the blacklist, RKN introduced another technical solution: the automatic system Revizor (AS Revizor)*"[108] . The accumulation of new laws and boxes, however, reveals that the previous ones have failed or are no longer able to achieve censorship objectives. Centralized political control of a computer-digital system originally scattered across the country's many territories and access providers remains difficult. All the more so as the desire for censorship gives rise to resistance and loopholes that are necessary for ISPs to be attractive to customers, or that are motivated by militant considerations, such as the workaround noted by Ksenia Ermoshina, Benjamin Loveluck and Francesca Musiani in an interview with the director of SkyDNS: "*Some operators only apply censorship on a separate subnet they call a 'sandbox', where they install Revizor. And for their end users, they fashion another network where there is little or no censorship*."[109] There may be no end to the chase between censorship and circumvention: a new legal and technical device to tighten controls was introduced again in 2019, with the "Runet Stability" law often referred to in the press as the "Runet Sovereignty" law.

[107] Kevin Limonier, "Towards a 'Sovereign Runet'? Perspectives et limites de la stratégie russe de contrôle de l'internet", *EchoGéo*, 56 | 2021: http://journals.openedition.org/echogeo/21804
[108] ERMOSHINA, Ksenia; LOVELUCK, Benjamin; and MUSIANI, Francesca, "Chapter 2. Surveillance et censure des infrastructures internet en Russie : marchés, régulation et boîtes noires " In : *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9073
[109] ERMOSHINA, Ksenia; LOVELUCK, Benjamin; and MUSIANI, Francesca, "Chapter 2. Surveillance et censure des infrastructures internet en Russie : marchés, régulation et boîtes noires " In : *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9073

This law is part of a single solution called "TSPU" ("*technical means to combat threats*") corresponding to a complex box: "*TSPUs are installed by agents authorized by the FSB and by RKN and are normally located in locked cages, so ISPs have limited access to these installations. Their purchase and installation are paid for by the State, but maintenance remains* at *the ISP's expense*"[110] . Finally, all the technical and legal devices put in place since 2012 to control Runet content seem to become more radical in their uses and effects from 2020 onwards, particularly against Alexei Navalny's opposition movement, and then culminate in the invasion of Ukraine in February 2022[111] .

Figure 2. Installation TSPU pour 40Gb/sec.



Source : OrderCom

ERMOSHINA, Ksenia ; LOVELUCK, Benjamin ; et MUSIANI, Francesca, « Chapitre 2. Surveillance et censure des infrastructures Internet en Russie : marchés, régulation et boîtes noires » In : *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9073

Russia is also involved as a member of the **BRICS - Brazil, Russia, India, China, South Africa** - so designated in the press since 2001 to evoke their future potential for economic development; their growth will indeed be higher than the average for high-income OECD countries during the first two decades of the 21st^{ème} century[112] . They pay a great deal of attention to the digital economy, even if the alliance officially pursues broader goals. Their meetings began in 2009 (BRIC), but it is above all since the inclusion of South Africa in 2011 that they have become more regular. As Hannes Ebert and Tim Maurer observe: "*The*

[110] ERMOSHINA Ksenia, LOVELUCK Benjamin, MUSIANI Francesca, "Chapter 2. Surveillance et censure des infrastructures internet en Russie : marchés, régulation et boîtes noires " In : DAUCE Françoise, LOVELUCK Benjamin, MUSIANI Francesca (dir.), *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9073

[111] BRONNIKOVA Olga, DAUCE Françoise, ERMOSHINA Ksenia, LOVELUCK Benjamin, "Chapter 8. De l'emprise numérique à la répression physique : perquisitions, prison, exil et guerre" in : DAUCE Françoise, LOVELUCK Benjamin, MUSIANI Francesca (dir.), *Genèse d'un autoritarisme numérique*, Paris : Presses des Mines, 2023 : http://books.openedition.org/pressesmines/9128

[112] JBB, "BRICDS (formerly BRIC)" Nov. 2019: http://geoconfluences.ens-lyon.fr/glossaire/bric

emergence of a coalition formed by Brazil, Russia, India, China and South Africa (BRICS) has supported the hypothesis of a concerted counter-hegemonic movement - especially since it reached cruising speed by including South Africa in 2010."[113] **In March 2012, the coalition announced a major project to install the 34,000km undersea fiber-optic cable known as the "BRICS Cable", designed very officially to enable these countries to communicate with each other without their communications being picked up by the USA**.

Extrait : Lorenzo BOCCANERA « La Russia ed i paesi del BRICS avranno un'autonoma rete Internet », *Blog Boccanera.net*, 4 décembre 2017 : https://www.boccanera.net/la-russia-ed-i-paesi-del-brics-avranno-un-autonoma-rete-internet/

At their sixth meeting (Fortaleza, Brazil, July 15, 2014), the BRICS signed an agreement to set up a development bank and a joint foreign exchange reserve[114] . However, the five countries challenging American surveillance have no common strategy: "*In*

[113] R ZYW MELO Anna, "A cable for the BRICS: an insurmountable strategic challenge", Hermès, La Revue, 2017/3 (n° 79), p. 145-149. DOI : 10.3917/herm.079.0145. URL: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-hermes-la-revue-2017-3-page-145.htm
EBERT Hannes, MAURER Tim, "Claims on cyberspace and emerging powers", *Herodotus*, 2014/1-2 (no. 152-153), pp. 276-295: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-276.ht
[114] Marie Charrel, "Les BRICS ont lancé leur banque de développement", *Le Monde*, July 16, 2014: https://www.lemonde.fr/economie/article/2014/07/16/les-brics-ont-lance-leur-banque-de-developpement_4458144_3234.html

2011, China and Russia, through the ***Shanghai Cooperation Organization (SCO),*** *became ardent defenders of the International Code of Good Conduct for Information Security - an initiative interpreted as a deliberate attempt to counterbalance American hegemony in this space [Spade, 2011].* ***India, Brazil and South Africa (IBSA), on the*** *other hand, made Internet governance and a collaborative regime within the "information society" one of the priorities of their 2003 Brasilia Declaration [7]. IBSA is increasingly seen as a "key state", capable of turning the international debate on its head - as its member countries, united by their desire to participate fully in the development of standards for the XXI^e^ century, are nevertheless careful not to allow themselves to be co-opted by one camp or another [Kliman and Fontaine, 2012].*"[115] In fact, the five countries have put in place the beginnings of a common organization and equipment, but have never come up with unanimous proposals on the theme of "security and freedom" or shared rules that could be generalized worldwide. H.Ebert and T.Maurer explain this by the internal divisions within the coalition itself, linked to the differences between the political systems of the five countries, more or less authoritarian (China, Russia) or more or less democratic (Brazil, India, South Africa). There are also geopolitical divisions, such as the bilateral tensions between China and India. The interests of the five countries diverge further, depending on whether they are attracted by e-commerce requiring secure systems (Brazil, India, South Africa) or, on the contrary, by control of the information content circulating in the systems (Russia, China). The "BRICS Cable" project was

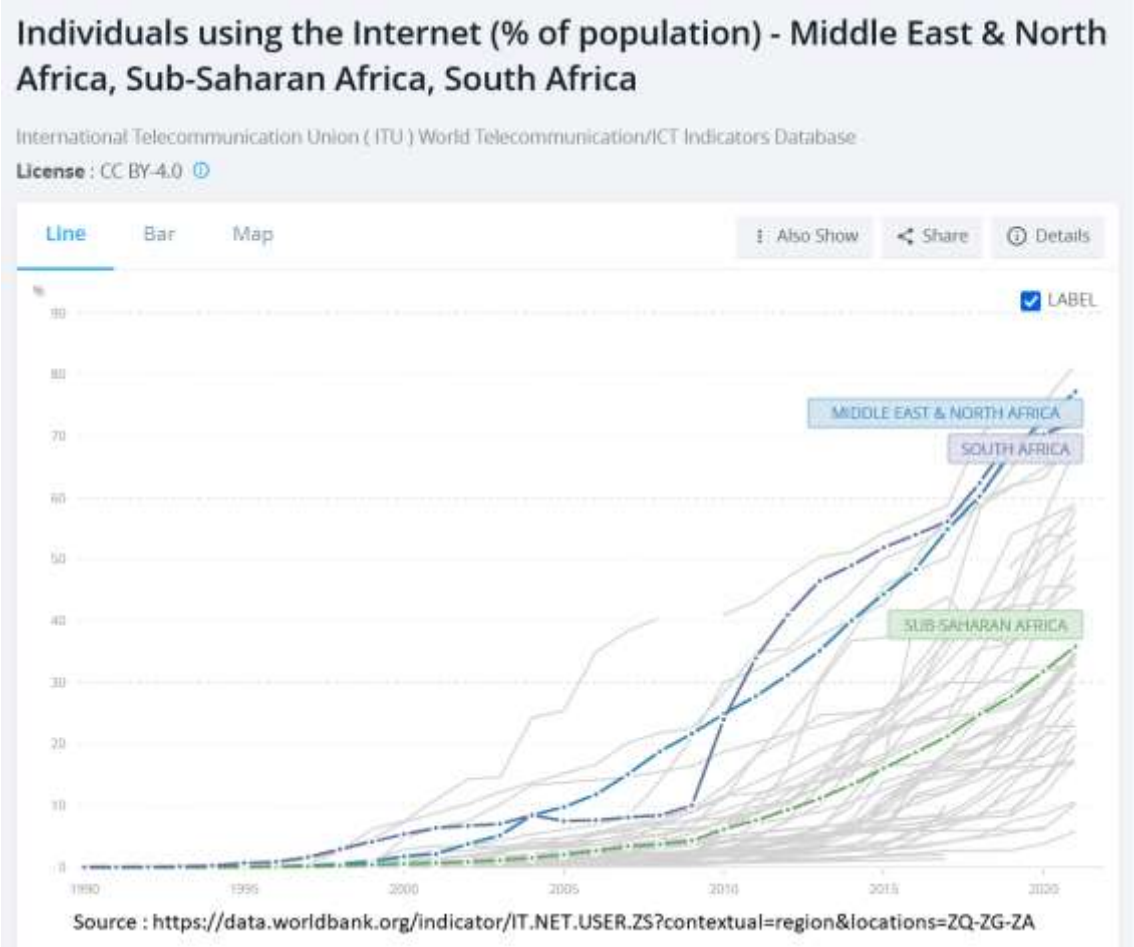
[115] Ibid, op. cit, §4 and 5

finally abandoned due to diplomatic coordination difficulties, technical difficulties and financing difficulties[116] . This sequence demonstrates both **the extent of mistrust towards the surveillance system created by the United States, and the geopolitical tensions surrounding digital technology itself between the BRICS countries**. In addition, there is a great deal of uncertainty as to the political goals actually pursued by these states. They certainly have good reasons in common for wanting to challenge the American digital hegemony in surveillance... but, beyond the official rhetoric, do they want to deprive themselves of state surveillance capabilities, or do they want to regain control of them in order to better use them for their own benefit? The second option often seems the most likely, at least for authoritarian regimes (but also for democracies), which then provides a further explanation for the absence of "BRICS" regulatory proposals that can be generalized to all states.

On the African continent, the digital turnaround came later. Although an African prehistory of computing and digital technology can be evoked for the decades prior to 2010, Africa did not participate in the societal expansions of computing and digital technology during the 19ème and 20ème centuries. The continent did not experience the equivalent of the American and American-European stages of the emergence of mechanography, with the integration of electronics into mainframes, then minicomputers, then transportables, nor that of the individualization of uses

[116] Stacia Lee, "International Reactions to U.S. Cybersecurity Policy: The BRICS undersea cable", *The Henry M. Jackson Shcoll of Internation Studies - University of New York*, January 8, 2016: https://jsis.washington.edu/news/reactions-u-s-cybersecurity-policy-bric-undersea-cable/ and ZYW MELO Anna, "Un câble pour les BRICS : un défi stratégique insurmontable", *Hermès*, 2017/3 (n° 79), p. 145-149: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-hermes-la-revue-2017-3-page-145.htm

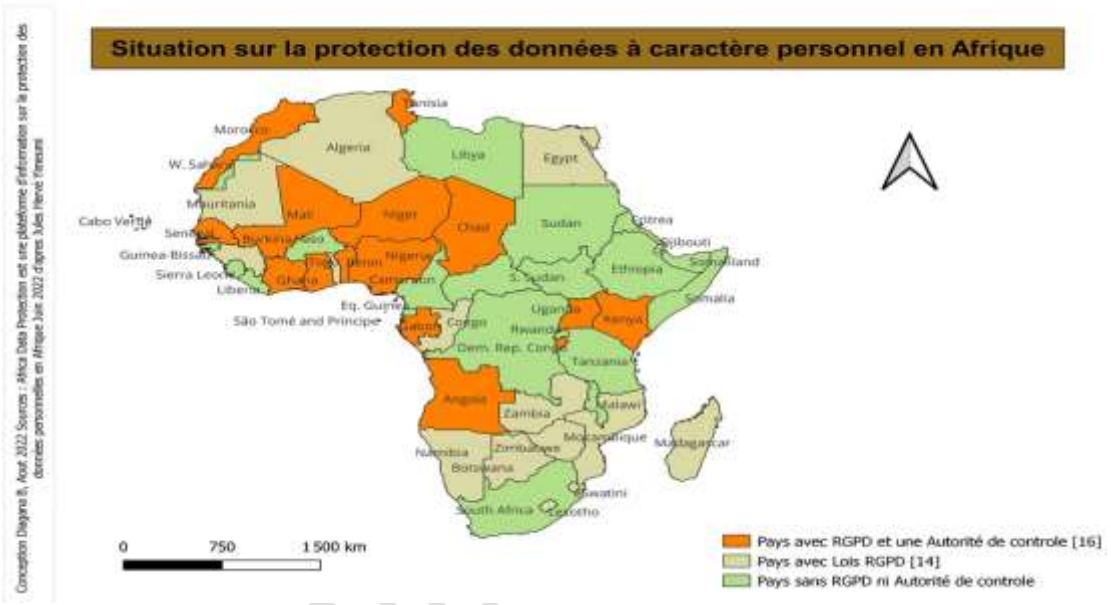
through the spread of personal computers, in fixed workstations, then portable microcomputers. Social use in Africa, long limited to businesses and government agencies, remained marginal from 1995 to 2010.



From 2010 onwards, it was the rise in cell phone ownership rates in the late 2000s that radically altered the situation of African countries with regard to the Internet and ubiquitous computing. Few African states have initiated regulation, most duplicating the European GDPR without endowing it with any more effectiveness than in Europe. From a certain point of view, the African continent has since entered a phase of **digital experimentation** with

multiple and varied social uses[117] and observation in/by each country of their results, on the political field in particular as during the 2017 elections in Kenya[118] , but without having had the time to accumulate the type and forms of previous experiences observable in the USA and Europe.

Status of personal data protection in Africa

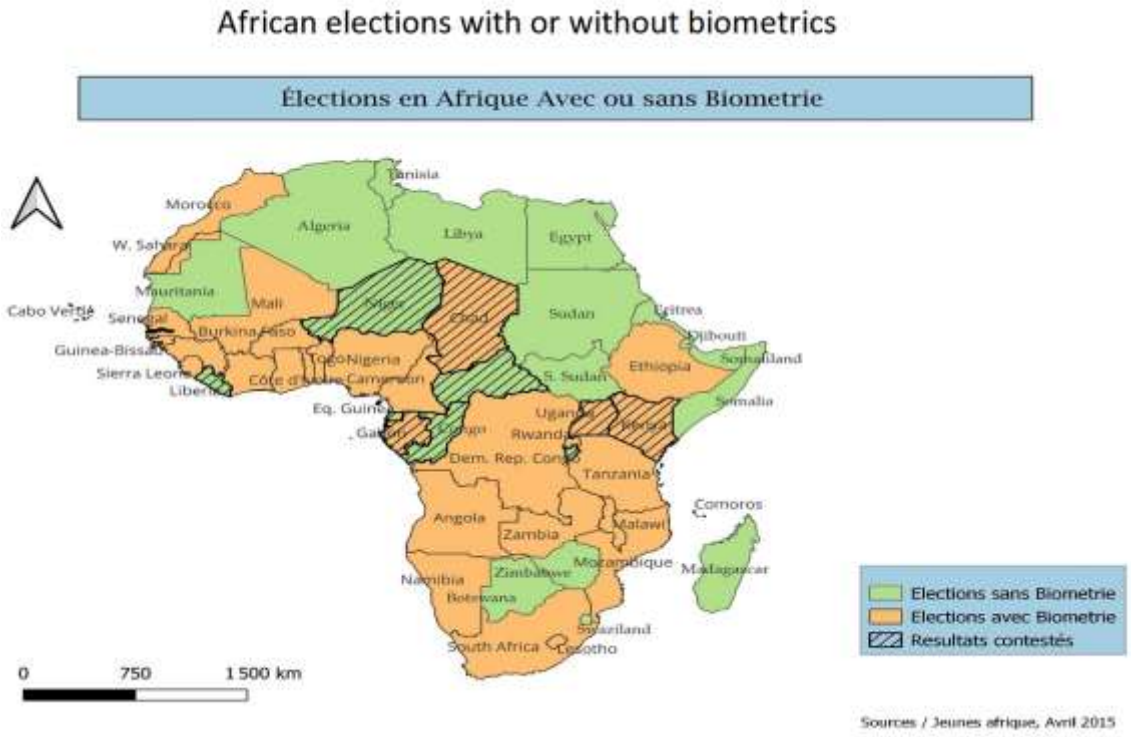


African digital technology might seem marginal from a socio-historical point of view, but it is just as marginal because of the great poverty of African countries and their low solvent demand in the gestation of surveillance capitalism. From another point of view, Africa's great poverty - perhaps more than its cultures? -

[117] AKINDèS Francis, KOUAMé YAO Séverin, " L'immixtion " par le bas " des technologies digitales dans la vie urbaine africaine ", Afrique contemporaine, 2019/1-2 (N° 269-270), p. 87-107: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-afrique-contemporaine1-2019-1-page-87.htm

[118] PASSANTI Cecilia, *Machines en politique : Le rôle des technologies électorales dans les élections de 2017 au Kenya*, Mémoire de recherche, Dir. M.E. Pommerolle, J. Valluy, Master Science Politique, Paris 1, 2017. PASSANTI Cecilia, POMMEROLLE Marie-Emmanuelle, "The (un)making of electoral transparency through technology: The 2017 Kenyan presidential election controversy", *Social Studies of Science*, 1-26, 2022: https://journals.sagepub.com/doi/10.1177/03063127221124007; POMMEROLLE Marie-Emmanuelle, JOSSE-DURAND Chloé, "Le roi est nu : crise électorale et anatomie du pouvoir au Kenya (2017)", *Politique africaine*, 2017/4 (n° 148), p. 169-181: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-politique-africaine-2017-4-page-169.htm

reduces resistance in defense of "privacy"[119] . First and foremost, this makes Africa not a central continent in the development of this new capitalism, but a laboratory for the **digital experimentation** of devices that are then disseminated in countries with high levels of solvent demand. The biometrisation of civil registrations and electoral lists[120] , and therefore biometric voting[121] , open up this path and illustrate it in an essential way,

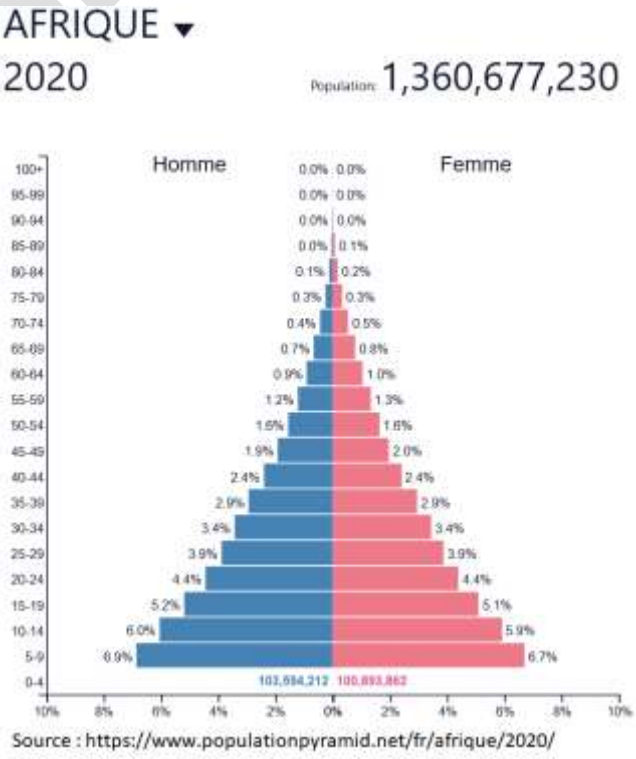


[119] TCHABO SONTANG Hervé Martial, "Le droit à la vie privée à l'ère des TIC au Cameroun", *La Revue des droits de l'homme*, 17 | 2020: http://journals.openedition.org.ezpaarse.univ-paris1.fr/revdh/7975 ; AGBAVON Tiasvi Yao Raoul, "L'AI au prisme de l'altérité en Afrique", Communication, technologies et développement, 11 | 2022: http://journals.openedition.org/ctd/6524

[120] DIAGANA Boubacar, "L'identification biométrique dans les états civils en Afrique - Le rôle des nouvelles technologies d'identification biométrique dans la modernisation des états civils en Afrique ; avantages et risques." Paper presented at the seminar "Expérimentations numériques en Afrique au Moyen-Orient" (J.Valluy, Paris 1) November 18, 2022. AWENENGO DALBERTO Séverine, BANéGAS Richard, CUTOLO Armando, "Biomaîtriser les identités? État documentaire et citoyenneté au tournant biométrique", *Politique africaine*, 2018/4 (n° 152), pp. 5-29: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-politique-africaine-2018-4-page-5.htm

[121] PERROT Sandrine, POMMEROLLE Marie-Emmanuelle, WILLIS Justin, "La fabrique du vote : placer la matérialité au cœur de l'analyse", *Politique africaine*, 2016/4 (n° 144), p. 5-26 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-politique-africaine-2016-4-page-5.htm

but so does digital finance, as Alain Kiyindou notes: "It *emerges from the various studies that the deployment of digital technology in Africa highlights inverted innovations, in other words cases where products and services are first designed in developing countries before returning, with adjustments, to developed countries*."[122] Digital money is emerging in Africa and Asia as providing "*Financial solutions for the poor*", observe Marine Al Dahdah, Nicolas Lainez, Isabelle Guérin: "*Development agencies - including the World Bank or AFD - see it as the new lever for financial inclusion (Gabor and Brooks, 2017). This formalization of the economy centered on the digitalization of money is driving structural changes that are reshaping financial practices and livelihoods. For example, three-quarters of digital money services are found in low- and middle-income countries, where the cell phone is becoming the main tool for storing and circulating money*."[123]



Last but not least, age pyramids in Africa fit in well with the juvenilization of the global public sphere, linked to the digital transition and social media open to minors, making 8-18 year-olds effective players in societal

[122] KIYINDOU Alain, "VI / Numérique et technologies financières en Afrique", in: Agence française de développement ed, ***L'économie africaine 2023***. Paris, La Découverte, "Repères", 2023, p. 95-108: https://www-cairn-info.ezpaarse.univ-paris1.fr/l-economie-africaine-2023--9782348077654-page-95.htm

[123] AL DAHDAH Marine, LAINEZ Nicolas, GUéRIN Isabelle, " L'argent numérique, une nouvelle solution de développement ", *Réseaux*, 2023/2-3 (N° 238-239), p. 153-179 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-reseaux-2023-2-page-153.htm

transformations for the first time in the history of mankind; this favors the expansion of social uses of digital technology and the experimental role of Africa[124] . However, some experiments are objective failures, such as the African Virtual University[125] , or run up against enormous difficulties of technological "appropriation", as can be seen in the case of digital universities in Senegal[126] .

As we have seen, the international bibliography in this field has long been preoccupied, even invaded, by intellectual productions directly produced and/or financed by the sector's biggest commercial enterprises. Through research funding, the academic world has often been financed by lobbying money from digital companies. This is true in the USA and Europe, but also more recently in Africa. Driven by commercial interests and/or hopes of progress, technophile discourses have long been hegemonic or dominant on the African digital scene. The African Union's 2020-2023 digital strategy extends the technophile trend[127] . Depending on the scientific discipline and the degree of professional independence and intellectual autonomy of researchers, this trend persists, albeit with variations linked to the "disenchantment with the Internet" that has been taking place in

[124] BETBOUT Alma, "Culture numérique juvénile et reconfiguration des liens intergénérationnels: une recherche sur Facebook en Tunisie", *Revue française des sciences de l'information et de la communication*, 15 | 2018: http://journals.openedition.org.ezpaarse.univ-paris1.fr/rfsic/5239; PYPE Katrien, "Le politique (en ligne) par le bas en Afrique subsaharienne", *Politique africaine*, 2021/1-2 (n° 161-162), pp. 71-97: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-politique-africaine-2021-1-page-71.htm ; DAGNOGO Gnéré Laeticia Blama and SAMASSE Arrouna, "Jeunesse de l'Université de Bouaké et socialisation, à l'ère de l'Intelligence Artificielle", *Communication, technologies et développement*, 11 | 2022: http://journals.openedition.org/ctd/7529

[125] LENDRIN Nina (2021) *Université Virtuelle Africaine : le paradoxe du processus d'industrialisation de l'enseignement supérieur en Afrique Subsaharienne* Thèse de doctorat, Sc.info-com, dir. J.Valluy, UTC, 5 juillet 2021: https://thesearchives.files.wordpress.com/2021/07/these-2021-5-juillet-lendrin.pdf LENDRIN Nina (2018). "African Virtual University (AVU) and partner universities in Africa. Entretien commenté", February 15, 2018, *Cahiers COSTECH* issue 2. http://www.costech.utc.fr/CahiersCOSTECH/spip.php?article70; LENDRIN Nina Helga (2018). "Raison d'être de l'Université Virtuelle Africaine (UVA)," *Distances et médiations des savoirs*, 24 | 2018, http://journals.openedition.org/dms/3089

[126] BA Abdoul Malick, *Le numérique universitaire africain, entre injonctions internationales et contraintesd'appropriation : le cas du Sénégal*, Science politique, dir. J.Valluy, Université Paris 1 - Panthéon-Sorbonne, June 27, 2022.

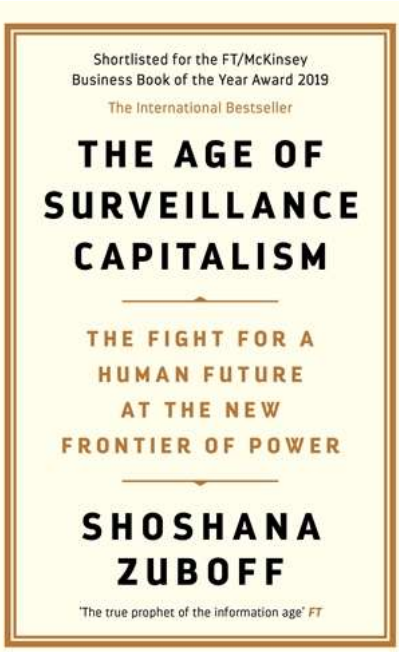
[127] African Union, "Digital Transformation Strategy for Africa (2020-2030)", African Union, May 18, 2020: https://au.int/sites/default/files/documents/38507-doc-dts_-_french.pdf

the United States and Europe over the last five years[128] , and which marketing is already integrating as one of the constraints to be taken into consideration in the pursuit of the constant goal of increasing commercial profits. But because of the social, financial, political and geopolitical conditions of research in Africa, and the small number of researchers worldwide specializing in Africa**, the bibliography on the African digital world as a whole is very much affected by this phenomenon. It remains overwhelmingly "technophile" or "techno-propulsive", for good and/or bad reasons, which will need to be examined. In** 2023, the search for scientific articles and statistical productions on the problems, perverse effects, dangers, risks and threats of digital technology in/for Africa will resemble the work of a gold digger, with the first critical articles and books appearing recently, including Zeynep Tufekci's (2019), as well as the collective work directed by Cédric Leterme (2020) and a few others[129] .

[128] BADOUARD Romain, *Le désenchantement de l'internet. Désinformation, rumeur et propagande*, Limoges, FYP Éditions, 2017, 179 p.; DUBASQUE Didier, *Comprendre et maîtriser les excès de la société numérique*. Presses de l'EHESP, 2019: https://www-cairn-info.ezpaarse.univ-paris1.fr/comprendre-et-maitriser-les-exces-de-la-societe--9782810906994.htm

[129] Cf.: BOGUI Jean-Jacques Maomra and ATCHOUA N'Guessan Julien, "La régulation des usages des TIC en Côte d'Ivoire: entre identification et craintes de profilage des populations", *Terminal*, 118 | 2016: http://journals.openedition.org.ezpaarse.univ-paris1.en/terminal/1468; TCHEHOUALI Destinity, "Politiques internationales de solidarité numérique en Afrique", *Communication, technologies et développement*, 5 | 2018: http://journals.openedition.org/ctd/31; Zeynep TUFEKCI, *Twitter & les gaz lacrymogènes - Forces et fragilités de la contestation connectée*", C&F Editions, 2019; LETERME Cédric, *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, "Alternatives Sud", 2020: https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183.htm; EYENGA Georges Macaire, "Les nouveaux yeux de l'État? L'introduction de la télésurveillance dans l'espace public à Yaoundé", *Cahiers d'études africaines*, 2021/4 (n° 244), p. 753-776: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-cahiers-d-etudes-africaines-2021-4-page-753.htm

3. Surveillance capitalism, between infrastructure and superstructure



Shoshana Zuboff's major work, the culmination of forty years of research into the relationship between capitalism and information technology, is an exceptional masterpiece that offers what is perhaps the first social science paradigm of the 21ème century, studying massively digitized societies. Following a scientific agenda that has become common to most researchers specializing in digital social sciences, this paradigm places the issue of privacy at the heart of studies and reflections. Privacy, as a sphere of individual intimacy that may need to be protected from the gaze of others, was a late invention in the face of the computerization of society and the capture of personal data. It has become the central issue both in the analysis of this new capitalism and in militant or state action aimed at regaining political and democratic control of the economic system. But, as we are beginning to hear it in the face of personal data capture, it is a historical unthinkable, a blind spot in our democratic cultures founded in the 18ème and 19ème centuries.

Zuboff, faithful to Durkheimian methodology, begins with a preliminary definition of surveillance capitalism before refining it as his research progresses:

"*Surveillance capitalism unilaterally claims human experience as free raw material destined to be translated into behavioral data. While some of this data is used to improve products or services, the rest is declared as proprietary behavioral surplus, which feeds advanced production chains known as "artificial intelligence", to be transformed into prediction products that anticipate what you're going to do, now, soon, later. Finally, these prediction products are traded on a new market, that of behavioral predictions, which I call future behavior markets. Surveillance capitalists have enriched themselves enormously through these trading operations, as many companies are inclined to bet on our future behaviors*." (ACS, p.25)

These advanced production chains are based on the model invented by Google in particular, by Facebook and Microsoft too, but more broadly by the "GAFAMs" and by the companies and social players benefiting financially from this production. These companies are often referred to as "digital platforms". Whether social networks, search engines, e-commerce sites (banner ads) or video platforms, they generate considerable and steadily growing advertising sales. They are designed to enable individuals to interact in

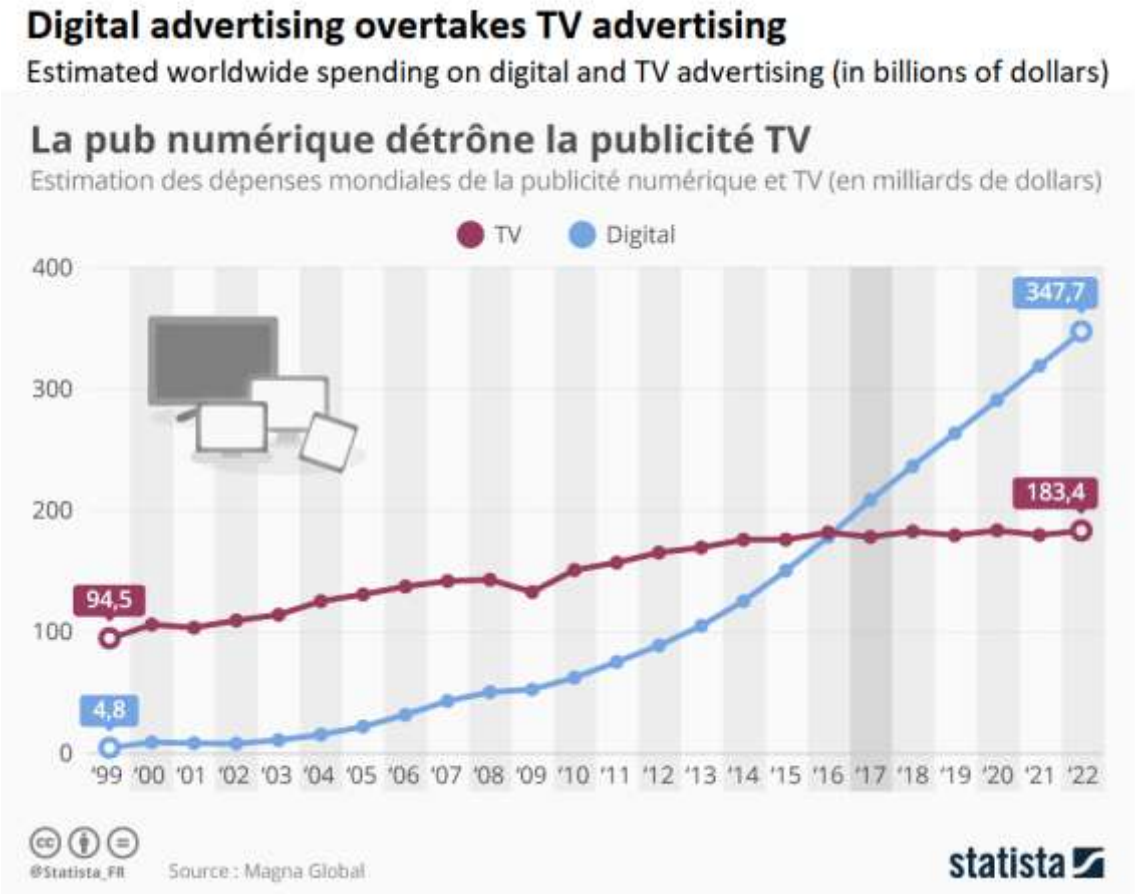
certain ways that are conducive to expressing and capturing their personal data (emotions, reactions, friendships, preferences, geolocations, studies, hobbies, professions, spending, consumption...). The two tables published by Fabrice Rochelandet[130] clarify and concretize this notion of personal data.

This personal data is used to analyze Internet users' personalities and predict their attitudes and behaviors, whether buying or voting, in response to the question "who will buy this product? or "who will vote this way? These behavioral predictions enable the automatic selection of target individuals. **They are highly accurate, covering tens of thousands of analytical categories of behavioral data per individual**. And they enable us to answer the above questions with target lists (true predictive products), i.e. lists of individuals statistically likely to buy this or vote that.

Let's take the example of a producer of olive oil soaps who would like to sell more of them, and turns to an advertising agency to do so. Rather than using conventional marketing methods to categorize consumers, segment the market and identify the most appropriate advertising media for a specific market segment or category of consumers, the advertiser turns to Google. Google will use "artificial intelligence" to process the tens of thousands of items of personal data contained in its database, for each of the billions of individuals included in the database or hundreds of millions in segments of this database. It will answer the question "who is likely to want to buy olive oil soaps?" by identifying

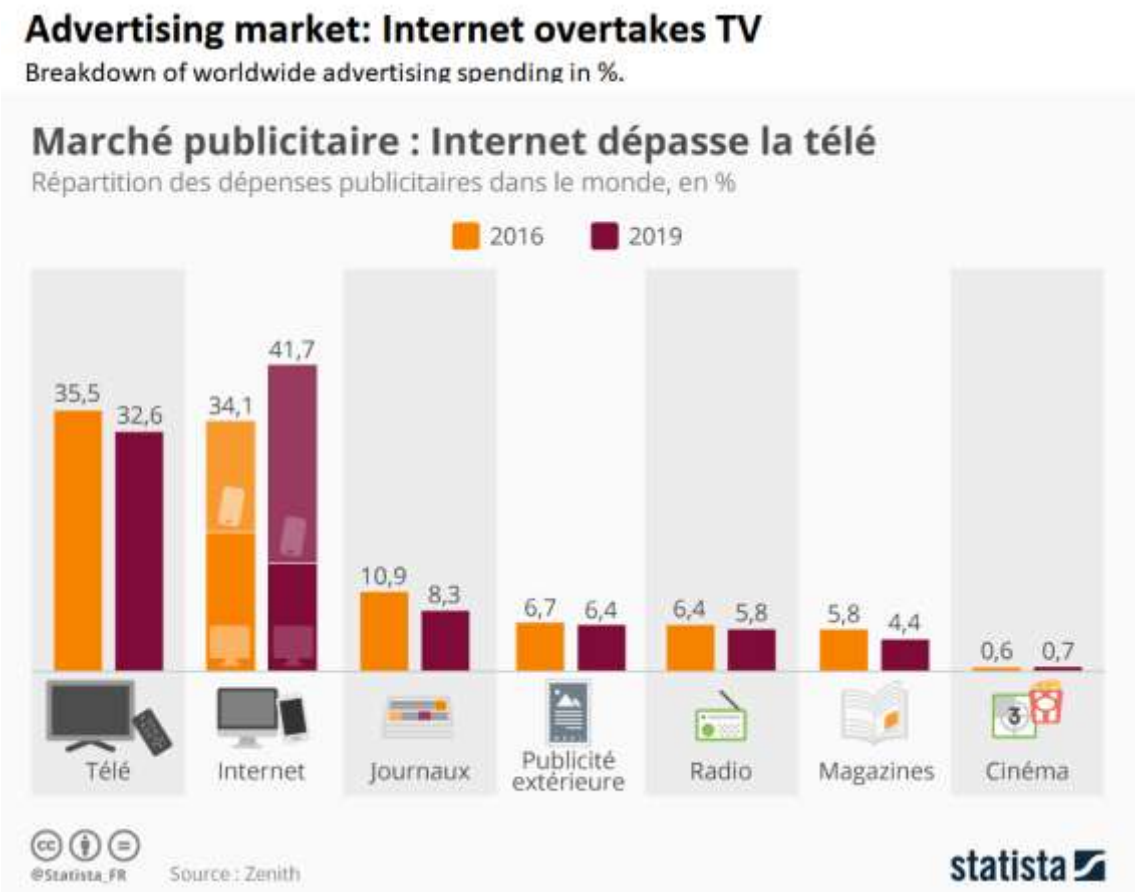
[130] ROCHELANDET Fabrice, *Économie des données personnelles et de la vie privée*. La Découverte, "Repères", 2010: https://www-cairn-info.ezpaarse.univ-paris1.fr/Economie-des-donnees-personnelles-et-de-la-vie-pri--9782707157652.htm

(through their IP addresses or telephone numbers or whatever...) a list of people likely to want to buy an olive oil soap, according to what their respective corpus of personal data contains. Without knowing the personal data processed by Google, the advertiser will focus his advertising campaign on this list of people and use the identifier provided by Google to deliver standardized or individualized ads to the people on the list, using "artificial intelligence". And the producer of olive oil soaps will be able to see that he's selling far more than usual, and far more than with conventional advertising campaigns.

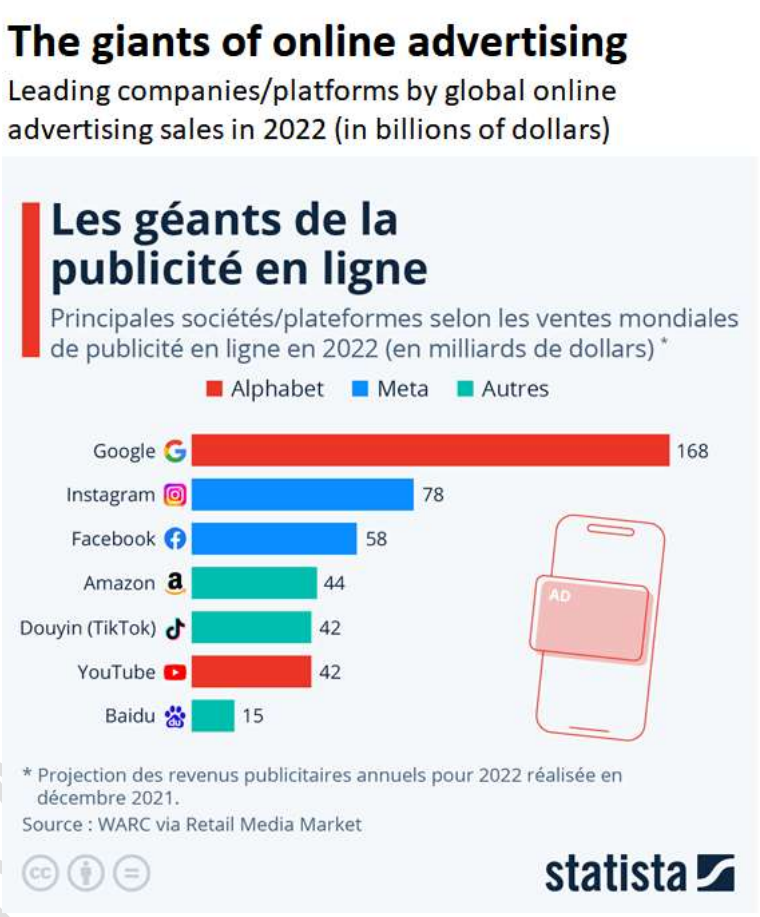


What Google sells is not personal data (apart from the individual identifier), but predictive products derived from its processing:

lists of individuals selected for their probable inclination to a particular future purchase or vote. These selections are sold to advertisers (primary clients) who see the lucrative satisfaction of their own clients (secondary clients), i.e. the companies whose products they promote to consumers. These companies validate the cycle with new requests for advertising services. Indeed, these secondary customers, like our olive oil soap producer, in turn see the new effectiveness of marketing services from the world's biggest databases, on their sales and profits, and approve this advertising effectiveness by returning to the source of this new individualized marketing offered by digital technology in a regime of surveillance capitalism.



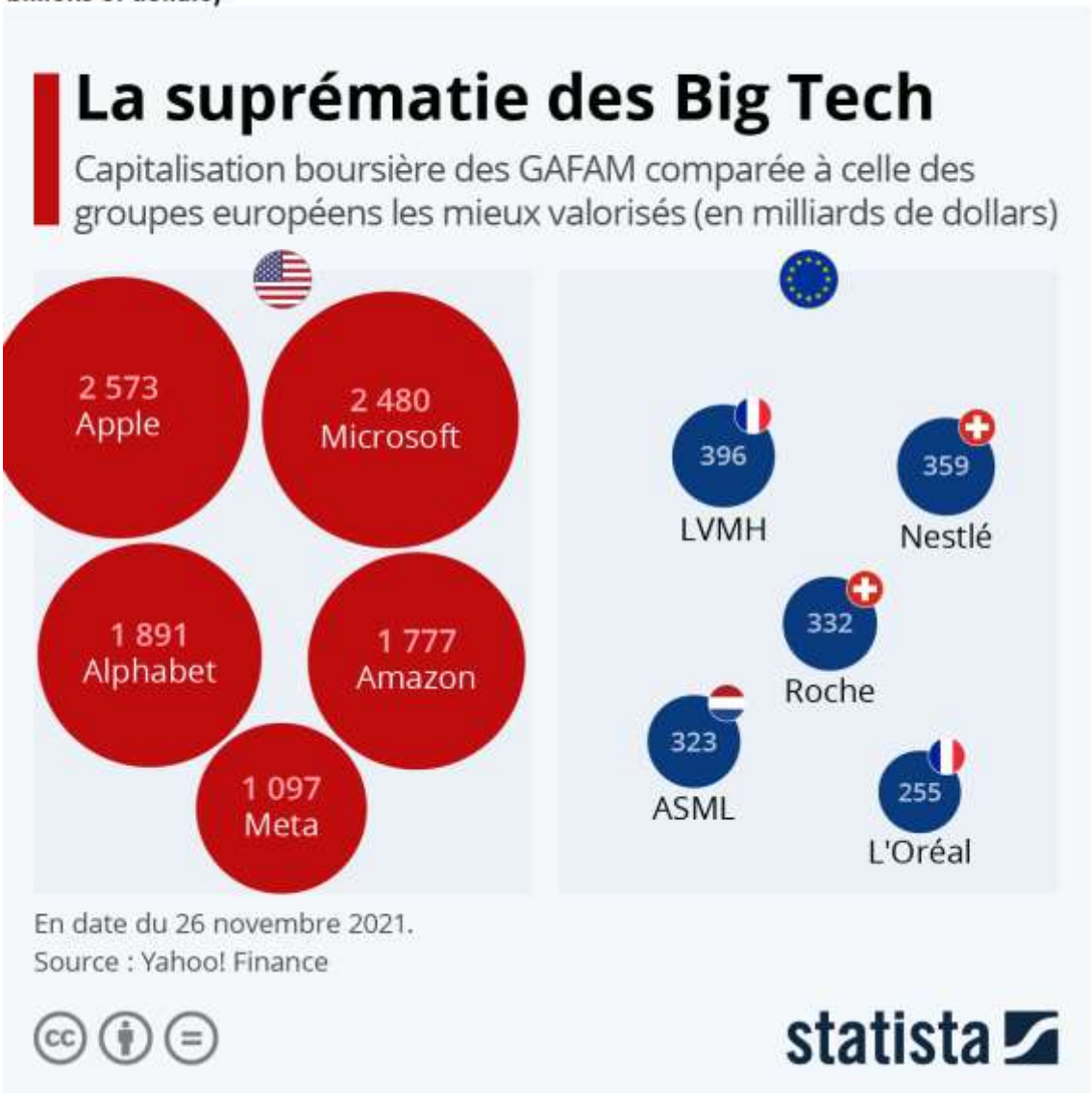
Hence the domination already acquired by Alphabet, Meta and Amazon in particular, on the global advertising market, to the detriment of other media[131] . Growing since the late 1990s, global spending on digital advertising has outstripped television advertising since 2017 and all the others. **To question the superior effectiveness of personalized advertising compared to the collective advertising of the 19ème and 20ème centuries, you'd have to believe these secondary customers incapable of measuring their own benefits, which is hardly credible**. And the transition from the era of collective advertising to the era of individualized advertising means we're in a different world: collective advertising was publicly displayed, and therefore known or knowable and criticizable by everyone; individualized advertising is hardly perceptible, individually or collectively, except by those who can compare their advertising and commercial profits as they move from one advertising era to the next.



[131] JOUX Alexandre, " Publicité en ligne : un contrôle protéiforme du marché, *La revue européenne des médias et du numérique*, n°61-62 printemps-été 2022 : https://la-rem.eu/2022/10/publicite-en-ligne-un-controle-proteiforme-du-marche/

The supremacy of Big Tech

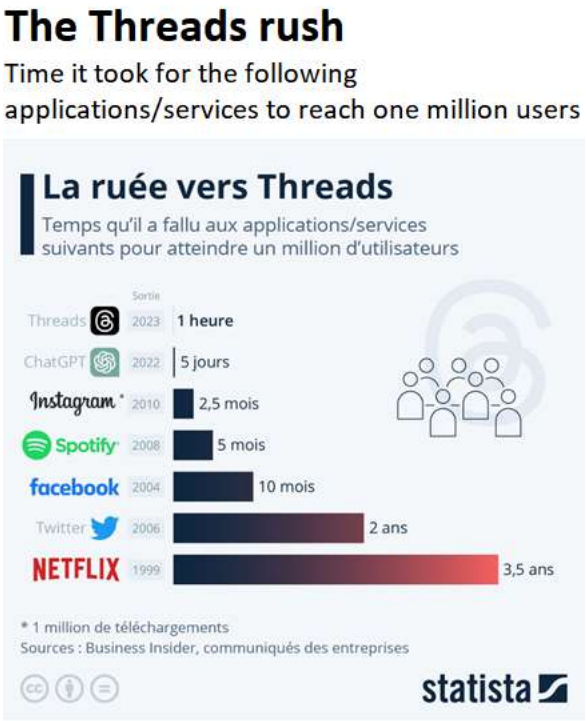
GAFAM market capitalization compared with that of the best-valued European groups (in billions of dollars)



3.1 Personal data, individualized advertising, manipulation by "I.A.

Against the popular Internet adage "**if it's free, you're the product**", Zuboff highlights a collective fallacy: "*users are not products, but rather sources of raw material*" (ACS p.104). **If it's free (i.e. : pseudo-free), you're just a source of raw material**, you

might say... the raw material for a production of individualized advertising targeting without historical precedent, since it involves the use of automatons, known as "**artificial intelligences**", capable of observing and "processing" billions of individuals out of the five billion currently connected; It is also historically unprecedented in terms of the diversity of the apparent purposes of social or socio-technical interaction systems (games, music, videos, networks, markets, books, translations, politics, travel, cities, cars, houses, kitchens, refrigerators, electricity, toys, health, encounters, sexuality...) to capture individual information from people who consult search engines or use online applications, and shape their attitudes and behavior. What Zuboff calls "the unprecedented" of surveillance capitalism, in many (though not all) respects, has been and remains a major cognitive obstacle to understanding what has happened since 2001: "***One explanation for surveillance capitalism's many triumphs dominates: the unprecedented. What is unprecedented is unrecognizable***. *When confronted with the unprecedented, we automatically interpret it through the prism of familiar*



categories, thus rendering invisible precisely what is unprecedented." (ACS, p.30).

The influence that every marketing and advertising business necessarily and always claims to have has often been questioned in the past, as much as the supposed influence of political propaganda: from the classic critique of the "hypodermic syringe" counter-model as a form of propaganda, to Paul Lazarfeld's (*The People's Choice*, 1948) and Elihu Katz's (*Personal influence* 1955) "theory of the limited effects" of mass media on consumer and voter choice. Other theories, however, responded in the opposite direction, showing the powerful effects of the famous "spiral of silence" (Elisabeth Noelle-Neuman 1978) suffered by minority opinions in the classic mass media, or the powerful effects of "agenda-setting" imposing not what to think, but what to think about (McCombs and Shaw 1972, G. Ray Funkhouser 1973, Cobb and Elder 1983) as well as the cultural and strategic phenomena of "agenda denial" (Cobb and Ross 1997) leading to the eviction of certain subjects from the political agenda. From 2001 to 2011, the "agenda denial"[132] was complete with regard to the ongoing genesis of surveillance capitalism.

These long-standing scientific debates remain interesting, but today we're confronted with something else, since the advertising influence we're talking about is no longer just that - immensely multiplied by "big data" - of companies using digital marketing in their day-to-day business (commercial/direct influence, for

[132] ROSS Marc Howard, COBB Roger W. Cobb (eds.), Cultural Strategies of Agenda Denial: Avoidance, Attack, and Redefinition, Paperback 1997, 244 p.

example to sell olive oil soaps...), but also and perhaps above all the influence of the systems themselves in their lateral and deleterious effects on societies, whether these effects are intended or not (systemic/indirect influence; for example, the role of Facebook in the persecution of the Rohingya[133]).

No conspiracy theory is necessary to the analysis, but Mac Luhan's "medium" theory and Cobb and Ross's "agenda denial" theory remain useful for studying the systemic effects of platforms in global society. The title of the book and its central concept could therefore be rephrased as "**surveillance and influence capitalism**", since what Shoshana Zuboff shows in her analysis is as much about surveillance (commercial & police, closely interwoven and constantly collaborating) as about the influence of its use on consumer behavior, political attitudes and, more profoundly, cultural attitudes. But she finished writing her book in the summer of 2018, the year of the Cambridge Analytica affair, so it was too early to integrate the new information that would spread in the following years. It was an ex-research director at Cambridge Analytica, Christophe Wylie, who best described the manipulative processes used. His 2018 and 2019 revelations nonetheless postdate those of *Politico* and *The Guardian* newspapers in 2015[134] and can be interpreted as personal protection. In 2019 Christopher Wylie published a testimonial

[133] SIX Nicolas, "Massacre des Rohingya : " Facebook a joué un rôle central dans la montée du climat de haine " en Birmanie - In a lengthy report published on Thursday, Amnesty International analyzes the massacres of 2017 in the light of new testimonies and recent documents, questioning the legal responsibility of the social network. - Interview by Nicolas Six", *Le Monde*, Sept. 29, 2022: https://www.lemonde.fr/pixels/article/2022/09/29/massacre-des-rohingya-facebook-a-joue-un-role-central-dans-la-montee-du-climat-de-haine-en-birmanie_6143611_4408996.html

[134] Kenneth Vogel, "Cruz partners with donor's 'psychographic' firm," *Politico*, July 7, 2015: https://www.politico.com/story/2015/07/ted-cruz-donor-for-data-119813; Harry Davies, "Ted Cruz campaign using firm that harvested data on millions of unwitting Facebook users," *The Guardian*, December 11, 2015:

book "*Mindf*ck: Cambridge Analytica and the Plot to Break America*" (translated into French as "*Mindfuck: le complot Cambridge Analytica pour s'emparer de nos cerveaux*", Grasset 2020), a muddled attempt at self-justification, but relayed by the press. Christopher Wylie describes techniques for manipulating digital flows that make massive use of "fake accounts", the scale of which (5%? 20%? more?) became even clearer during Elon Musk's takeover of Twitter due to his negotiating tactics - and which Twitter masked by reducing them to 5%. This notion of "fake accounts" is complex, since it covers a variety of practices: ● **Individual fictitious accounts**, individually created (anyone can create one); ● **Coordinated,** even organized **fictitious accounts** of the "troll factory" or "web-brigade" type; ● **Automated fictitious accounts** with robots. (the famous computer "bots"). Two techniques are used: 1) **"sameness similitantism** [135] "or "astrosurfing" [136] ; 2) **"troll factories", of** which the Russian part of the Internet Research Agency and the "web-brigades" is only a small part...

The numbers of individual accounts manipulated are kept secret by the operators involved, but certain trials, including the Cambridge Analytica trial, make it possible to know at least the orders of magnitude: "*In April and May 2018, Marc Zuckerberg, founder and CEO of Facebook, was heard by the US Senate and the European Parliament; he admitted that the company had collected data from 87 million accounts without user consent. The Facebook*

[135] GOBEIL Mathieu, "Soyez averti, des intérêts privés se cachent parfois derrière un masque citoyen", *Radio-Canada*, July 2, 2020: https://ici.radio-canada.ca/nouvelle/1467157/astroturfing-similitantisme-faux-appui-compte-lobby-twitter-facebook-campagne
[136] Lits Brieuc, "Astroturfing" *Publictionnaire. Encyclopedic and critical dictionary of audiences*. Online since April 08, 2020. Last modified on March 14, 2022. Access: http://publictionnaire.huma-num.fr/notice/astroturfing.

social network is fined $644,000 for breaching the UK Data Protection Act (the maximum fine provided for at the time by the Data Protection Act 1998). For its part, CA declares bankruptcy and is forced to cease operations in 2018, only to be reborn as Emerdata Limited. A year later, in July 2019, the Federal Trade Commission (FTC) fines Facebook $5 billion for failing to protect its users' data." [137] This new power of influence is already efficient, but it is mastered by billionaire owners and millionaire employees (stock options) only to increase their profits with no regard for the effects produced in societies across the planet. Without underestimating the weight of direct influence, particularly on electoral campaigns (several dozen worldwide) or media debates, it is indirect and systemic influence, which is more complex to analyze, that is probably the most deleterious, and which logically lies at the heart of contemporary social science research issues.

3.2 New socio-economic systems, new political challenges

This economic reconfiguration is creating political embarrassment, redefining the stakes and cleavages. In "European" terms (i.e., referring to European multi-party parliamentarism, which leads to a distinction between "the right" and "the left"), the stakes are new. The democratic right knows how to defend the value of "private life", centered in particular on mass attendance, in the Christian tradition of Sunday rest, which was reinvented at the beginning of the 19ème century and was the

[137] Laura Calabrese and Camila Pérez Lagos, "The Cambridge Analytica affair on Twitter: resignation or resistance to digital surveillance?", *Terminal*, 132-133 | 2022: http://journals.openedition.org/terminal/825

subject of political debate for over a century[138] . But to extend this defense, it must now politically combat this new capitalism, which is not part of its historical traditions. The democratic left, which has fought industrial capitalism for a century and a half while rejecting the idea of privacy as a stigma of bourgeois life, finds itself obliged to extend this anti-capitalism by defending it, which is not part of its historical tradition. The two main Democratic camps are thus caught out by **hybrid regimes that could be** described as "**collectivist capitalism**" in the case of the **American NSA & GAFAM System**, and "**capitalist collectivism**" in the case of the **Chinese Social Credit System**.

This "**Chinese SCS = American SNG?**" equivalence is very common in European and African journalism[139] . As Italian journalist Simone Pieranni suggests in "*Red Mirror - L'avenir s'écrit en Chine*" (C&F Éditions, 2020), China is merely the West's "red mirror" in this respect. However, this presentation does not stand up to analysis of the divergent development of the two systems from 2013 to

[138] BECK Robert, "Esprit et genèse de la loi du 13 juillet 1906 sur le repos hebdomadaire", *Histoire, économie & société*, 2009/3 (28e année), p. 5-15: https://www.cairn.info/revue-histoire-economie-et-societe-2009-3-page-5.htm and BECK Robert, *Histoire du dimanche de 1700 à nos jours*, Paris, Éditions de l'Atelier, 1997, 383 p.

[139] JEET SINGH Parminder, "Bras de fer États-Unis-Chine: nécessité d'un non-alignement numérique", in: Cédric Leterme ed., *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, "Alternatives Sud", 2020, p. 37-44: https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183-page-37.htm; GAGLIARDONE Iginio, "La Chine modèle-t-elle les sociétés de l'information africaines à son image?", in: Cédric Leterme éd., *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, "Alternatives Sud", 2020, p. 57-61: https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183-page-57.htm

2023: ● the Communist dictatorship of a party (the CCP) and a privileged social class (the CCP's million-strong membership) is radicalizing digital surveillance, gradually centralizing it and repressing nearly a billion and a half inhabitants. During this period, it intensified its persecution of the Uyghur minority, while at the same time initiating attempts to export its surveillance model, notably to Africa ("African smart-cities", the new "Silk Road"...). ● on the other hand, American liberal democracy, because of its institutional pluralism and the checks and balances (judicial, media, activist...) it includes, is revealing its own excesses through scandals that are publicized in the media or litigated (Snowden-2013 and Cambridge-Analytica-2018). Its companies are being sued - by human rights, consumer protection and child protection associations - for billions of dollars in fines. The federal government is negotiating new privacy regulations with the European Union (RGPD 2018 and DMA 2022). Some political leaders, such as former President Obama in 2022, have made their "mea culpa" and are initiating political reversals against surveillance capitalism. In the USA, former GAFAM employees are speaking out and denouncing the system. And it is American academics who have done most of the social science criticism of

Guards surround a large group of detainees in an internment camp in Xinjiang, China.

Des gardes entourent un grand groupe de détenus dans un camp d'internement au Xinjiang, en Chine © Molly Crabapple - Extrait de : "OuPighours, Kazkhs et autres minorités musulmanes victimes de crimes contre l'humanité", Amnesty International - France, 10.06.2021 : https://www.amnesty.fr/discriminations/actualites/ouighours-kazakhs-minorites-musulmanes-victimes-crimes-humanite

the NSA & GAFAM system, or who in 2023 launched an international petition calling for a moratorium on the development of "Artificial Intelligence", the potential of which the public has been discovering for the past few months[140] ... We would look in vain for the equivalent in China. The rest of the story is unwritten, but in view of the developments observed over the last ten years, the two countries cannot be confused or lumped together when it comes to surveillance.

3.3 How to analyze capitalism's new infrastructure?

These ethical and political issues now also cut across the field of social science: ● Some attempts to salvage this or that Marxist (not Marxian) theory, by analyzing capitalism as a perfect continuity from its birth and observation by Marx and Engels in Manchester in the mid-19ème century to the GAFAMs of Silicon Valley, appear futile: downplaying the scale of the changes taking place at the turn of the 20ème and 21ème centuries has mostly led to avoiding crucial doctrinal revisions and heavy scientific reinvestment. ● On the other hand, marketing specialists (a sub-specialty of the management sciences) are struggling to revise their enchanted models of Internet promotion. This is the case, for example, when they describe as pathological the behavior of consumers reluctant to buy connected objects, when predictive sales statistics, published between 2014 and 2017 announced spectacular sales growths and the gradual substitution of this new

[140] "Halting giant AI experiments: Open letter - We call on all AI labs to immediately halt, for at least six months, the training of AI systems more powerful than GPT-4.", March 22, 2023

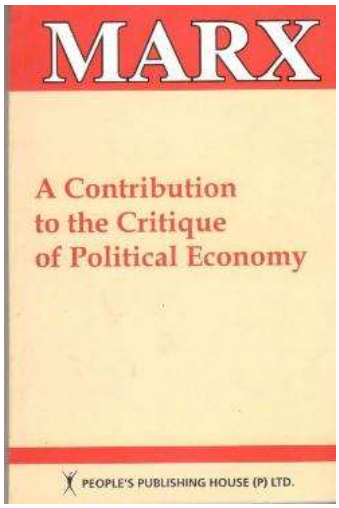
source of personal data for that of social networks : "*Consumer barriers: psychological, functional and individual (...) represent a brake on the appropriation of a connected object, as they reflect consumer resistance to innovation (...) are linked to fear of change (...) in a posture of refusal*. "[141] . In certain contexts, the two rhetorics converge to mask the legal and political infringements on the privacy of citizens in democratic regimes, resulting from the development of this model of capitalism.

To distance ourselves from these two intellectual positions, we'll adopt that of **Yann Moulier Boutang, a** specialist in "cognitive capitalism": "*It was necessary to transport the critique of political economy to the new Manchester* [i.e.: Silicon Valley]. *But alas, no new Engels (by now he should have founded a startup whose business model is based on open source, bought up by the communication dinosaurs for a few billion) had opportunely reoriented the collective brain of academic Marxism*." (***Cognitive Capitalism*, 2007**) Once we have seriously considered the empirical and socio-historical basis on which Marx was working in his day (notably 1843 / 1859), and fully recognized the differences between this basis and today's realities, vast swathes of his theoretical construction can be retained. Historical capitalism has not disappeared, but is now subsumed under and subordinated to surveillance capitalism. We will follow this research program in part: "*To say 'Marx in California' is simply to*

[141] ROIG Marion, "Chapitre 5: Nouveaux usages et digitalisation: l'expérience des objets connectés", in: Marc Filser ed, *L'expérience: objet académique et réalités managériales*. Caen, EMS Editions, "Societing", 2022, p. 102-142.

seek to explain the internal revolution that historical capitalism is carrying out before our very eyes. Socialism is not just late for a lost war. It is behind a capitalism and a political economy, which explains the disease of standing still that afflicts the famous "critique of political economy". (ibid.). Nevertheless, our worldview, post-Snowden (2013) and Cambridge-Analytica (2018) revelations, will no longer retain the idea widely shared in the 1990s and 2000s of a collective intelligence susceptible to virtuous pollination by the internet. And we won't be following Marx to California when it comes to the value of privacy, already reconsidered after the experiences of the totalitarian regimes of the 20th^{ème} century.

Without making it explicit, Zuboff describes the transformation of what Marx called in 1859 an "**infrastructure**", essentially economic, and the adaptation of the ideological, cultural, legal, political "**superstructure"...** (*Contribution to the Critique of Political Economy*, 1859) In this way of re-examining the empirical data used by Zuboff in 2019 with regard to Marx's concepts, we will draw on the research carried out by economist Cédric Durand: "*I choose here to start again from a pair of very classical concepts: what Marx calls* ***relations of production****, "those determined, necessary and independent of their wills" relations* that men enter into *"in the production of their social life*" (...)". We also adopt the caution suggested by philosopher Wark McKenzie: "*We can extract from* ***Capital*** *a rather remarkable theoretical framework that appears in negative form through the critique of the theological concepts of bourgeois*



political economy" and in particular *"that the bourgeois political economy that Marx took as the object of critique is now itself a museum piece(...) the question might be whether what has emerged above and beyond the capitalist mode of production is not something qualitatively different, in the process of generating new forms of class domination, new forms of surplus-value extraction, even new types of class formation*. "[142] From this perspective, surveillance capitalism does not replace industrial capitalism, but rather subordinates and subsumes it.

[142] Wark McKenzie "What if it's not even capitalism anymore, but something much worse?" Multitudes n°70, 2018: https://www.multitudes.net/et-si-ce-netait-meme-plus-du-capitalisme-mais-quelque-chose-dencore-bien-pire%e2%80%89/

As Cédric Durand observes, this is an upheaval: "*Widening the gap with the old glories of the XX^e century, the emblematic digital firms are topping the list of the world's leading market capitalizations, even though most of them have been in existence for less than two decades (Tables 1 and 2). This represents a real upheaval in this elite group, long dominated by a small number of multinationals*[1] . "[143] The new infrastructure can be seen as the **superimposition of two types of capitalism** and the reflection of a **competition between two types of capitalists**: new capitalists (executives and employee shareholders of GAFAM) manage to surpass - or even parasitize - **previous levels of market capitalization**[144] in

The world's largest companies by market capitalization in 2000 - 2019 (Forbes/tab.1 - Ychart.com/tab2)

Tableau 1. Les plus grandes firmes mondiales en termes de capitalisation boursière en 2000 (*Forbes*)

Rang	Firme	Secteur	Pays	Capitalisation (en milliards $, au 28/02/2000)
1	Exxon Mobile	Hydrocarbures	États-Unis	362
2	General Electric	Conglomérat	États-Unis	348
3	Microsoft	Tech/logiciel	États-Unis	279
4	Citigroup	Finance	États-Unis	230
5	BP	Hydrocarbures	Royaume-Uni	225
6	Royal Dutch Shell	Hydrocarbures	Pays-Bas	203
7	Procter & Gamble	Produits ménagers, soins	États-Unis	197
8	HSBC Group	Finance	États-Unis	193
9	Pfizer	Pharmaceutique	États-Unis	192
10	Wal Mart	Commerce	États-Unis	188

Extrait de : Cédric Durand, *Techno-féodalisme - Critique de l'économie numérique*, La Découverte / Zones,

Tableau 2. Les plus grandes firmes mondiales en termes de capitalisation boursière en 2019 (Ychart.com)

Rang	Firme	Secteur	Pays	Capitalisation (en milliards $, au 24/12/2019)
1	Apple	Tech/hardware	États-Unis	1 263
2	Microsoft	Tech/logiciel	États-Unis	1 201
3	Alphabet	Tech/média	États-Unis	926
4	Amazon	Tech/commerce	États-Unis	887
5	Facebook	Tech/média	États-Unis	584
7	Berkshire Hathaway	Finance	États-Unis	551
6	Tencent	Tech/commerce	Chine	461
8	Alibaba	Tech/commerce	Chine	574
9	JP Morgan	Finance	États-Unis	431
10	Visa	Finance	États-Unis	416

Extrait de : Cédric Durand, *Techno-féodalisme - Critique de l'économie numériques*, La Découverte / Zones, sept. 2020, p.74.

[143] DURAND Cédric, *Techno-feudalism...*, op. cit. p.72 - Note 1: Naomi R.LAMOREAUX, Daniel M.G.RAFF and Peter TEMIN, "Beyond markets and hierarchies: toward a new synthesis of American business history", *NBER Working Paper*, n°9029, 2002.

[144] The WP.fr page on market capitalizations can be used to clarify, refine and confirm the analysis: https://fr.wikipedia.org/w/index.php?title=Liste_des_entreprises_par_capitalisation_boursi%C3%A8re&oldid=202304500

record time, from 2000 to 2019. In 2017/2018, annual market capitalization growth rates confirm the trend: digital companies (e-commerce and new technologies) are supplanting all others. By 2023, the world's leading market capitalizations will be American and technological. But above all, they are subordinating the whole of industrial capitalism to the new regime of individualized advertising, through profiling managed by "artificial intelligences"[145] , increasingly necessary to sell industrial as well as digital products and services[146] .

Extrait de : GAUDIAUT Tristan, "Le Top 10 mondial des hausses en capitalisation boursière", *Statista*, 5 juillet 2018 : https://fr.statista.com/infographie/14577/le-top-10-mondial-des-hausses-en-capitalisation-boursiere/

Surveillance capitalism has an unprecedented level of individualized consumer information, and equally unprecedented capacity to individualize advertising. The phenomenon of digital profiling has been well analyzed by Philippe Huneman (***Les sociétés du profilage. Évaluer, optimiser, prédire***, Payot 2023), who highlights the risk of DNA becoming the main (biometric) index for data compilation. This data is then used for individualized distribution (thanks to

[145] CAZALS François, CAZALS Chantal, "Chapter 4. GAFAM and BATX versus the rest of the world", in:, *Intelligence artificielle. L'intelligence amplifiée par la technologie*, edited by CAZALS François, CAZALS Chantal. De Boeck Supérieur, 2020, p. 43-73: https://www-cairn-info.ezpaarse.univ-paris1.fr/intelligence-artificielle--9782807331433-page-43.htm

[146] JAMMET, Thomas. "Portrait de l'internaute en cible marchande: La construction algorithmique d'une rhétorique publicitaire innovante", In: *Gouverner par les données? Pour une sociologie politique du numérique*. Lyon : ENS Éditions, 2023 : https://doi.org/10.4000/books.enseditions.44888.

"artificial intelligence"), well analyzed by Tim Hwang (***Le grand krach de l'attention - La publicité, une bombe au cœur de l'internet***, C&F éditions 2020). These new capitalists are imposing themselves on the global advertising market: by 2023, Google has already seized 30% of the global advertising market and accounts for 40% of the US market. In January 2023, the U.S. Department of Justice and eight federal states sued Google for abuse of dominance in online advertising[147] . The power of individualized advertising seems to be making GAFAM unavoidable in many market segments.

The ability of platforms to deceive users in order to extend connection times and disarm distrust of privacy is now well documented by research[148] . Addiction, for example, as defined by INSERM: "*Addiction is a pathology based on the repeated consumption of a product (tobacco, alcohol, drugs, etc.) or the abnormally excessive practice of a behavior (games, time on social networks, etc.) that leads to: a loss of control over the level of consumption/practice, a change in emotional balance, medical disorders, disruption of personal, professional and social life*".[149] Casino games and video games are laboratories for addiction, deliberately organized to generate financial profits.

[147] Hachman Mark, "Les États-Unis lancent une procédure antitrust contre Google", *Le Monde informatique*, January 25, 2023. URL: https://www.lemondeinformatique.fr/actualites/lire-les-États-unis-lancent-une-procedure-antitrust-contre-google-89323.html.
[148] CACCAMO Emmanuelle, "Rhétorique numérique et modèles persuasifs fallacieux", *Revue Intelligibilité du numérique*, 4|2023 : https://doi.org/10.34745/numerev_1923
[149] INSERM, "Addictions - Du plaisir à la dépendance", 29/05/2017: https://www.inserm.fr/dossier/addictions/

3.4 A.I. addiction management and support ideologies

Casinos have long lapped up the appeal of the "**machine zone**" described by anthropologist Natasha Dow Schüll in her book *Addiction by Design: Machine Gambling in Las Vegas* (Princeton University Press, 2014): **the "machine zone" and a "*state of self-forgetfulness into which the individual is transported by an irresistible impulse*** *that makes them feel as if they are being played by the machine*"[150] . Zuboff comments by highlighting the similarity of symptoms described by addictive users of the always exciting, immersive and immediate Facebook. "*Ultimately*," notes Zuboff, *"casino machines are, in their minutest detail, designed to reverberate, enhance and intensify the desire for this subjective change* ['machine zone'], *but by means that always escape the player's attention*." (ACS p.598). The development of digital currencies, in particular, in the online and video game industry leads to what Renaud Garcia-Bardidia, Caterina Trizzulla and Sarah Maire call "a videoludic socialization to money": "*It seems to us that the practices observed here can be analyzed from the angle of a financialization of everyday life (van der Zwan, 2014; De Blic and Lazarus, 2022), i.e. as the incursion of logics imported from the world of finance, including markets, here into the video game sphere. They are all signs of a videogame socialization to money, the effects of which can be observed beyond the game*."[151]

[150] Quoted by Zuboff, p.598.
[151] GARCIA-BARDIDIA Renaud, TRIZZULLA Caterina, MAIRE Sarah, "Usages sociaux des monnaies dans les jeux vidéo. Une analyse à partir du cas de FIFA Ultimate Team", *Réseaux*, 2023/2-3 (N° 238-239), p. 213-240 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-reseaux-2023-2-page-213.htm

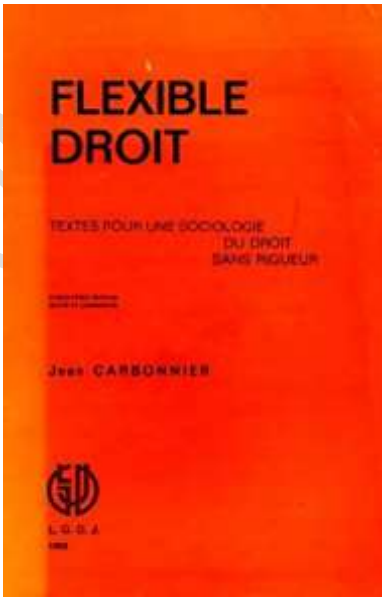
Online and video games[152] are taking over from casinos, but making them more accessible to all children and teenagers, whereas historical experience has led most democracies to ban minors from casinos in order to protect them. Digital casinos are frequented by billions of people: "*The hand-glove combination of technological addiction wasn't invented in the labs of Facebook. It was* ***conceived, tested and perfected with the greatest success*** *in* ***the video game industry - another milieu where addiction is recognized as an unlimited source of profit***." (ACS p.597) Building on the work of Natasha Dow Schüll, Shoshana Zuboff introduces her chapter 16 on "Life in the Hive" with a famous study (The World Unplugged, Feb. 26, 2011[153]) involving a thousand students from ten countries across five continents who were asked to go without social media for 24 hours and then interviewed by researchers. Their conclusions are indisputable: the students' perceptions and expressions after the experiment were addiction-like: "***I felt so lonely*** *[...].* ***I couldn't fall asleep without sharing with others, communicating with them****", recalled a young Chinese woman. "****The emptiness,****" moaned an Argentinian boy, "****I'm overwhelmed by the emptiness****." "****I felt like I was my own problem,****" mumbled a Ugandan teenager. And an American student plaintively added: "****I went straight into total panic mode****." These few lamentations are just a small extract from the study's chorus. It describes a variety of emotional disorders that can be quickly classified into six categories:* ***addiction, inability to***

[152] DUBASQUE Didier, "Chapter 3. Les écrans du quotidien: le virtuel provooque-t-il un apprentissage à l'addiction?", in: *Comprendre et maîtriser les excès de la société numérique*. sous la direction de DUBASQUE Didier, Presses de l'EHESP, 2019, p. 29-36: https://www-cairn-info.ezpaarse.univ-paris1.fr/comprendre-et-maitriser-les-exces-de-la-societe--9782810906994-page-29.htm
[153] See also: https://icmpa.umd.edu/portfolio/the-world-unplugged/

disconnect, boredom, confusion, distress and isolation. *The sudden disconnection from the network produced reactions in the students - cravings, depression, anxiety - that are found in the clinical diagnosis of addiction. In all countries, the vast majority of young people admitted they* ***couldn't live more than a day without the networks***. *Their anxiety was compounded by the Faustian pact with which we are all too familiar: they had discovered that almost all their daily needs in terms of organization, communication and information depended on their connected devices. "It had become impossible or at least difficult to meet friends; finding directions without an online map or more generally without access to the internet was problematic; and even when it came to organizing a simple evening at home, it became a real challenge." Worse still, the students found it simply impossible to imagine a social life, however informal, without social media and especially Facebook. (...) "They had difficulty expressing their feelings and even their personalities when they were unable to connect.* (Zuboff, ACS, p.591-592-594) An admirer of Jean-Paul Sartre, Shoshana Zuboff quotes the famous phrase: *"**Hell is other people**." There's nothing misanthropic here: it's more a matter of recognizing that the me-other balance can't really be achieved as long as the "others" are constantly "watching" you.*" (ACS p.626).

The advertising market is segmented, like any market, but many trend characteristics are common to these different segments. And the electoral segment, in particular, in the USA and in many other countries around the world, serves as a "Trojan Horse" for

surveillance capitalism to obtain the political authorizations it needs for its most lucrative purposes... which leads us to extend our analysis of the adaptations of the superstructure, to which a large part of this book is devoted, to another aspect.



Jean Carbonnier's "**non-droit**" in ***Flexible droit - Pour une sociologie du droit sans rigueur*, (1969**) is a classic concept in legal sociology for analyzing legal voids and understanding the law as composed of solids (written and therefore legible) and voids. The proportions of solids and voids can vary from one legal system to another. *Against dogmatic jurists who assume the continuity of objective law*," writes Jean Carbonnier, *"we must observe, within it, wide intervals of lawlessness. It is natural to attribute this phenomenon to antagonistic forces that are pushing the law backwards. But these forces are not always external to the law: they may reside in the law itself, or even better, in the will of the law itself. Taking this threefold distinction in reverse, we will successively encounter: 1° a non-right through the self-limitation of law; 2° a non-right through the self-neutralization of law; 3° a non-right through the resistance of fact to law.*"[154] The concept and typology have been discussed and, above all, supplemented since then. We can easily update them by evoking what has been at play for the last twenty years or so in the superstructure of surveillance and influence capitalism, both in the USA and in Europe: a certain inability or lack of political will on the part of States to legally regulate the

[154] Jean Carbonnier, *Flexible droit - Pour une sociologie du droit sans rigueur*, Paris: L.G.D.J. 2007 (10th ed.), p.28

conditions of economic activity of this new capitalism, allowing it to prosper in its spectacular financial gains far beyond what had been allowed, until 2001, to other capitalists of the industrial era. The General Terms of Use (GTU) of digital platforms, supposedly validated by users at the first "click" and reflecting their informed consent to the capture of their personal data, serves as an example for Zuboff to speak of "**decontract"**. The social mechanism of the classic commercial contract, which is supposed to be the basis of the exchange, no longer functions in this new context: GTCs are vaguely drafted to reduce the risks and constraints of platforms; legal recourse, particularly international, is in practice inaccessible to ordinary users; systems of social constraints (relational, economic, administrative...The Norwegian Consumer Council has carried out a comprehensive study[155] in this field, where consumer movements, associations and public institutions already play an essential role in many countries.

The issue of consent is not a new one: in 1947, after medical enlistment in totalitarian regimes, Article 1 of the ***Nuremberg Code*** required respect for patient autonomy and consent, with a high degree of morality, as Philippe Amiel observes: "*The voluntary consent of the human subject is absolutely essential. This means that the person concerned must have the legal capacity to consent; that he or she must be placed in a position to exercise free power of choice, without the intervention of any element of force, fraud, coercion, trickery, deception or other underhand forms of constraint or coercion; and that he or she*

[155] Norwegian Consumer Council. *Deceived by Design. How tech companies use dark patterns to discourage us from exercising our rights to privacy*. 2018, 44 p. : https://fil.forbrukerradet.no/wp-content/uploads/2018/06/2018-06-27-deceived-by-design-final.pdf

must have sufficient knowledge and understanding of what is involved, so as to enable him or her to make an informed decision. This last point requires that, before a positive decision is accepted by the subject of the experiment, he or she must be made aware of: the nature, duration and purpose of the experiment; the methods and means by which it will be conducted; any inconveniences and risks that can reasonably be envisaged; and the consequences for his or her health or person, which could possibly arise as a result of his or her participation in the experiment. The obligation and responsibility to assess the quality of consent lies with each person who initiates, directs or works on the experiment. This is a personal obligation and responsibility that cannot be delegated with impunity."[156] One might hope that doctors and humanitarian actors, for example, would align themselves with this level of morality as much as with the rules of international law, but this is not the case, the digital facilities of a certain "humanitarian technophilia"[157] benefit humanitarian work even when it is to the detriment of refugees[158] . This is **fundamentally the case with the widespread biometrization of refugees by UNHCR & subcontracted NGOs in humanitarian camps**[159] . Biometrization and data capture have become a condition of access to humanitarian aid, as the NGO *Human Right*

[156] AMIEL, Philippe, "Code de Nuremberg", in, *Des cobayes et des hommes : expérimentation sur l'être humain et justice*, Paris, Belles Lettres, 2011, http://descobayesetdeshommes.fr/Docs/NurembergTrad

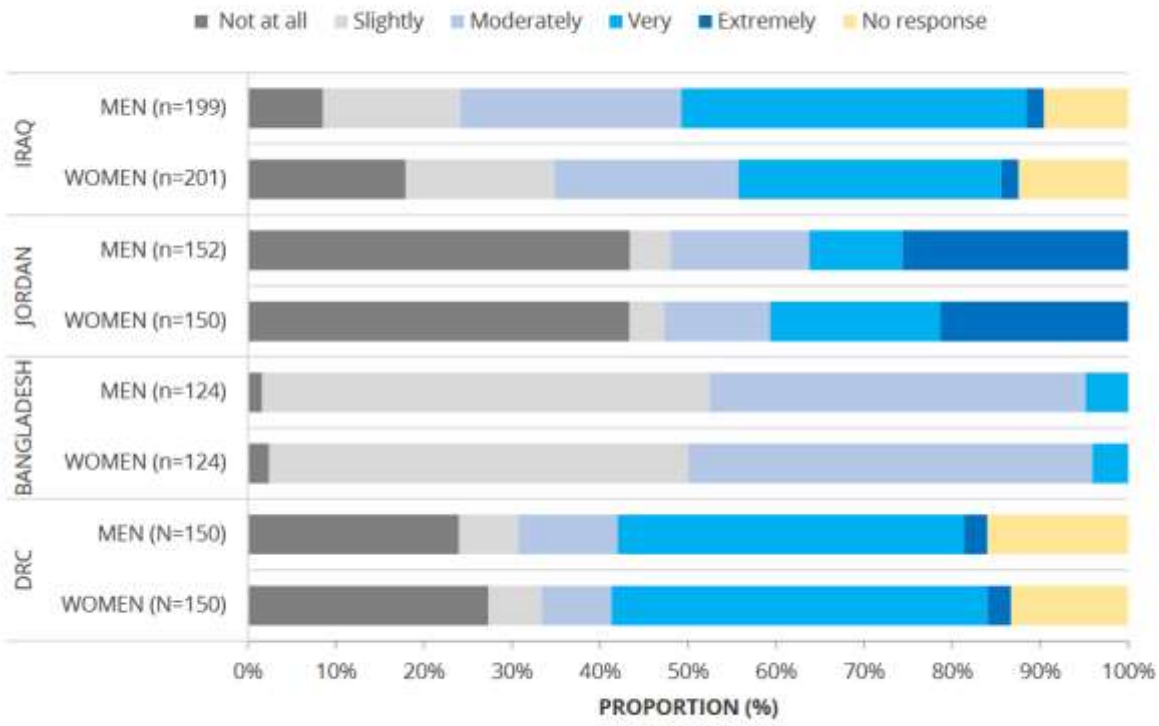
[157] SEUFERLING Philipp, LEURS Koen, "Histoires de la technophilie humanitaire. Comment les imaginaires des technologies médiatiques ont façonné les infrastructures de la migration", *Hommes & Migrations*, 2022/2 (n° 1337), pp. 67-77: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-hommes-et-migrations-2022-2-page-67.htm

[158] MACIAS Léa, " Usages expérimentaux des nouvelles technologies par l'action humanitaire : un data colonialisme ? ", *Hommes & Migrations*, 2022/2 (n° 1337), p. 11-19 : https://www.cairn.info/revue-hommes-et-migrations-2022-2-page-11.htm DELLA TORRE Laetitia, " Numérique humanitaire ", Communication au séminaire " Expérimentations numériques en Afrique au Moyen-Orient " (J.Valluy, Paris 1) 02 décembre 2022.

[159] PARAGI B., ALTAMIMI, A, "Caring control or controlling care? Double bind facilitated by biometrics between UNHCR and Syrian refugees in Jordan", *Society and Economy*, 44(2), 2022, 206-231. https://doi.org/10.1556/204.2021.00027; MACIAS Léa, "Entre contrôle et protection: ce que les technologies de l'information et de la communication font au camp de réfugiés", *Communications*, 2019/1 (n° 104), p. 107-117: https://www.cairn.info/revue-communications-2019-1-page-107.htm

Watch observes: "*One donor official said it was unlikely that the U.S. would fund full food rations until the issue of biometric data collection had been resolved*."[160] But the humanitarian harvesting of consent is biased: the people helped, for example, in Bangladesh, Iraq, Jordan and the Democratic Republic of Congo, admitted to a poor understanding of the issues and challenges of data protection, privacy and security[161] . Algorithmic data capture acts like a black box[162] .

Figure 18: Degree to which beneficiaries are informed about the type and amount of personal information that WFP holds on them



ADE, case studies surveys

[160] HRW, "Deadly Consequences - Obstruction of Aid in Yemen During Covid-19", HRW.org, September 14, 2020: https://www.hrw.org/sites/default/files/media_2020/09/yemen0920_web_3.pdf
[161] WFP, *Strategic Evaluation of WFP's Use of Technology in Constrainet Environments - Centralized Evaluation Report - Volume 1* (OEV/2020/002) January 2022, p.46 : https://docs.wfp.org/api/documents/WFP-0000136278/download/
[162] MASURE Anthony, "Resisting black boxes. Design et intelligences artificielles", *Cités* magazine, n°80, December 2019, https://www.anthonymasure.com/articles/2019-12-resister-boites-noires-design-intelligences-artificielles

According to article 1128 of the French Civil Code, "The ***following are necessary for the validity of a contract: 1. the consent of the parties; 2. their capacity to contract. 3. A lawful and certain content***". No "CGU" has ever fulfilled these conditions, not least because they have never described to the user the real purposes of data capture in "surveillance capitalism". The most recent research on "cookie" consent strips confirms this trend towards decontracting for all users[163] . In this new capitalism, "decontracting" leaves zones of legal vacuums, of "lawlessness", the origins of which classical theory shows to be diverse: systemic and involuntary (when legal norms contradict each other in the same regime, through ignorance of the contradictions) or political and intentional (for alternative or vacant norms that are voluntarily introduced by governments under pressure from lobbies). In these legal vacuums, new beliefs and other types of social norms can find their place by filling the gaps[164] .

The new superstructure is both a product of the changing - and therefore unstable - infrastructure, and a producer of "**escort discourse**", in the primary sense of escort, i.e. "*the action of escorting (sb., sth.) to protect,* to *watch over*", and in the secondary sense of "the *procession that accompanies a person to honor him or her*."[165] Here, we're talking about speeches designed to defend and honor the new economic system. This concept is

[163] ROSSI, Julien, Florian HEMONT. "Law, consent and "dark patterns". Étude de l'évolution des bandeaux cookies entre 2020 et 2021", April 3, 2023, Cahiers COSTECH number 6. http://www.costech.utc.fr/CahiersCOSTECH/spip.php?article156 and ROSSI, Julien ; HÉMONT, Florian. "Farces et attrapes du recueil de consentement sur le web" In: *Gouverner par les données? Pour une sociologie politique du numérique*. Lyon : ENS Éditions, 2023 : https://doi.org/10.4000/books.enseditions.44973.

[164] ALEXANDRE Olivier, COAVOUX Samuel, "Les influenceurs de la Silicon Valley. Entreprendre, promouvoir et guider la révolution numérique", *Sociologie*, 2021/2 (Vol. 12), p. 111-128 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-sociologie-2021-2-page-111.htm

[165] Sources: Le Robert - Dico en ligne: https://dictionnaire.lerobert.com/definition/escorte and Dictionnaire de l'Académie Français, 9ème edition: https://www.cnrtl.fr/definition/academie9/escorte

illustrated by the discourses of digital marketing specialists, merchants and academics, as well as by other types of discourse: expert, journalistic and political. The concept is a critical one, and when faced with this type of criticism, escorts, particularly academics, are quick to demand "names!", in an attempt to put the researcher in a difficult position if he or she is unwilling to criticize his or her colleagues, not least out of personal career interests. Unfortunately, this demand has become easy to satisfy, given the large number of escort speeches in research, which for over a century has depended massively on public money from user states and companies in the sector. Journalists are beginning to highlight this type of university dependence, which is the antithesis of the independence enshrined in the French Constitution, for example, by the Conseil Constitutionnel's jurisprudence on the "*Fundamental Principles Recognized by the Laws of the Republic*"[166] ; this principle is both a statutory protection for professors, for the benefit of students, and a deontological principle. "*Academics or lobbyists?*" asks *Le Monde*, in 2023, about two economists Nicolas Bouzou and Augustin Landier - the latter being an academic[167] - working under contract with Uber[168] . But it must also be acknowledged that the same newspaper was able in 2014 to present Danah Boyd's book "C'est compliqué", without the slightest questioning as to the problems

[166] In particular, in its decision on this principle for the two administrative bodies of higher education professors: "23. *Considering, secondly, that by virtue of the second paragraph of the same article, magistrates working on a temporary basis may not engage in any activity as a public official, with the exception of that of university professor or lecturer, whose independence is guaranteed by a principle of constitutional value*"; Decision no. 94-355 DC of January 10, 1995; https://www.conseil-constitutionnel.fr/decision/1995/94355DC.htm (this decision completes the recognition of the principle begun in part in an earlier decision of January 20, 1984 - decision no. 83-165 DC).

[167] Appointment decree in JORF n°0211 of September 11, 2010: https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000022809854

[168] SENECAT Adrien, "Universitaires ou lobbyistes? Des économistes rattrapés par leurs contrats avec Uber," *Le Monde*, April 13, 2023; https://www.lemonde.fr/les-decodeurs/article/2023/04/13/universitaires-ou-lobbyistes-des-economistes-rattrapes-par-leurs-contrats-avec-uber_6169390_4355770.html

of dependencies - in an article signed by the editorial staff[169] - with only the brief mention "*researcher at Microsoft Research*". To use Antonio Gramsci's concept, here is a GAFAM "organic intellectual" who has managed to pass herself off as both a youth activist and a top-flight scientist, welcomed with open arms in academic circles while producing a sociology perfectly suited to her employer's plundering of personal data. Trained at MIT, Dannah Boyd[170] had, however, when *Le Monde* published this article on March 12, 2014, already had a long career of collaboration at GAFAMs, notably Google (2004-2005), Yahoo (2006) before becoming, in 2009, a researcher in Microsoft's research division and then "Senior Researcher" (2010-2013): "***It's complicated: the social lives of networked teens*** *aims to explain to parents what their children are actually doing on the Internet, dismantling several fantasies and nuancing the risks most commonly mentioned by parents (cyber-addiction, loss of identity, disappearance of privacy, harassment, bad encounters...).* " (op. cit.). The editorial staff of *Le Monde* newspaper began to raise its collective skill level on May 19, 2014[171] , by creating the *Pixel* section around four themes: online life, video games, web cultures and benchmarking... reflecting a still essentially playful social perception of new technologies[172] . Danah Boyd will continue his career at Microsoft, becoming "Principal Researcher"

[169] Le Monde, "6 clés pour comprendre comment vivent les ados sur les réseaux sociaux", *Le Monde*, March 10, 2014: https://www.lemonde.fr/technologies/article/2014/03/10/6-cles-pour-comprendre-comment-vivent-les-ados-sur-les-reseaux-sociaux_4380123_651865.html

[170] Danah Boyd 's résumé as of April 18, 2021: https://www.danah.org/danahCV.pdf

[171] La lettre de l'Audiovisuel, "web: Le Monde to launch a new high-tech section", *La lettre de l'Audiovisuel*, May 13, 2014: https://www.lettreaudiovisuel.com/web-le-monde-va-lancer-une-nouvelle-rubrique-high-tech/

[172] In recent years, this section has done wonders in terms of in-depth investigation and critical thinking, but one sometimes wonders whether the other journalists in the same newspaper read the articles in the *Pixel* section... such is the inability to integrate digital and non-digital variables that still dominates this segment of the intellectual field, as it does in the academic field. Unfortunately, the digital sociology of intellectuals has yet to be fully explored.

(2013-2016) and finally "Partner Researcher" (2016-2023), and will have the luxury of lecturing the press - accusing it of being "manipulated" - on the use of polls during the 2016 American campaign, tens of millions of accounts of which we now know were manipulated by Facebook and Cambridge Analytica[173] . Here, then, is an author, a book and a press article that perfectly illustrate the concept of the "escort discourse" of surveillance and influence capitalism.

The new superstructure also produces new "**systemic ideologies**", to which we'll return (see § 4.3 below), corresponding to the messages of the new "medium"[174] . The discourses of "design" and the "discourses of escort" disseminate beliefs (e.g.: the inevitability of this transformation; the impossibility of regulating innovation by law; the overflow of States caught up in the rush; the virtues of "lawlessness"...) and social norms (e.g.: giving up one's privacy "in practice", more or less consciously, by disclosing one's personal data; preferring digital facilities to the difficulties of other learning; ignoring algorithmic rules and rejecting legal rules...). Beliefs and norms spread through processes of digitized political socialization that brutally affect the primary socialization of children, teenagers and young adults (known as "digital natives" or "Generation Z"), as well as a smaller proportion of older adults socialized in the pre-digital world.

These digital ideologies influence markets and cultures in two ways: 1) **commercial influence or direct influence, for** example to

[173] Cf.: BOYD Danah, "Call to the media: stop with the polls", November 9, 2016: https://cfeditions.com/boyd/9novembre/sondages/
[174] SMYRNAIOS Nikos, "L'idéologie cynique de la Silicon Valley", *Nectart*, 2023/1 (N° 16), p. 144-153 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-nectart-2023-1-page-144.htm

sell soaps using the "big data" captured by Facebook-Meta for example; 2) **systemic influence or indirect influence** of Facebook-Meta itself on global society, as revealed by **Frances Haugen**'s alert[175] , due to algorithmic configurations and automatic regulations designed not for the good of societies or the emancipation of individuals, but to maximize data capture for purposes other (selling soaps or other goods or services...) other than the apparent purposes of platforms (exchanging and interacting with others on games, videos, networks, markets, administrations...). Sinziana Ravini sums up this systemic influence: "*Yet the digital revolution of the 1990s, which promised the utopia of a global village where everyone would live happily ever after, with the establishment of the planetary network and new forms of communication, has only served to divide our societies a little further. Everyone now knows that Facebook and Twitter indirectly sold data to the Cambridge Analytica company that helped elect Donald Trump; that Facebook was instrumental in spreading hate speech against the Rohingyas in Myanmar, and that the company continues to host fake news timelines; that Twitter allows far-right sites like Infowars to use its platform; and that YouTube likes to favor conspiracy films that participate in an* increasingly *polarized world. The new culture of hatred and uncontrolled affect,*

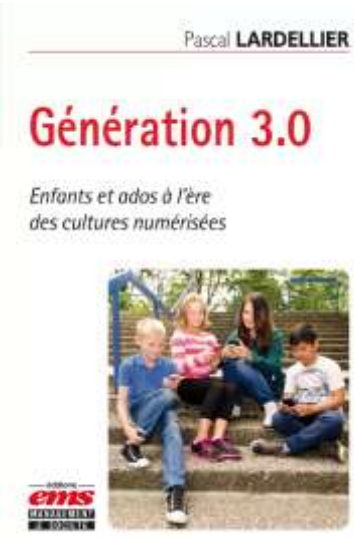
Frances HAUGEN, cadre à Facebook dénonce le cynisme de l'entreprise qui régule les désinformations en fonction de ses bénéfices... Source image : https://en.wikipedia.org/wiki/Frances_Haugen

[175] Vincent Matalon, "Facebook : comment la lanceuse d'alerte Frances Haugen a mis la f pied du mur", Franceinfo.fr, 30/10/2021 : https://www.francetvinfo.fr/internet/reseaux-sociaux/facebook/facebook-comment-la-lanceuse-d-alerte-frances-haugen-a-mis-la-firme-californienne-au-pied-du-mur_4824671.html

supported by social networks, is more than ever tearing apart our network societies."[176]

3.5 A new public, digital and youth space

One of the most important transformations of the superstructure is that of the relationship between surveillance and influence capitalism on the one hand, and age classes in the Internet-user population on the other. This opens up a particularly difficult field of scientific research and public debate, given the highly sensitive nature of what happens to young people, and the extent to which the public arena has been dominated over the last thirty years by escorting discourses extolling intensive infantile and adolescent uses of digital technologies. **Pascal Lardellier**, a specialist in the field for over twenty years, is well aware of the social reticence that is most common when it comes to tackling this area. In his book "***Génération 3.0 - Enfants et ados à l'ère des cultures numérisées***" (EMS ed. 2016), he devotes an entire chapter to politically "demining" his field of research: "Let *me make it clear that there is no moral qualification in what I say about young people and ICT. The question is not to say what is right or wrong, but what is. After angelism, denial of reality is one of the great sins of media and ministerial "Net-evangelists". And this debate is a*



[176] RAVINI Sinziana, "9. Le défi technologique", in: Les *psychonautes*. edited by RAVINI Sinziana. PUF, 2022, p. 179-197: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-psychonautes--9782130833390-page-179.htm

passionate one, all too often sending those who express doubts back to the reactionary camp."[177]

Without being able to develop here all the consequences of the digital turn on differentiations and relations between generations in the digital age, nor all the social science work on the myths relating to the famous "Generation Y"[178] , we will limit ourselves to the observation of the bypassing of civil majority and its first consequence: the spectacular and historically unprecedented growth in precociousness of age and lengthening of exposure to screens of generations born during the digital revolution, particularly minors (aged 0 to 18) and, by extension of habits, young adults who are the earliest connected and the most durably exposed to screens (in terms of daily or weekly time and number of years of exposure). But even within this limited framework of analysis, it should be remembered that all the phenomena or characteristics mentioned in this section correspond to statistical trends, often statistical averages, which never mean "all minors do this or that...". Incorporating the trendy results of research on "minors" or "children" or "adolescents" or "young adults" into our worldview never justifies essentializing any particular statistical or analytical category. Exposure times to screens vary from one person to the next, in each category, according to multiple variables: the level of parental or family income, which is important in early access to equipment purchases (computers,

[177] LARDELLIER Pascal, "Les jeunes, internet et la société (de demain)", in: *Génération 3.0. Enfants et ados à l'ère des cultures numérisées*, edited by LARDELLIER Pascal. Caen, EMS Editions, 2016, p. 14-51: https://www-cairn-info.ezpaarse.univ-paris1.fr/generation-3-0--9782847698367-page-14.htm

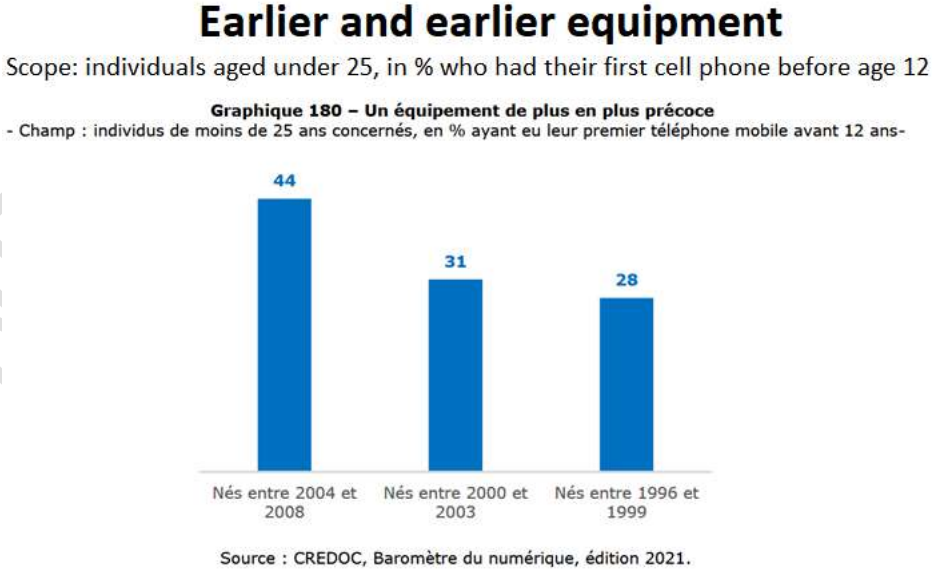
[178] LARDELLIER Pascal, ""Y" and digital natives, false concepts and true slogans. Une lecture critique de deux " ressources sûres " de la doxa numérique ", *Hermès*, 2017/2 (n° 78), p. 151-158 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-hermes-la-revue-2017-2-page-151.htm

consoles, smartphones, tablets, televisions...); the year of first connection and its chronological position in the history of computing-digital (discovering digital in 1995 is not the same experience as in 2015); the age of this first connection; the average time (daily, weekly, etc.) of exposure to screens; the average age of the first connection; the average time of exposure to screens; the average age of the first connection; the average age of the first connection.) of exposure to screens; the number of years of exposure, taking into account annual variations in exposure times since the first connection; social support or, on the contrary, individual isolation in the relationship to screens; educational cultures vis-à-vis new media, which vary according to country, social class, socio-professional sector, etc.

With these precautions in mind, it's time to take a look at the major trends associated with digital turning points, the most important of which is probably the following: since the first digital turning point in 1995, especially in the USA and Western countries, digital platforms have developed without any attempt to - or perhaps any ability to - differentiate users according to age. As a result, the legal age of majority, set at 18 or over in almost every country in the world (except Saudi Arabia: 15; North Korea: 17; Kyrgyzstan: 16; Nepal: 16; Uzbekistan: 16; Tajikistan: 17; Turkmenistan: 16; Yemen: 15), is not respected in the contractual relationship established between the Internet user and a platform. And because of this "decontract", minors have massive access to social interactions to which they did not have access before the digital revolution. Non-compliance concerns not only the consent given by a minor to the capture of his or her personal

data via cookies, but also all contracts and legal acts (selling, buying, etc.) carried out within the framework of this relationship.

The prohibitions linked to this legal age are designed to protect minors in their relations with the rest of society, by making their parents responsible for what their children do. Minors are considered too unfit or unskilled, given their years of training and experience, not to fall easily and often victim to relationships contracted with adults. Minors are also considered irresponsible, lacking the necessary and sufficient training time to learn the rules that organize a society, and their faults are generally imputed to their parents. In certain areas, such as drugs, gambling, sexuality and various addictions, many countries have imposed absolute bans, regardless of parental opinion.



Contrary to these rules, the capitalism of surveillance and influence massively enrols minors in a digital public space oriented by the economic ends of platforms, and in particular the main one: "commodification"[179] . This enrolment is made possible by the economic regime of indirect financing, through the capture and

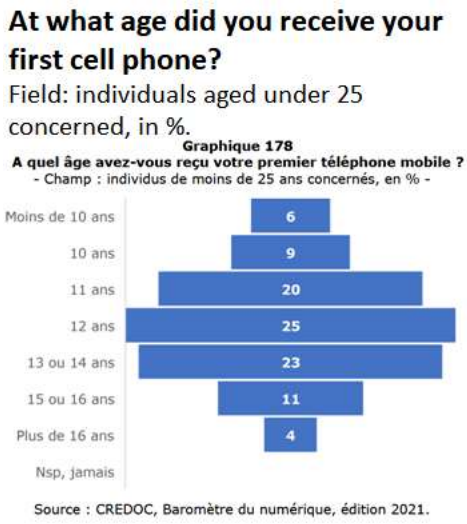
[179] GODEFROY Joseph, "Des influenceurs sous influence? La mobilisation économique des usagers d'Instagram", *Travail et emploi*, 2021/1-2 (No. 164-165), pp. 59-83: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-travail-et-emploi-2021-1-page-59.htm

monetization of personal data, of market goods and services: it enables minors to access systems that would have been inaccessible to them under the previous pay-per-use system (through purchases or subscriptions).

This enlistment of minors is part of the logic of data accumulation and wealth of surveillance and influence capitalism. Two long-term processes make the very young a priority target: 1) on the surveillance side: data capture from the very first days of life (health data in particular) ensures a longitudinal accumulation of data, for each individual, throughout his or her life. This considerably improves the quality of the corpus of data accumulated on each individual, and the potential for A.I. to detect correlations with commercial or electoral projects. This, in turn, improves the possibilities of monetizing the reprocessing of this data. Younger people are thus more valuable than older ones to surveillance and influence capitalism. 2) on the influence side: the commercial and electoral influence sought by manipulating the flow of information surrounding each individual through "artificial intelligence" is essential to the system: it is the superiority of individualized advertising over collective advertising that has enabled GAFAM to seize the global advertising market. Yet this influence is much easier to exert on individuals trained from an early age to live with and depend on digital platforms, i.e., accustomed to not being able to do without them.

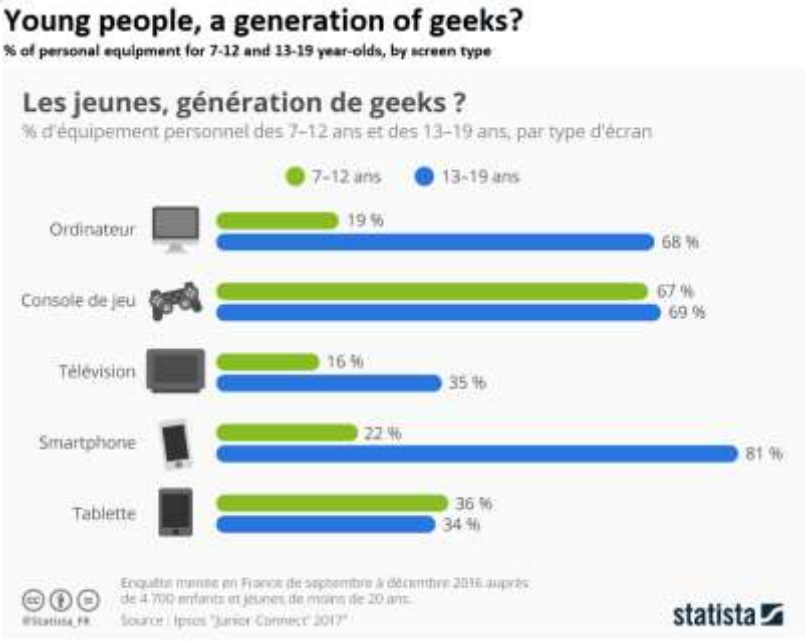
Based on studies focusing mainly on the American population (but checking the statistics with studies on France, England, Norway and Australia), **Michel Desmurget** in his book "**La fabrique du crétin digital - Les dangers des écrans pour les enfants**" (Seuil, 2019) distinguishes three periods of childhood from the point of view of the social uses of digital and above all children's exposure times to screens whether personal (smartphone, TV in the bedroom, games console...) or family screens (TV in the living room, shared tablet, shared computer...). He adds a fourth period, that of young adults (18-24), who continue the habits acquired in the three childhood periods. I'll be retaining these breakdowns and supplementing Mr. Desmurget's analyses with statistical graphs, notably from CREDOC and STATISTA, which confirm the American trends for France.

► **Impregnation (0-8 years)**: for a decade now, American children under the age of 2 have been exposed to screens for 50 minutes a day, representing 10% of their waking time and 15% of their free time (after deducting constrained time: eating, dressing, etc.), and most of the time (85%) without active adult supervision. These are statistical averages, which leave room for wide variations in time spent with different socio-cultural backgrounds, and which increase not only with age up to 8, but also with the ever-increasing number of mobile screens in children's hands. Between the ages of 2 and 4,



children are exposed to screens for 2 hours 45 minutes a day, rising to 3 hours a day by the age of 8. Growth has been particularly rapid in recent years. Most of this time (70%) is spent absorbing audiovisual productions (TV, videos, DVDs) and the rest on video games. A recent study in France carried out by INSERM and INED over the period 2014 / 2017 confirms these trends, particularly in early childhood: in France, the average is 56 minutes at age 2, 1h20 at age 3 and a half, and 1h34 at age 5 and a half[180] .

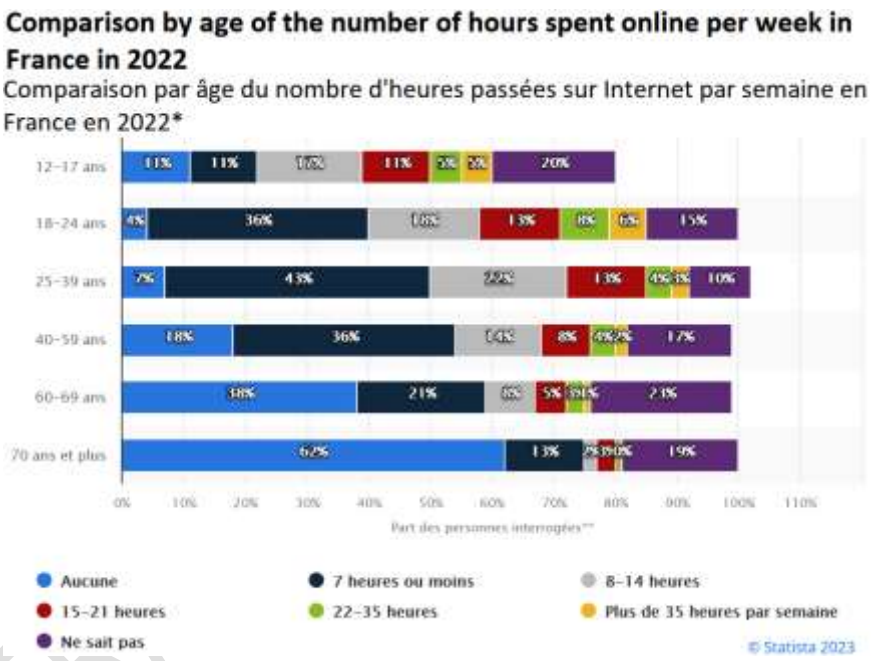
►**Amplification (8-12 years)** - The growth in exposure times continues with age to stand at 4h40 for 8-12 year olds, representing a third of their waking time, with 53% of these tweens having their own tablet, 47% a TV in their room, 22% a video game console, 42% a personal gaming terminal, 24% a smartphone. Their screen time is divided between audiovisual productions (2h30), video games, which are increasing in proportion (1h20), and social networks, which are making their appearance (20 minutes), as well as web browsing (10 minutes)... and only 20 minutes for creative activities (making graphics, videos, blogging...). Again, these are averages, with



[180] Inserm, "Children's screen time: a survey of the French situation", Apr 12, 2023: https://presse.inserm.fr/cest-dans-lair/temps-decran-chez-les-enfants-enquete-sur-la-situation-francaise/ ;

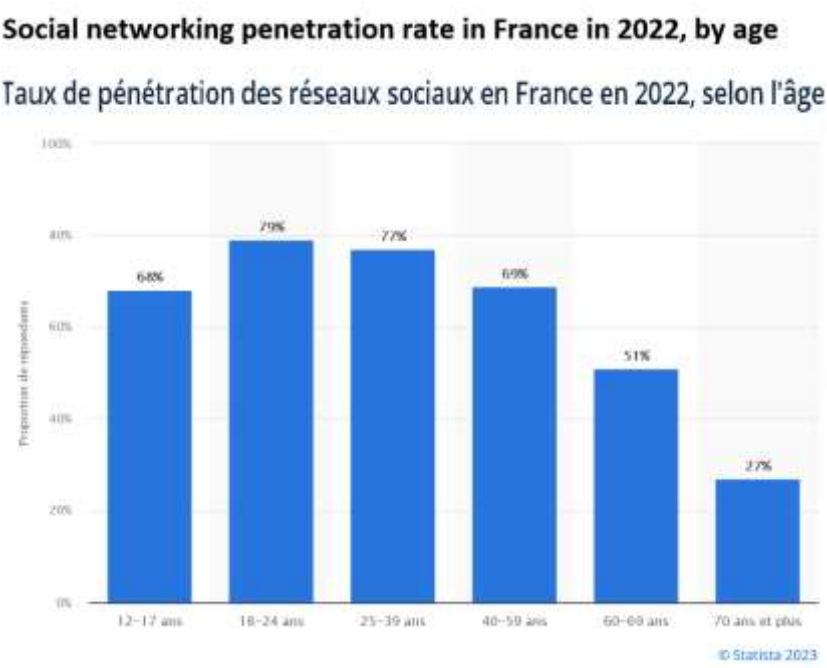
variations according to social background, age, gender and other incidental variables.

►**Submersion (13-18 years)** - Daily digital consumption reaches 6h40 per day in cumulative values, equivalent to a quarter of a day, between the ages of 13 and 18. Audiovisual productions occupy 2h40 of this average time, video games 1h20, but social networks rise to 1h30 and web browsing to 40 minutes. Twelve studies cited by M.Desmurget, relating to children aged 13 and under, show that "*when parents (and children in some of these studies) are informed of the harmful influences and when, on this basis, they are proposed the implementation of precise restrictive rules (maximum weekly or daily duration, no screens in the bedroom, no screens in the morning before school, no TV on when no one is watching, etc.), the level of consumption drops substantially; on average by half*" (p.228), proving that there's nothing inevitable about exposure time.



► **Extension (18-24 years)** - M.Desmurget deals mainly with children as regards exposure times, but also looks at students as regards correlations between screen exposure time and academic results. After presenting a particularly interesting study showing the weakening of written comprehension, oral comprehension

and mathematical comprehension skills as a result of time spent by teenagers in video games, he presents another study that confirms the findings with regard to students, recording a 10% drop in academic performance for students cohabiting with another student who owns a games console. As in the case of children's schoolwork, it's university revision time that is directly affected by the increase in video game time. Smartphones, which become more widespread with age, are particularly destructive: the more time teenagers and students devote to their smartphones, the more their academic results decline. Academic consumption is drowned out by distractions and games... even during class! Citing the Université Lyon-3 in 2018 in an article in the newspaper *Le Figaro*, M.Desmurget highlights a revealing student practice: "*We* [Université Lyon-3 to its students] have *been noticing significant saturation on the Wifi network for some time. A closer analysis of the flows shows that the bandwidth is used massively for external applications such as Facebook, Netflix, Snapchat, YouTube or Instagram, and very marginally for university resources*". Studies are multiplying showing that students connected during lectures spend a considerable proportion of their online time on distracting activities, and that this immediately translates into lower levels of

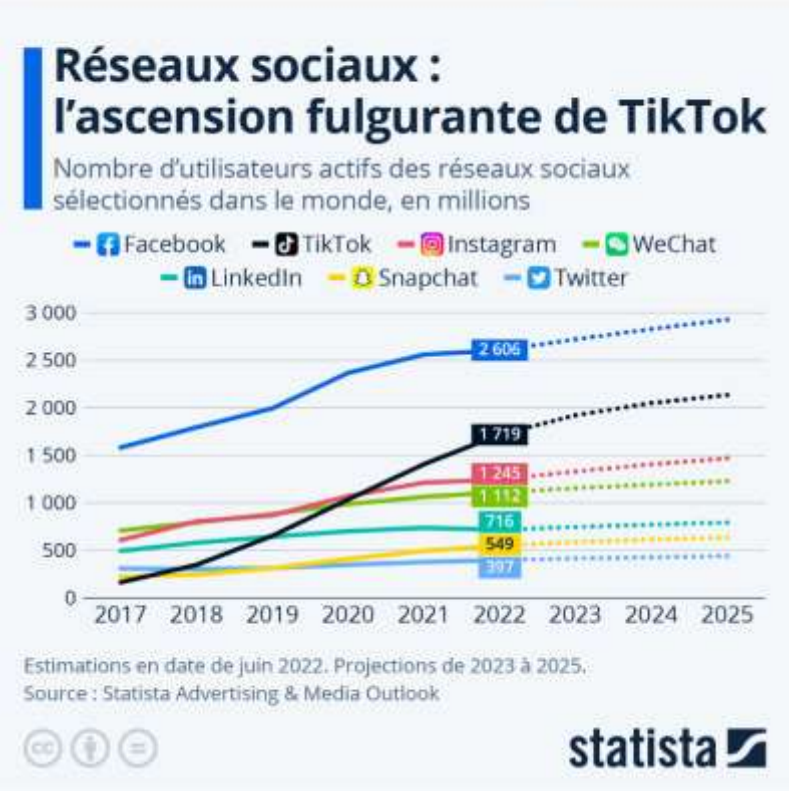


understanding and memorization of lectures. Even simple SMS exchanges during lessons have a direct impact on test results in these studies. As for social networks, penetration rates by age group confirm a generational tropism up to the age of 24.

This screen time comes at the expense of other activities that are much more conducive to children's intellectual development and mental stability. With M.Desmurget, we can speak of "**time stolen**" **from sleep, schoolwork, intra-family interactions, verbal interactions with friends, cultural outings, reading, music, drawing, sports...** These are also times of parental abandonment, as the proportions of children exposed to screens with adult supervision are marginal. Worse still, these times of exposure increase when parents are themselves heavy screen users: they involve their children in shared screen time, but the children tend above all to imitate their parents and suffer the pro-screen discourses of parents who are heavy screen users. Over the last ten years, and particularly over the last five years, this screen time has grown steadily year on year.

Social networks: the meteoric rise of Tiktok

Number of active users of selected social networks worldwide, in millions



The impact on children is considerable at an age when the brain is in its initial formation: "*the first years of*

life are fundamental in terms of learning and cerebral maturation (...) We can imagine the brain as a kind of modeling clay, whose texture gradually hardens over the years." (p.214) **The detrimental impacts that appear in studies are considerable on intra-family relationships, school success, obesity, sleep, cardiovascular system development and life expectancy**. The downgrading of school results due to this exposure time, as much as to the "**time stolen" from** other activities, forms the major contemporary trend: "regardless of sex, age, background and/or analysis protocols, the **duration of consumption is shown to be negatively associated with academic performance**" (p.246). M. Desmurget multiplies the presentations of converging studies that reveal correlations between screen time and poor academic performance. The variations between individuals and cohorts, depending on their exposure time, are very marked in fundamental learning (reading, writing, arithmetic...), which has a lasting impact on other learning abilities.

Numerous serious scientific studies, presented by M.Desmurget, have shown the multiple impacts on children's development in terms of health and intelligence:

● M.Desmurget underlines these impacts on health (p.335 to 383), firstly on **sleep**: "*screens have a major impact on sleep, which is an essential, not to say vital, pillar of development. Yet sleep is an essential, not to say vital, pillar of development*"; then on **physical activity**: "*screens greatly increase the degree of sedentariness while significantly reducing the level of physical activity*" and so-called **"health-risk"** content increasing the risks of smoking, alcoholism, junk food...

● The **reduction in human interactions** weighs heavily on the development of intelligence, particularly those between parents and children: "*The more time a child spends with his or her smartphone, TV, computer, tablet or games console, the more intra-family exchanges deteriorate in quantity and quality. Similarly, the more Mom and Dad immerse themselves in digital meanderings, the less available they are*." (p.332) And yet, for intellectual development, the cognitive contributions of screens - even with so-called "educational" productions - are negative or insignificant, unlike human interaction. In particular, the "video deficit" comes into play in edutainment productions: "*the human brain proves, whatever its age, to be far less sensitive to a video representation than to an actual human presence*." All the studies confirm this, but it can also be verified by going to the theater to watch a play, rather than watching the same play on TV. "*The child learns, understands, uses and retains the information presented better when it is delivered by a human than by a video*" (p.293), which is subject to inferior comprehension and memorization. What's more, the increasing amount of time children are exposed to screens is reducing the amount of time available for interaction, not only between parents and children, but also between children themselves.

● Another impact concerns **language**: *"In this area, the action of screens operates along two complementary axes. Firstly, by altering the volume and quality of early verbal exchanges. Secondly, by hindering entry into the written word*. (p.333) Vocabulary acquisition is an essential element in the general development of intelligence, and the generational gaps become

measurable when we observe that today's children are unable to read the "Pink Library" type works that previous generations were able to read, unless they rewrite the same works by simplifying their vocabulary. The earlier and longer children are exposed to screens, the greater their language deficits. The same is true of "verbal IQ" (tasks with language components in IQ tests), which declines in correlation with increasing exposure to screens. Unlike parents and friends, screens don't respond to children when they don't understand a word, and they don't adapt to children when their concentration is diverted. The studies presented by M.Desmurget can be summarized as follows: the more screens there are, the less discussion there is, and the fewer words children learn, with discrepancies of up to 85% in some experimental results. Beyond verbal interaction, reading time is essential to language learning, and here, unsurprisingly, reading time plummets in proportion to screen time, both for reading shared with parents and for solitary reading. Screens and their algorithms lead children to read badly: very short readings, often reduced to sociable interactions on platforms, interactions of the chat / sms / twitts type... It's the time spent reading long, complex texts requiring concentration skills that is collapsing.

● Screens reduce the ability to **concentrate**. - *Contrary to popular belief, when it comes to attention, video games are just as harmful as television and mobile media. For example, a meta-analysis based on 45 studies identified a positive correlation between consumption of recreational screens (video games and/or television) and attentional deficits. This relationship has a strength comparable to that observed between IQ and school performance,*

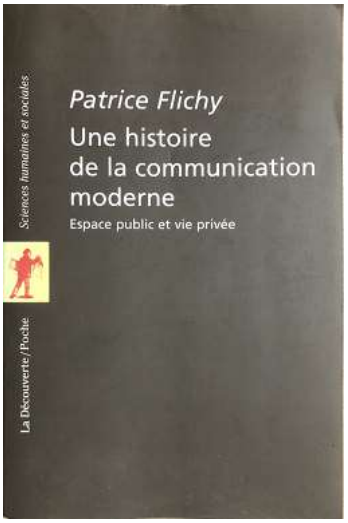
or alternatively between smoking and lung cancer." (p.317) The digital environment accustoms users to a kind of generalized, systemic, intense and continuous "zapping", with interruptions to concentration coming from all sides (notifications, hypertext links, advertising, etc.). Yet "*the human brain is perfectly incapable of doing two things at once without losing precision, accuracy and productivity*" (p.326), showing, with studies to back it up, that multitasking is processed sequentially in our brains, not in parallel. In particular, Mr. Desmurget refers to "*the growing number of studies showing that multitasking behaviors associated with the incessant solicitations of the digital world (especially social networks) anchor cognitive inattention and impulsivity at the heart not only of our behavioral habits, but also, more intimately, of our brain functioning*." (p.329)

As Michel Desmurget points out, "*many people seem to confuse (some deliberately) learning 'about' digital technology with learning 'through' digital technology*"[181] . It's a widespread confusion over the last few decades to see digital technology as a set of tools, instruments and applications to be understood and used, each as they see fit. It's only in the last few years that we've become aware of the extent to which the digital transformations of the societies most affected go far beyond simply equipping individuals with technological tools, and immerse them from childhood onwards in a new "socialization environment" where learning is both difficult to identify, and not in the interests of young learners, not to increase their capacity for autonomy as

[181] DESMURGET Michel, *La fabrique du crétin digital - Les dangers des écrans pour nos enfants* (2019), Seuil 2020, p.260.

future adults, but on the contrary to lead them to accept a form of behavioral subjugation in the service of the financial profits of the owners & employees of digital platforms. employees of digital platforms. In this way, the capitalism of surveillance and influence has enlisted minors. And in the history of mankind, situations or systems of political enlistment of children rarely correspond to positive experiences.

3.6 Individualization, personalization and "balkanization" of public space



The individualization of the reception of communication flows corresponds to a long-standing anthropological trend, dating back several centuries. In "***Une histoire de la communication moderne - Espace public et vie privée***" (**1997**), **Patrice Flichy** tells us that this individualization of reception can be observed in all media prior to computers: telegraph, photography, phonograph, telephone, radio, cinema, television, computers... The "last collective spectacle"[182] , Patrice Flichy points out, was silent cinema: Typically, when the transition from silent to talking films took place, spectators no longer chatted in cinemas, which led to an individualization of reception, reducing the pooling of perceptions of the film to a few quick post-screening discussions. This individualization, which the author describes over several centuries of media history, continues with the societal expansion of private computing (1958-1995): with the

[182] Ibid, op. cit. p.215.

arrival of large computers in companies, "terminals" in offices become important to make the investment profitable, and provoke an individualization of uses. Minicomputers" and then "transportables" continued the trend. Then came the individualization of uses linked to "*Personal Computers" (*PCs), from 1978 onwards (Apple II), followed by portable "micro-computers". Finally, the widespread use of "smartphones" in the 2000s seems to push this logic to the ultimate point of individualization of all instruments (telegraph, photography, phonograph, telephone, radio, cinema, television, computers...This ushers in the era of what Patrice Flichy, in a pioneering article in 2004, called "connected individualism", which reconfigures the private sphere, especially the family, and the professional sphere, towards ways of living "separately together"[183] .

But, in reality, the societal expansion of the smartphone in the context of surveillance and influence capitalism produces much more than individualization: it produces a **personalization of reception**. With the advent of talking pictures, viewers stopped discussing the film in the cinema, which effectively reduced the pooling of their experience, but they were still watching the same film. This is no longer the case on a smartphone. Schematically, they no longer watch the same film, but each one watches one of those suggested to them by "artificial intelligence" based on their personal data, such as a digital platform like Netflix. We thus move from individualizing reception to personalizing it, even if the

[183] FLICHY Patrice, "L'individualisme connecté entre la technique numérique et la société", *Réseaux*, 2004/2 (no 124), p. 17-51 : https://www.cairn.info/revue-reseaux1-2004-2-page-17.htm

corpus suggested by notifications to each and every one partly overlaps. And this personalization of communication flows concerns all the media now concentrated in the smartphone: games, music, films, photos, articles... If personalization is indeed a form of individualization, it is an extreme form that isolates individuals from each other and dissolves the shared family, professional, political, cultural and entertainment worlds in which they previously lived. Romain Badouard illustrates the phenomenon with the example of Eli Pariser, inventor of the "filter bubble" concept[184] : "*If two politically opposed people, one on the right and interested in economic issues, the other on the left and sensitive to environmental issues, launch a Google search about the British Petroleum (BP) company, they will receive radically different answers. The person on the right will be offered investment opportunities in the company, while the person on the left will get content relating to an oil spill in which BP was involved.*"[185]

This historic step towards personalization is made possible by the accumulation of personal data, on the one hand, and the automated management by "artificial intelligences" of the communication flows that surround each individual, on the other. Platforms capture and reassociate personal data so numerous, so diverse, so intimate and so precise about each and every one of us that they can, in a matter of seconds, select messages for us that are relevant and send them to us at just the right moment to incite us to think and act in a particular direction (buying action or

[184] PARISER Eli, *The Filter Bubble: What the internet Is Hiding from You*. Viking/Penguin *Press*, 2011, 294 p.
[185] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p.34-35.

voting action). We experience this every day in the face of advertising notifications that are always interesting, even relevant, to our searches on platforms, but the "walls" and "feeds" of social networks proceed from the same logic. Romain Badouard creates the concept of "**internal propaganda**", to which he dedicates the second chapter of his book: "What *we're seeing today is ideological confinement on the scale of individuals, rather than social or political groups. This generalized personalization of information produces a form of insidious propaganda, which is a new feature of online debate*."[186] Indeed, we lose sight of the fact that these individualized ads are different from those of our neighbors, because we can't see theirs: that's the difference between collective ads that could be seen collectively and thus criticized and kept at a distance, and individualized ads that can no longer be, making the system opaque and easy to manipulate. This considerably reinforces the internal character of this propaganda, whether commercial or political: "*It is internal, which makes it even more vicious, because the condition of externality of propaganda was what allowed it to be distanced and criticized. It reinforces certainties and disqualifies anything that might challenge them. It's painless, invisible and diffuse, but highly effective in influencing the perception of events*."[187]

This internal propaganda is all the more difficult to combat as its content varies from one person to another, and also from one digital platform to another. The filtering bubbles produced, for example, by Google's algorithm and Facebook's are not of the

[186] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p. 21.
[187] *Ibid*, op. cit. p.39.

same kind: ● **Google bubbles**: "*Since its invention in 1999, it is said to have undergone dozens, if not hundreds, of major modifications. In 2010, Google introduced a logic of personalization into its SEO*."[188] . The logic is simple to understand: when a web surfer is looking for an open library, he or she prefers to know which ones are open in his or her neighborhood rather than on the other side of the world. But this logic needs to be extrapolated to all the personal data that Google has captured from our previous queries over the years. "*By suggesting results to Internet users in line with their past searches, Google would lock them into closed cognitive spaces where they would only be made aware of content that would confirm their positions. The engine would thus become a tool for confirmation rather than information*[11] ."[189] ● **Facebook Bubbles**: the EdgeRand algorithm(s), often modified by Facebook to rank information displayed on walls, for example, obeys a different proximity principle to Google's: "*the information that arrives first is the one that has been shared by the contacts we are closest to*"[190] . This produces a selection process that also leads to ideological confinement, by reducing the flow of relevant information to the narrow perimeter of the contacts with whom Internet users have the most frequent or most rewarding interactions ("like" button): "*A user with two hundred friends would only be likely to see*

[188] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p.32.
[189] Ibid, op. cit. p. 33 - Note 11: Guillaume Sire, "Cinq questions auxquelles Google n'aura jamais fini de répondre", Hermès, n°73, 2015, p.201-208.
[190] Ibid, op. cit. p.35.

information published by forty of them, the ones he or she is closest to."[191]

Extreme personalization thus locks us into the "bubble of our convictions and preferences"[192] by reflecting back to us what looks like what we already like. This produces a "*privatization of the structures of common space*"[193] and a "balkanization" of public space,[194] but also a strengthening of personal convictions and preferences and a self-confidence in individual political expression... but at the cost of a loss of intellectual openness to the complexity of the social world, to taking into account the legitimately different positions of others, to the diversity of points of view - at the cost of a loss of understanding of situations and the issues at stake, and a loss of the ability to integrate into an organized collective movement. Far from opening up new spaces for discussion, social media are melting them away in favor of individualizing and deceptive digital communications - they make people believe there is a discussion, when there is only a juxtaposition of individual reactions with no collective co-construction - whose sole purpose is to get people to express their preferences in order to capture and manipulate their personal data.

[191] Ibid, op. cit. p.36.
[192] Arnaud CLAES, Victor WIARD, Heidi MERCENIER, Thibault PHILIPPETTE, Marie DUFRASNE, Arnaud BROWET and Raphaël JUNGERS, "Algorithmes de recommandation et culture technique : penser le dialogue entre éducation et design", *tic&société*, Vol. 15, n°1, 1er semestre 2021,: http://journals.openedition.org/ticetsociete/5915
[193] FORESTIER Florian, FIODIèRE Chloé, "Réseaux sociaux entre démocratie et régimes autoritaires", *Cités*, 2023/1 (N° 93), p. 65-77: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-cites-2023-1-page-65.htm
[194] FLICHY Patrice, " internet, un outil de démocratie ", *La Vie des Idées*, janvier 2008 : https://laviedesidees.fr/internet-un-outil-de-la-democratie

4. The information blackout from 2001 to 2011/2013: a conspiracy?

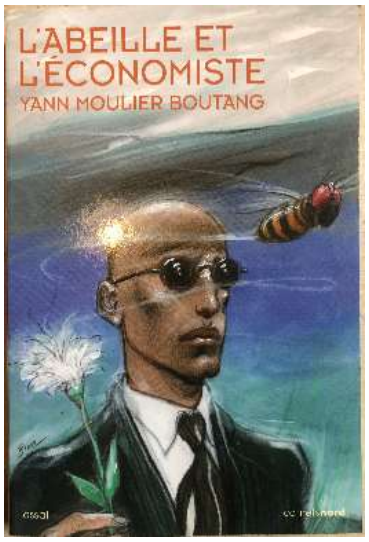
▲ ▼

At this point, one question becomes central: ***how, particularly between 2001 and 2011/2013, could the American and European populations (with their precociously high equipment rates) and more specifically, among them, journalists, elected officials, senior civil servants and intellectuals, have been unaware of the scale of the infrastructural transformation for so long?*** Comparing the last four decades of the 20ème century, marked by social mobilizations in favor of privacy protection (cf. § 2.2 above), with the first two decades of the 21ème century, characterized on the contrary by widespread amnesia about this fundamental freedom, Zuboff speaks of a **"numbness of the mind"** or "***psychic numbness"*** *that makes us insensitive to the fact of being geolocated, analyzed, exploited and modified. This predisposes us to rationalize the situation with resigned cynicism, to invent excuses that function as defense mechanisms ("I've got nothing to hide") or to find other ways of burying our heads in the sand, choosing ignorance out of frustration and impotence. In this sense, surveillance capitalism imposes a fundamentally illegitimate choice that individuals in the 21st[e] century should not have to make, and* ***its normalization leaves us singing in our chains***." (ACS p.29). We could also speak of **"alienation"** (Marx), since the intellectual (de)formation of Internet users aims to make them accept their own "**exploitation**" (Marx), that of their private lives stolen and monetized, without the monetary value accruing to the real owner: the traced individual. But between Zuboff's notion and Marx's concept, there is a divergence of values, both ethical

and political, linked to the possible solutions: in the wake of German courts which, after the historical experiences of Nazism, link "privacy" to "human dignity", Zuboff rejects any financial solution that would involve paying people for the capture of their personal data.

4.1 A profound and discreet infrastructural transformation

2001 ► 2011/2013 The "**numbing of the mind**" is analyzed throughout the book, but especially in Chapter 4 of "The Age of Surveillance Capitalism", entitled "***Moats around the Castle***" in which Zuboff analyzes in detail a set of converging factors, political circumstances and action strategies: the weight of neoliberal ideology, a shareholding structure enabling a few founders to dominate boards of directors, the claims of these founders for legal loopholes, permissive state regulations, the pressing interest of states in emerging "behavioral surplus" analysis capabilities after the terrorist attacks of September 2001, intense collaborations between companies and secret police used precisely to maintaining secrecy, according to a professional habitus formed long before the digital turn[195] . In 2010, **Yann Moulier Boutang,** in his book ***L'abeille et l'économiste (The bee and the economist),*** was already making this point: "Today, *we realize that the most economically successful model is based on secrecy. Its name is Google. The secret of Google's*



[195] BONELLI Laurent, RAGAZZI Francesco, "Low-tech security: Files, notes, and memos as technologies of anticipation", *Security Dialogue*, 2014, vol.45(5), p.476-493 : https://www.jstor.org/stable/26292283

economic success lies not in a patent, nor in copyright, nor in a trademark, but in the combination of algorithmic secrecy and gratuitousness, in the invention of a free service, whereby users reveal themselves, thanks to data mining algorithms, to be suppliers of information that will be sold to economic players." (p.145). In 2023, there is much more information available, and we can say that some of it is part of an objectified conspiracy characterizing the "NSA & GAFAM System" with regard to American citizens and the rest of the world. Moulier Boutang and Zuboff's analysis could have been suspected of being "conspiratorial" before 2013. But the "BRICS cable" project of 2012 and the Snowden revelations of 2013 had the effect of objectifying the conspiracy. From then on, it's the criticisms of conspiracism that become escort speeches for the capitalism of surveillance and influence.

Other cognitive obstacles appear in the accelerations of history, which are so many complexifications and opacities in Elias's sense, and which have contributed to making the world temporarily illegible: ● **2001** as an American cultural trauma creates a political consensus for security at the expense of freedom of private life, a consensus that includes the Bush administration, but also the election campaign and the decisions of the first Obama administration, and imposes an informational blackout on the economic and policing transformations underway. ● **2011** can be remembered as the date when smartphone equipment rates worldwide reached levels that transformed the internet into an unprecedented phenomenon of billions of connected individuals expressing themselves individually in the public space without

depending on the usual intermediaries (press, parties, institutions...) and blurring the grids of analysis of communicational, journalistic, political phenomena; the change in scale characterizes the new "medium" (Mac Luhan) and the "Arab Spring" revolutions illustrate its power[196] . ● **2020** is to be added to the great cognitive ruptures, the Covid-19 pandemic exploding the social uses of digital communications[197] and by the same token the capture of personal data, hence the size of the world's largest databases, which have become essential to the training of "Artificial Intelligences" notably at Google and Microsoft and to the electoral manipulation strategies implemented on the Brexit campaigns in the UK in 2016 and Trump in the USA in 2017. ● **2022** adds a cognitive rupture, with the Russian invasion of Ukraine opening up a new "Cold War" pitting the bloc of wealthy Western countries behind the USA against mainly China, allied to Russia, more secondary in the digital economy, but hosting Chinese *data-centers.* Europe is reluctant to cut off trade with China. Africa and India are seeking their respective positions... but all are subject to new constraints: **the personal data of individuals (soldiers, journalists, ministers, etc.) is becoming potentially strategic information** in this conflict. The Ukrainian bombardment of several dozen or hundreds of Russian soldiers in Makiivak on January 2, 2023 was made possible by the (American? Ukrainian?) capture of personal data, particularly geolocation data, following the use of their smartphones by these recently arrived soldiers to

[196] TAIBI Afaf, Anna LEZON RIVIERE and Madjid IHADJADENE, "Les pratiques info-communicationnelles de la diaspora rifaine sur les réseaux socionumériques en situation de crise sociopolitique", *Terminal*, 127 | 2020 : http://journals.openedition.org/terminal/5852

[197] Dominique Desbois, "Technologies biométriques et libertés individuelles à l'épreuve de la crise sanitaire", *Terminal*, 127 | 2020: http://journals.openedition.org/terminal/5634

communicate with their families or friends[198] . The event merely illustrates a much more general phenomenon: a great deal of the personal data of soldiers, journalists, ministers and other social actors is becoming strategic information that can no longer circulate freely on the Internet, as digital companies would like. This free circulation of data constitutes a source of strategic threats from the point of view of military staffs, hence the Russian army's ban on the use of smartphones by its soldiers. The world's other armies can't reason otherwise. In the USA, this is reflected in a partial political decoupling of the "NSA & GAFAM System". This divergence of concerns, between commercial companies and intelligence services, appears in 2023 because of the conflict with Russia, but also, and for longer, with regard to economic exchanges with China and the exclusion of its companies from telecommunications systems. But the decoupling is only partial in two respects: 1) it does not concern US surveillance of American citizens and those of allied countries; 2) even in the face of Russia and China, the power of GAFAM and its interest in the Chinese and Russian markets rivals that of the States[199] .

4.2 Historical unthinkability and general embarrassment about "privacy

[198] PIETRALUNGA Cédric, "Guerre en Ukraine : à Makiïvka, dans le Donbass, des dizaines de soldats russes tués dans le bombardement de leur base - Moscou reconnaît la mort de 63 soldats après une frappe ukrainienne dans cette ville industrielle, près de Donetsk", *Le Monde*, January 02, 2023: https://www.lemonde.fr/international/article/2023/01/02/ukraine-des-dizaines-de-soldats-russes-tues-dans-le-bombardement-de-leur-base-dans-le-donbass_6156367_3210.html

[199] NOCETTI Julien, SEL Pierre, "Les États autoritaires face aux Big Tech. Regards croisés Chine-Russie", *Pouvoirs*, 2023/2 (N° 185), p. 123-134 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-123.htm

The preceding list of cognitive obstacles and cultural strategies of "agenda denial"[200] (Cobb) is far from exhaustive. There is another fundamental factor to consider: the notion of privacy is an unthought of in the doctrines of political liberalism stemming from the philosophy of the Enlightenment. As Georges Duby observes, the notion is generally anachronistic for the Renaissance period: "*We have therefore not hesitated to use the concept of private life, which is just as anachronistic if not more so, and we have sought to discern in medieval society a boundary between what was considered private and what was not, to isolate a field of sociability corresponding to what we call private life today*."[201] Madeleine Foisil, studying the "Mémoires" and other "diaries" of 17th^{ème} century writers, agrees: "*These 17th-century authors were not aware of the private self as we understand it today*.[202] Lynn Hunt's research on the French Revolution confirms this: "*It is very difficult to expose the revolutionaries' own conception of privacy*" [203] . Research into political doctrines leads to the same conclusion.

This notion appeared in political debates and law only after the liberal revolutions of the 17ème and 18ème centuries, with a very restrictive meaning: protecting the privacy of public figures from journalistic investigation. Typically, the constitution of the first French Republic, in 1791, did not recognize privacy as a fundamental human right, but only, in article 17, as a means of

[200] ROSS Marc Howard, COBB Roger W. Cobb (eds.), Cultural Strategies of Agenda Denial: Avoidance, Attack, and Redefinition, Paperback 1997, 244 p.
[201] DUBY Georges, "Avertissement", in: P.Ariès, G.Duby, *Histoire de la vie privée - Tome 2. De l'Europe féodale à la Renaissance*, Paris: Seuil/Points, 1999 (2d ed.), p.7.
[202] Ibid, p.321.
[203] HUNT Lynn, "Révolution française et vie privée", in: P.Ariès, G. Duby, (dir.), *Histoire de la vie privée - 4. De la Révolution à la Grande Guerre*, Seuil, 1987, p. 36.

protecting individuals, a measure that could be used primarily against the press: "(...) *Slander and insults, against any person whatsoever, relating to the actions of their private life, will be punished on their prosecution*" (Title III - Chap.V - art.17 al.3). From 1797 to 1848, France was to experience almost half a century of continuously reduced freedom of the press, and multiple and varied censures, during which private life as a reason for censorship became marginal compared to the scale of all the other prohibitions on public expression, criticism of the head of state, the state, the government, its policies, etc. An 1835 law reached a peak of political censorship. It was repealed by the decree of March 22-29, 1848, after the start of the revolution, but this repeal did not remove the reference to private life, which then regained its place at the top of the list of grounds for censorship: "*This decree, far from abolishing the distinction between attacks on the private life and those on the public life of a civil servant, merely maintains and confirms this principle and respects the difference in jurisdiction for each of these attacks. Trib. Correctionnel de Lyon, February 14, 1849; maréchal Bugeaud, C. le Peuple souverain (G.T.21). This judgment was upheld on appeal, and the appeal against the Lyon court ruling was rejected by the Cour de cassation on April 19, 1849.*"[204] The wording of article 17 is general, but its political purpose is more precise insofar as it concerns only famous or public figures, such as ministers, editors, elected representatives and so on. The French Court of Cassation seems to have referred to it for the very first time in its ruling of February 28, 1874, in which it recognized the protection of

[204] C.Chassan, *Lois sur la presse depuis le 24 février 1848*, Paris: Videcoq fils ainé, éditeur, 1851, p.13.

members of parliament taking part in a pilgrimage against revelations in the press, in the name of "private life" including acts of domestic life and those falling within the "internal forum" of freedom of conscience. Throughout the 19ème century, in France as well as in the United States and the United Kingdom, the protection of the private lives of public figures was seen as a means of censoring the press for the benefit of the powerful.

Privacy" also appears to be a notion that reflects bourgeois preferences for a family and personal life withdrawn into an intimate sphere for those who can afford to buy housing spacious enough to make such a withdrawal possible. In contrast, popular and proletarian lifestyles are embedded in the collectivity of cramped housing and dense suburbs. Karl Marx reflected these perceptions as early as 1843, in his text on "The Jewish Question", with a virulent critique of human rights, from this angle[205] : "*We find that the so-called rights of man, the rights of man as opposed to the rights of the citizen, are nothing but the rights of the member of bourgeois society, that is, of the selfish man, of the man separated from man and the collectivity. "*And "*none of the so-called rights of man, therefore, goes beyond selfish man, man as he is as a member of bourgeois society, that is, an individual turned in on himself, on his private interest and his private good pleasure, and separated from the community*."[206] As the gentrification of proletarians was not part of Marxist political goals, the notion of "private life" became an object of contempt,

[205] Online: http://classiques.uqac.ca/classiques/Marx_karl/question_juive/question_juive.html
[206] Quoted by Jean Morange, "La Déclaration et l'évolution des droits de l'homme", in: Jean Morange éd, La Déclaration des Droits de l'Homme et du Citoyen. (August 26, 1789). Paris cedex 14, Presses Universitaires de France, "Que sais-je?", 2002, p. 55-86.: https://www-cairn-info.ezpaarse.univ-paris1.fr/--9782130529774-page-55.htm

even hatred, and above all, a linguistic taboo that was to extend to all the mutualist, trade union, partisan, journalistic and doctrinal organizations that rallied to Marxism, as well as to all the countries in Europe, Asia and Africa that experimented with a communist form of political regime.

From the time of the 1917 revolution in Russia, but also in all Communist countries, "private life" became not only a linguistic taboo,[207] but above all an object of combat: "*The revolutionary program of the Bolsheviks explicitly defined itself against these distinctions and intended to call into question the traditional distinction between public and private, seen as a foundation of bourgeois civil society*"[208] .

In the capitalist camp, the reduction of working hours certainly has a secular history, dating back to 1848, but in left-wing doctrines, its aim is to share work (in the face of unemployment) and protect the health of the weakest (children...), not to free up time for something else... As Marion Fontaine analyzes in "Travail et loisirs", contribution à l'*Histoire des gauches en France* (Becker, Candar, dir., 2005), the Left has developed an industrial political culture that is so favorable to work that it is omnipresent in everyday working life. On the other hand, non-working time - understood as "private life" time (still opposed to "professional life" in the dictionaries of the time) - was seen as a stigma of

[207] KHARKHORDINE Oleg. "Revealing, concealing. A genealogy of privacy in Soviet Russia". In: *Politix*, vol. 8, n°31, 1995. pp. 203-227 : https://www-persee-fr.ezpaarse.univ-paris1.fr/doc/polix_0295-2319_1995_num_8_31_1925#xd_co_f=NWIwNWRiNDMtM2UxZC00NGI0LTg2NjMtMTU2MDhiOGUyYWU3~

[208] CHRISTIAN Michel, KOTT Sandrine, "Introduction. Sphère publique et sphère privée dans les sociétés socialistes. La mise à l'épreuve d'une dichotomie", *Histoire@Politique*, 2009/1 (n° 7), p. 1-1 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-histoire-politique-2009-1-page-1.htm

bourgeois parasitism... which did not make it any easier for workers to demand equivalent non-working time.

Even though Karl Marx's son-in-law, Paul Lafargue, published a provocatively-titled work in 1883 - *Le Droit à la paresse - Réfutation du droit au travail de 1848* - in defense of free time and emancipation outside work for proletarians... The culture of work continued to prevail over that of free time, on the left, and mobilizations for the "eight-hour day" gave rise to a "labor day" from May 1er 1890, but not to a free-time holiday. At this time of separation of Church and State, private life was often associated with religion in political debates: now that separation had been achieved, many felt that the State had no business expressing itself in the private domain. The same arguments were used in the early 20thème century against attempts to create a Ministry of Culture[209] .

The first Communist mayors to take charge of municipalities in the 1920s, particularly in the Paris suburbs, shifted the notion of "private life" in a collective direction by developing public policies to provide access to shared cultural and sporting assets (stadiums, people's houses, village halls, workers' associations, choirs and soccer clubs, film clubs and theater associations...). It wasn't until the interwar years that the Left (Communist and Socialist) developed a doctrine in this area: the Blum government's "paid vacations" of 1936. But all left-wing doctrines were to foster this collective sense of private life as a "common good".

[209] DUBOIS Vincent, *Les politiques culturelles - Genèse d'une catégorie d'intervention publique*, Paris: Belin, 1999.

The totalitarian experiments of the 20th^{ème} century, notably Nazism and Stalinism, changed worldviews. In the capitalist camp, it was essentially Article 12 of the UN Universal Declaration of Human Rights in 1948 that laid the foundation stone for a fundamental human right yet to be invented. "*No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks*. Article 8 of the European Convention on Human Rights (ECHR), adopted in 1950, was followed by various international texts. In the Communist camp, it wasn't until 1956 and the Khrushchev report launching de-Stalinization that a similar notion reappeared, that of "personal life", directly linked to the new "personal property" authorized (the famous small, private "plot of land") and making it possible to generate private income likely to finance a private life.

In the history of fundamental human rights, "privacy" is perhaps the most recent to be recognized, and it still seems to be in the process of doctrinal and constitutional invention, so variable and volatile are the definitions (cf. above § 2.2). The time it has taken to spread through cultures, and even to permeate political cultures, is still very short (a few decades), if not too short, for awareness of the issue to become widespread.

The jurisprudence of the constitutional courts is also late in comparison with other fundamental human rights recognized in recent centuries: 1965 in the USA, 1969 in West Germany... and 1999 in France. And in both decisions, by the American Supreme Court (1965) and the French Constitutional Council (1999),

constitutional judges "discovered" an "implicit" right that had gone unnoticed for over a century and a half (!): privacy as a fundamental right. The American court thus found protection in the First Amendment of the American Constitution (1791): "*Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, of the press, or the right of citizens peaceably to assemble, or to petition the Government for a redress of grievances*." And in the Fourth Amendment: "*The right of the people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall be issued, except upon probable cause, supported by Oath or affirmation, and accurately describing the place to be searched, and the persons or things to be seized*". The French Constitutional Council did the same with article 2 of the 1789 Declaration of the Rights of Man: "*The aim of all political association is the conservation of the natural and imprescriptible rights of Man. These rights are liberty, property, security and resistance to oppression*"... In all these articles, there is no mention of privacy, and it is hard not to read these decisions as the creation of new constitutional norms.

For the past seventy-five years (UDHR art.12, UN 1948), privacy has been the subject of debate, with definitions varying, blurring and oscillating from one democratic country to another, from one era to another and from one current to another: privacy as a sphere of individual intimacy, possibly to be protected from the gaze of others in the face of the massive capture of personal data developed by the capitalism of surveillance and influence since

2001, is far from being the subject of national or international consensus. Some social actors link privacy to freedom, others to honor, still others to dignity, and still others to property. At a time when the legal notion of privacy seems to be seeking its place alongside other notions, the capitalism of surveillance and influence is giving rise to a new stratum of capitalists, including the executives and employee shareholders of GAFAM, who have a direct interest in the definitional vagueness and legal voids relating to privacy. Legal uncertainty on this subject benefits companies whose profits can continue to come from the monetization of personal data for advertising purposes. These companies, particularly those with the highest market capitalizations, have considerable lobbying budgets, with historically unprecedented annual sums at their disposal, which increase sharply during the years of parliamentary preparation of new legislation[210] . This power of political influence on the part of digital companies and their union and association representatives is considerably increased by the convergence of interests between police activities involving the surveillance of personal data and commercial activities involving the monetization of personal data for advertising purposes. The NSA's direct access to GAFAM's servers, negotiated as early as 2002 and revealed by the PRISM affair, creates the founding alliance of the "NSA & GAFAM System", which is not only technical, but also political: the two

[210] Cf.: Zuboff, ACS, p.175 et seq.; Jean-Pierre Stroobants, "Les Gafam, rois du lobbying à Bruxelles - Corporate Europe Observatory and Lobby Control have carried out an extensive survey, published on Tuesday August 31, on the growing power of digital giants with European institutions", Le Monde, August 31, 2021: https://www.lemonde.fr/economie/article/2021/08/31/les-gafam-rois-du-lobbying-a-bruxelles_6092811_3234.html; VERHEECKE Lora, "Régulation du numérique : la France cultive l'entre-soi avec les industriels", Observatoire des multinationales - Enquêtes et veille citoyenne pour la démocratie économique, February 24, 2022: https://multinationales.org/fr/enquetes/une-presidence-sous-influence/regulation-du-numerique-la-france-cultive-l-entre-soi-avec-les-industriels; Other sources on European lobbies: https://lobbyfacts.eu/; https://wiki.laquadrature.net/Lobbies_on_dataprotection ;

components of the alliance have a common interest in opposing new rules that would impede their respective activities. However, the secret services also have lobbying resources (see § 5.2 below), both through the public money they have at their disposal for their research programs and through their discreet but necessary proximity to political decision-makers. The empirical data gathered by Zuboff on this subject are indisputable (cf. ACS ch.3).

So it's hardly surprising that in the 21e century, it's so difficult to put the public issues of individual privacy raised by surveillance capitalism on the political agenda. The political balance of power is very unbalanced. Faced with companies and police forces interested in capturing personal data, the democratic political parties likely to defend the opposite interest, for the benefit of citizens, are disrupted by the digital turnaround and the counter-intuitive reversals it implies: on the right, fight capitalism (of surveillance and influence) to defend privacy, and on the left, defend privacy to fight capitalism (of surveillance and influence). To this must be added the rising generations of *digital natives,* ignorant of the pre-digital world and resolutely enthusiastic about collaborating with digital capitalism when it comes to using its tools, but uncritical about their societal effects (due to a lack of appropriate training, in particular). All the socio-historical factors that have for centuries obscured the protection of individual privacy as a fundamental human right, that have hindered its inclusion on the political agendas of public institutions and private organizations, that today prevent international consensus on the definition and protection of privacy, are all factors in the cognitive and cultural blurring contributing to the informational blackout

that opened for ten years with the *DOT-COM* crisis and the *World Trade Center* attacks in 2001.

4.3 Popular and blinding beliefs: a digital mythology

Beyond the secret nature of the agreements that sealed the "NSA & GAFAM System" (§ 4.1) and the cultural difficulties in thinking about the new conditions of privacy (§ 4.2), there is another dimension that is important in understanding the widespread blindness to the birth of surveillance and influence capitalism: that of the illusions spread among the general public about the Internet. These include the decentralization of the Internet, the egalitarianism of Internet users and disintermediation.

These illusions have been all the more widely shared because they correspond to a mythological discourse on origins on the one hand, to the weaknesses of the first historiography of digital computing on the other, and to the interest of digital companies in allowing such beliefs to flourish. Added to this is the inability of political leaders, journalists and academics to understand what's going on. As Romain Badouard observes, during the Internet blog explosion of the mid-2000s, "*for the technophile politicians of the day, the Internet was at best a harmless café du commerce, at worst an outlet for popular stupidity. In a short space of time, journalists became a particularly connected profession, but struggled to grasp the scope of the phenomenon*."[211]

[211] BADOUARD Romain, Le désenchantement de l'internet, op.cit. p.27.

The concept of **the Internet as a decentralized network dates back** to the very beginnings of private computing, but was also a response to military concerns, in particular the need for a computer-to-computer communications network that could continue to function even when some of its components were destroyed or out of order. The military interest is obvious. The seminal article on the subject was written by RAND Corporation consultant Paul Baran in 1962 (a year before the creation in 1963 of Arpanet, one of the forerunners of the Internet), setting out the abstract principles of a network architecture made up of potentially unreliable, but mutually substitutive links for packet transmissions of information that can take different routes to get from one point to another, depending on the availability of links.[212] . Paul Baran distinguishes three types of architecture. The third, known as the "distributed network", was assumed at the time and continues to this day to correspond to the Internet. This technological conception of distributed network computing is not false, at the design stage, but it

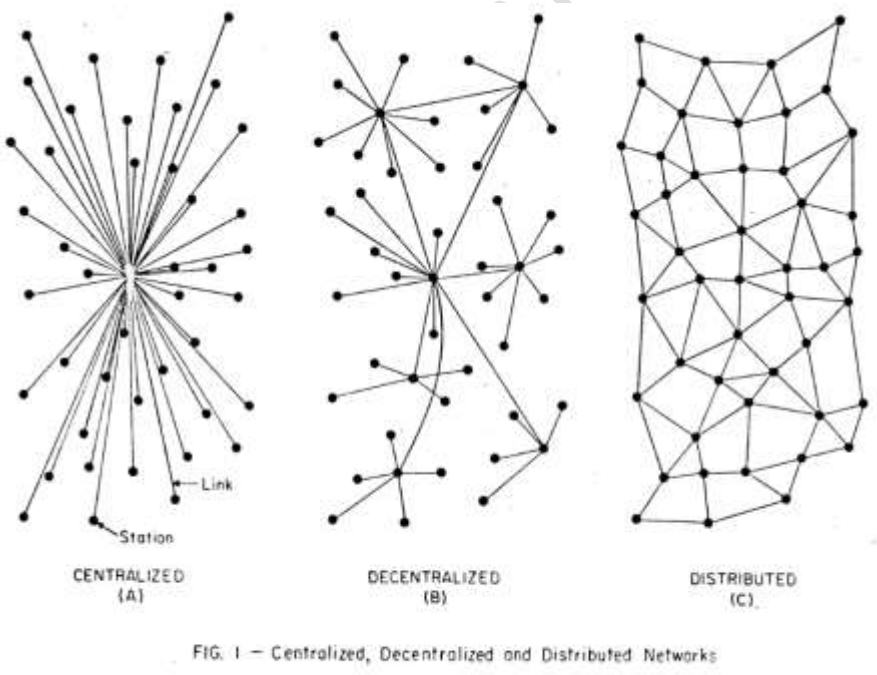


FIG. 1 — Centralized, Decentralized and Distributed Networks

Extrait de : BARAN Paul, « On distributed communications networks », *The RAND Corporation – Paper P2626* , 1962 : https://www.rand.org/pubs/papers/P2626.html

[212] BARAN Paul, "On distributed communications networks", The RAND Corporation - Paper P2626 , 1962 : https://www.rand.org/pubs/papers/P2626.html

becomes mythological over the decades of societal expansion when it is retained to describe the Internet, ignoring not technological but economic and political characteristics. Whether examined in its American prehistory on Arpanet between 1963 and 1983, or in its subsequent global history and societal expansion from 1995 onwards, the Internet has never been politically or economically decentralized (although it has been technologically decentralized). Centralization has always been American: first and foremost, it was linked to IBM's age-old monopoly, which ensured the technical governance of the sector by imposing its standards, languages and protocols on other companies. When IBM lost its dominant position, the creation of W3C in 1993 and Icann in 1998 took over from this seemingly technical, but in reality highly political, form of government. This politico-economic centralization was further accentuated by the creation of the "NSA & GAFAM System" in 2001. And it continues to this day, firstly because of the American lead in *data* center storage capacity, database size and "artificial intelligence" data processing capacity. It is also prolonged by the geopolitical power of the USA vis-à-vis the other governments of the planet, and by the American refusal to share power over "its" creation: computers, the Internet and digital technology. If we take Paul Baran's three diagrams and link them not to the technological variables of design, but to the politico-economic variables of societal expansion, we can say that the world's computer-digital world fell under model A ("centralized") from 1890 to around 2011. Then, as the Russian and Chinese networks took shape, the network increasingly came under model B ("decentralized", here in the sense of multipolar), but never under model C

("distributed"). Paul Baran has nothing to do with it, but the decades-long focus on technological design has created illusions in other countries, notably that of believing themselves, collectively or individually, to be on a par with the Americans and the USA.

Added to this first great digital illusion, and closely linked to the previous one, is that of the **equality of Internet users**. This belief is well described by Romain Badouard: "*The second characteristic of online debate also stems directly from the architecture of the network, and relates to the unconditional equality of individuals in the discussion. Technically speaking, all Internet users are "on the same level" when exchanging information. In cultural terms, this horizontality has been translated into the principle that all interlocutors have the same conditions for speaking and listening. On television, on the other hand, the weight of an argument will always be assessed according to the status of the speaker. The opinion of an expert will carry more weight than that of an ordinary citizen. On the Internet, however, this principle of equivalence between a person's status and the relevance of his or her words does not apply. In some online communities, for example, debating members are forbidden to mention their profession as an argument of authority, on pain of being excluded from the discussion threads. Teachers and students, doctors and patients, experts and novices are all on the same level*."[213] The first aspect of this belief, and the first illusion it entails, consists in not immediately differentiating between two types of Internet users:

[213] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p. 14.

1) those who create, manipulate, market and manage computer-digital systems; 2) those who simply use them. Mark Zuckerberg, founder and all-powerful boss of Facebook, sometimes uses the Internet, but it would be absurd to consider him on an equal footing with everyone else. The other illusion is to believe that differences in skills linked to training, experience and years of learning can become insignificant in the digital world. In many ways, digital communications have certainly blurred the identification of social status and professional skills, but when Internet users seek medical advice, they tend to turn to doctors (or actors with medical appearances) rather than bakers. The third illusion consists in ignoring the differences that quickly become apparent between Internet users, however anonymous they may be, in terms of their ability to access relevant information and understand the socio-technical world in which they operate, for example to develop audience and influence strategies. Internet users have very unequal strengths, for example, according to their number of *followers* or *friends*, and this number in turn depends on multiple social factors, some old linked to their status and skills and others newer linked to the social perceptions of digital influencers[214] . Finally, the recent discoveries made in the Cambridge-Analytica (2018) and Team Jorge (2020) cases[215] on electoral manipulation show that a very small number of people can influence millions, definitively shattering egalitarian illusions. So, whichever way you look at it, and in any era of digital

[214] CORMERAIS Franck, LAKEL Amar, "Juan Branco, influenceur éphémère ou figure d'un nouvel " intellectuel numérique " ?", *Quaderni*, 2023/2 (n° 109), p. 39-58.: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-quaderni-2023-2-page-39.htm

[215] Leloup Damien and Reynaud Florian, "Révélations sur Team Jorge, des mercenaires de la désinformation opérant dans le monde entier", *Le Monde* / Pixels, February 15, 2023: https://www.lemonde.fr/pixels/article/2023/02/15/revelations-sur-team-jorge-des-mercenaires-de-la-desinformation-operant-dans-le-monde-entier_6161842_4408996.html.

computing, egalitarian horizontalism is just another illusion contributing to the great digital mythology.

The third illusion extends and links up with the two previous ones, and is that of **"disintermediation" perceived as positive**. The term "disintermediation", widely used by specialists in the sociology of communications and the media in particular, refers to the disappearance of intermediaries or the reduction of their role in exchanges that are becoming more direct between Internet users. A "coronation of the amateur", as Patrice Flichy puts it[216] . The notion of *gatekeepers* is used in English to evoke these "guardians", often with a hint of illegitimate domination, conservatism or the monopolization of privileges. Professional journalists, book publishers, film or music producers, for example, have a very real power to select content for broadcast on traditional commercial distribution networks. Since the digital revolution, these intermediaries have been bypassed by direct, individual or collective digital publication systems. They are also often contested as producers of inequalities between those who have a voice in the conventional media and the great mass of ignored individuals. By contrast, Hervé Le Crosnier (2004) shows that intermediaries do not disappear, but are transformed while remaining indispensable: "It's fashionable *on the Internet to promise the end of intermediaries, the upheaval of institutions, the unravelling of borders, the regaining of power by 'communities'. This discourse is often referred to as "Californian ideology". Global and unmitigated, it is clearly incapable of helping us define the*

[216] FLICHY Patrice, Le *sacre de l'amateur - Sociologie des passions ordinaires à l'ère numérique*. Le Seuil, 2010, 96 p.

paths we need to take to build a fairer world. It's all very well to say that everything is going to change tomorrow, and that producers (of culture, information, knowledge... just as "surplus value" was yesterday) are finally going to take the reins of a system monopolized by "morally repugnant" industries, as Eben Möglen puts it[1] . We must, however, ask ourselves whether the analysis of the upheaval of production relations that is taking place before our eyes is not mistaken (...) We will deal here only with "intermediaries" in the context of the creation-dissemination of culture and knowledge, but the approach could be broadly extended to a positive critique of all analyses of "disintermediation": it is the "intermediaries" who are the foundation of societies. In their absence, the "market" (even if it's the market for ideas) always takes precedence.[217]

The Californian ideology discussed by Hervé Le Crosnier has been studied in depth by Fred Turner in his book *Aux sources de l'utopie numérique. De la contre-culture à la cyberculture, Stewart Brand un homme d'influence* (2006) Caen, C&F Éditions, 2012. This best-selling book in academic circles gives prominence to the computer science students on American campuses and the most tech-savvy hippies, while showing the shift of this apparently subversive counterculture towards market logics during the 1990s. This theory of the utopian, even bucolic origins of networked computing by laid-back students and high-tech hippies dreaming of a decentralized, egalitarian world without intermediaries

[217] LE CROSNIER Hervé, "Désintermédiation et démocratie. Quelques questions dans le domaine culturel", *Multitudes*, 2004/5 (no 19), p. 143-160 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-multitudes-2004-5-page-143.htm - Note 1 : Eben Moglen, "Pay Artists, Not Owners", *The Nation*, October 9 2003 : https://www.thenation.com/article/archive/pay-artists-not-owners/

became very present in the global social sciences of the late 1990s and 2000s. Fred Turner studies certain networks, in particular the *Whole Earth* network created by Stewart Brand between 1968, when he created the *Whole Earth Catalog,* and 1993, when *Wired* magazine appeared "a *magazine that more than any other will extol the revolutionary dimension of the emerging digital world*"[218] . However, many other networks or communities, such as those studied by Patrice Flichy, develop an imaginary of the Internet corresponding to these horizontalist ideas[219] . "*The network carries with it an ideology. Its precursors, who worked to create and develop its architecture in the USA in the 1960s, were deeply influenced by the American counter-culture of the time, notably student unionism and the hippie movement. At the heart of this counter-culture were the principles of emancipation and self-management*.[220]

This now-frequent presentation of the student and hippie origins of network computing clashes with other realities, however: 1) State-run computing (1890-1958) continued into the following period, with a very strong presence of States as financiers and purchasers, notably armies whose ideologies were generally quite distant from those of the student unions and hippy movements; 2) the counter-culture period corresponds exactly to the societal expansion of private computing (1958-1995), in companies and then families, i.e. to the growth of highly lucrative markets where

[218] TURNER Fred, *Aux sources de l'utopie numérique. De la contre-culture à la cyberculture, Stewart Brand un homme d'influence*, Caen, C&F Éditions, 2012, p.38
[219] FLICHY Patrice, "3. les communautés, un autre imaginaire d'internet", in: L'*imaginaire d'internet*. Paris, La Découverte, 2001, p. 85-112.: https://www-cairn-info.ezpaarse.univ-paris1.fr/l-imaginaire-d-internet--9782707135377-page-85.htm
[220] BADOUARD Romain, *Le désenchantement de l'internet*, p.88.

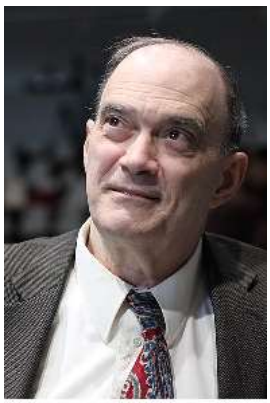
forms of competition (dominated by IBM and Microsoft) are more savage than bucolic (cf. above § 1.3); 3) the networks of student dreamers and technological hippies seem very few in number (from a few hundred to a few thousand, depending on the study), compared to the hundreds of thousands of employees and shareholders of IBM[221] , Microsoft and Apple, who were prospering and getting rich at the same time; 4) these theories linking cyberculture to counterculture appeared in the early 2000s, just as the "NSA & GAFAM System" was being built up, and the spectacular growth of GAFAM's market capitalization was beginning.

All this may cast doubt on the counter-cultural origins of the digital turn. This is not to deny the realities described by professional researchers with regard to utopias in these circles. On the other hand, the weight of what they represent in the industrial sector of digital computing in the face of the financial greed of tens of thousands of managers and hundreds of thousands of employees and shareholders remains to be examined. The scale of the commercial wars waged by American companies against each other (IBM against Apple, Microsoft against Netscape...) and against their foreign competitors (Bull in Europe...) suggests that financial motivations are more important to many players than utopias. We can therefore envisage another interpretation of history: the very real counter-culture of a fraction of marginal players in the expansion of digital computing served as an appealing ideological showcase for a pragmatic, even

[221] In 1968 IBM had 241974 employees and 501390 shareholders; in 1993, 256207 employees and 741047 shareholders. See: https://www.ibm.com/ibm/history/history/year_1968.html

predatory industry, that of the American digital computing business, which doesn't operate primarily on hippie utopia, but on capitalized money. This counter-culture has contributed to the blinding beliefs and informational blackout about the birth of surveillance and influence capitalism.

4.4 Gradual exit from the information blackout: 2011... 2013... 2018...



William BINNEY, employé de la NSA dénonce dès 2002 le "Système NSA & GAFAM". Source image : https://en.wikipedia.org/wiki/William_Binney_(intelligence_official)

Public revelations gradually put an end to this informational blackout. But if we are looking for the exact date, or at least the year, of this end, it is difficult to pinpoint because it varies according to the social actors, their levels of information, the credibility of their public expression for some, their ability to understand and correctly evaluate the information for others. NSA employees such as William Binney and Thomas Drake, who denounced various aspects of the "NSA & GAFAM system" as early as 2001/2002, were obviously informed and aware of the characteristics of this system much earlier than other people... but did they manage to make themselves heard? On the contrary, they are subjected to pressures and procedures designed to discredit them and silence them[222] . Researchers who have been specializing in the relationship between technology and society for decades, such as Shoshana Zuboff and Zeynep Tufekci, have been identifying relevant information and becoming

Thomas A. DRAKE, cadre de la NSA témoigne contre le "Système NSA & GAFAM" durant l'enquête sur les attentats du 11 septembre 2001. Source image : https://en.wikipedia.org/wiki/Thomas_A._Drake

[222] Cf.: Ellen Nakashima, Greg Miller and Julie Tate, "Former NSA executive Thomas A. Drake may pay high price for media leak", *The Washington Post*, July 14, 2010: https://www.washingtonpost.com/wp-dyn/content/article/2010/07/13/AR2010071305992.html

aware of the deleterious effects of this new capitalism since the early 2010s. But their work in the social sciences has a small audience. And most social actors, notably journalists and academics, only integrated these new socio-economic realities into their worldview after the Snowden revelations of 2013. The European Commission is not calling into question the *Safe Harbor* agreement (1998/2000) allowing the transfer of European personal data to the USA. It wasn't until the legal proceedings brought by Max Schrem[223] that the Court of Justice of the European Union (CJEU) ruled on October 6, 2015 "*that making Europeans' personal data available to US intelligence agencies 'undermined the essential content of the fundamental right to respect for private life'.*"[224]

Max SCHREMS, défenseur de la vie privée, fait invalider l'accord "Safe Harbor" (1998) en 2015 et l'accord "Privacy Shield" (2016) par la CJE.

Source image : https://en.wikipedia.org/wiki/File:Max_Schrems_2016_b.jpg

Yet the Snowden revelations of 2013 concern surveillance carried out via the "NSA & GAFAM System". It wasn't until two little-known articles in the newspapers *Politico* and *The Guardian* in 2015[225] and, above all, the public controversy and the Cambridge-Analytica trial in 2018 that manipulation to influence electoral campaigns became essential in the eyes of a large number of players. The emergence of the information blackout was therefore gradual during the 2010 decade, creating a

[223] Pixels, "Max Schrems, le "gardien" des données personnelles qui fait trembler les géants du web - The Austrian has had the "Safe Harbor" agreement, which frames the use of European Internet users' data by American companies, invalidated.", *Le Monde*, / Pixels, October 5, 2015: https://www.lemonde.fr/pixels/article/2015/10/06/max-schrems-le-gardien-des-donnees-personnelles-qui-fait-trembler-les-geants-du-web_4783391_4408996.html

[224] UNTERSINGER Martin, "La justice européenne invalide le très controversé Safe Harbor, un accord sur les données personnelles - The European justice has invalidated an agreement that notably allows web giants to use the data of European Internet users," *Le Monde / Pixels*, October 6, 2015: https://www.lemonde.fr/pixels/article/2015/10/06/la-justice-europeenne-invalide-le-tres-controverse-accord-safe-harbor-sur-les-donnees-personnelles_4783262_4408996.html

[225] Kenneth Vogel, "Cruz partners with donor's 'psychographic' firm," *Politico*, July 7, 2015: https://www.politico.com/story/2015/07/ted-cruz-donor-for-data-119813; Harry Davies, "Ted Cruz campaign using firm that harvested data on millions of unwitting Facebook users," *The Guardian*, December 11, 2015: https://www.theguardian.com/us-news/2015/dec/11/senator-ted-cruz-president-campaign-facebook-user-data

chronological blur on the subject. Hence the reference to several dates (2011... 2013... 2018...) to locate the moment when the capitalism of surveillance and influence can be known by a large enough number of social actors to be socially constructed as a public problem: many clues lead us to locate this moment in the first half of the 2010 decade. But this gradual widening of the informed public is only slow and partial: many people, even today, have no awareness of these realities, or are so disturbed by discovering them that they refuse to acknowledge them.

2011... 2013... 2018... Zuboff retains the date of August 9, 2011, but it's a date of revelation for Zuboff herself (and for others, scientifically ahead of their time, such as Zeynep Tufekci in the "field" by participant observation from 2010 to 2014). Zuboff has been conducting critical research in this field since 1988. Given her high level of thematic specialization over the past twenty-three years, as of 2011, the recognition of blindness she assumes speaks volumes about the extent of global blindness on the part of all less specialized and less competent social actors... (apart, of course, from the main operators). She points to three events to justify this date: 1- **Apple takes over as the** world's largest market capitalization (overtaking Exxon Mobil); 2- The British riots after deadly police shootings in London are a reminder of the extent of **social inequalities** after a decade of digital growth; 3- Google goes on trial in Spain on the initiative of a Spanish citizen demanding the deletion of Google-Search links concerning him under a "**right**

to be forgotten" (this lasted from 2011 to 2014). It is perhaps this third item that is most important for the rest of the story[226] .

To these three events, others can be added that confirm Zuboff's chronological intuition: ● **2010/2011 marks the start of media coverage of "massive leaks"** from the Wikileaks platform (founded in 2006), which "reveal" US military abuses - often already known (notably in the Guantánamo Camp created in Cuba in 2001[227]) - but which above all reveal the potential of "public revelations" in the digital age of organized leak platforms ; ● **2011/2012 corresponds to the period of the "Arab Springs"** (we'll come back to this below), which reveal the rates of smartphone equipment and above all their subversive potential on political systems, as well as the role of connected diasporas. ● **2012 is the year of three communications from the European Commission** announcing the future General Regulation on Personal Data (RGDP), in the wake of a European conference in 2009 and announcements by the Commissioner in 2010, seventeen years after the first European directives on the subject in 1995. The RGDP, supposed to counterbalance American domination, will not be published until 2016, with entry into force on May 25, 2018. ● **2012 is also the year of the "BRICS Cable", i**.e. the announcement by the five BRICS countries (Brazil, Russia, India, China, South Africa) meeting in New Delhi, in March 2012, of the project to install (2012/...) a 34,000 km undersea cable explicitly and officially intended to

[226] Cf. : Eddé R., " Le droit : un outil de régulation du cyberespace ? Le cas du droit à l'oubli numérique", *L'Homme & la Société*, 2018/1 (n° 206), p. 69-94: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-l-homme-et-la-societe-2018-1-page-69.htm

[227] BIGO Didier, Laurent BONELLI, Thomas DELTOMBE, Au nom du 11 septembre... Les démocraties à l'épreuve de l'antiterrorisme, La découverte, 2008, 420 p. https://www.cairn.info/au-nom-du-onze-septembre--9782707153296.htm

free them from American surveillance, which means that their counter-espionage services were previously informed about the American "NSA & GAFAM System" of global surveillance[228] .

We also note, in support of the chronological breakdown suggested by Shoshana Zuboff, that **English-language works on cyberconflict increase in number from 2012 onwards**.

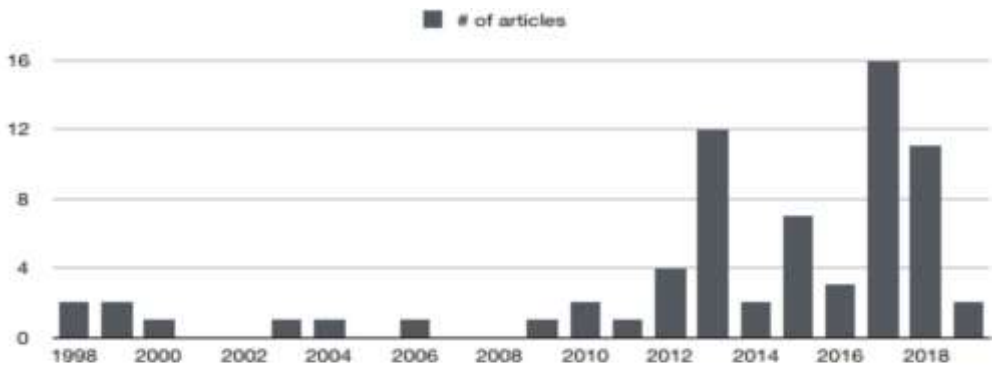


Fig. 3: Number of articles in final dataset, by year (n = 70)

Schéma extrait de : Gorwa R. et Smeets M. (2019), « Cyber conflict in political science : a review of methods and literature », présentation à la Convention annuelle de l'ISA 2019, Toronto : https://osf.io/preprints/socarxiv/fc6sg/

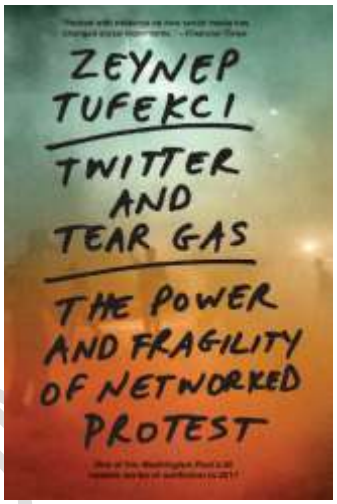
Thus, in the corpus of 70 articles identified by Robert Gorwa and Max Smeets, 56 are published in 2012 or later...[229] The scientific agenda is shifting by concentration on the themes of war, coercion and influence strategies... This lends credence to the idea of an American awareness first from 2012 onwards in the social sciences.

In 2011/2012, the "Arab springs" were, as we said, part of the revelations of the scale of the digital transformations induced by the capitalism of surveillance and influence. More broadly, "**connected protests**" have been the subject of in-depth observations for a decade, and have been brilliantly analyzed by **Zeynep TUFEKCI,** computer scientist, sociologist and left-wing

[228] LEE Stacia, "International Reactions to U.S. Cybersecurity Policy: The BRICS undersea cable", The Hery M. Jackson School of International Studies - University of Washington, January 8, 2016: https://jsis.washington.edu/news/reactions-u-s-cybersecurity-policy-bric-undersea-cable/ ZYW MELO Anna, "Un câble pour les BRICS : un défi stratégique insurmontable", *Hermès*, 2017/3 (n° 79), p. 145-149: https://www.cairn.info/revue-hermes-la-revue-2017-3-page-145.htm

[229] Gorwa R. and Smeets M. (2019), "Cyber conflict in political science: a review of methods and literature", presentation at the 2019 ISA Annual Convention, Toronto: https://osf.io/preprints/socarxiv/fc6sg/

activist, in her book ***Twitter & les gaz lacrymogènes - Forces et fragilités de la contestation connectée*** (C&F Éditions,2019). Her observations are confirmed by other researchers. Zeynep TUFEKCI has actively participated in "square movements", examples of social movements reconfigured by the uses of socionumeric networks: the **Jasmine Revolution in Tunis in 2010, the occupation of El Tahrir Square in Cairo in 2011, Zucotti Park in New York in 2011, Gezi Park in Istanbul in 2013, the Umbrella Movement in Hong Kong in 2014..**. From this perspective, social media generate new and fallacious beliefs: that social mobilizations are spontaneous[230] or that it's easy to launch a social mobilization[231] . With networks, we can mobilize thousands of people in "connected mobilization"[232] and millions in "connected revolution", in just a few hours. This gives activists a sense of power that is illusory. Zeynep Tufekci, herself a committed revolutionary activist, shows her fellow fighters just how weak digital mobilization can be: "*The Internet enables connected movements to reach critical mass quickly, without giving them the upstream organizational or other collective capacities, formal or informal, that will prepare them for the inevitable problems to come and help them react accordingly*". She shows that these movements are organized adhocratically



[230] MABI Clément, "La concurrence algorithmique. Logique des mobilisations en ligne", *Esprit*, 2021/11 (November), p. 65-73 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-esprit-2021-11-page-65.htm

[231] Eltantawy N. and Wiest J. B. (2011), "The Arab spring. Social media in the Egyptian revolution: reconsidering resource mobilization theory", *International Journal of Communication*, vol. 5, pp. 1207-1224: https://ijoc.org/index.php/ijoc/article/view/1242/597 Howard P. N., Duffy A., Freelon D., Hussain M. M., Mari W. and Maziad M. (2011), "Opening closed regimes: what was the role of social media during the Arab Spring?", SSRN, no. 2595096. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2595096

[232] PAULHET Jean-Baptiste, MABI Clément, FLACHER David, "Comment déclencher une mobilisation numérique de masse? Le cas de " L'Affaire du Siècle " sur Facebook ", *Réseaux*, 2022/4 (N° 234), p. 195-229: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-reseaux-2022-4-page-195.htm

(without prior, permanent organization) and horizontally (egalitarianism without weightings), in other words, on the spot, in real time, and without a leader. For the author, this is a "*perilous mode of organization in the long term*": **while one of the strengths of this type of structuring is its rapid implementation, one of its main weaknesses is the difficulty of collective decision-making, making it** difficult to sustain the movement. Sylvie Ollitrault observes that these mobilizations even keep NGOs at bay[233] . By making it possible to mobilize thousands or millions of people in a matter of minutes or hours, the digital facility makes it possible to disrupt and destabilize the political systems in place (which gives a second illusion of immediate success) ... but does **not make it possible to strategically guide social mobilization, to collectively construct a consensual doctrine of mobilization and even less to build a project for society** that can replace the system being fought. The effect of these democratic springs based on connected mobilizations has often been contrary to the protesters' demands for freedom: installed political regimes and public policies emerging after and in response to these mobilizations (e.g. Turkey, Egypt... and many others) have reinforced the authoritarian character of governments and worsened the repression of fundamental freedoms. Studies of connected mobilizations and revolutions show that surveillance capitalism generates tools for destabilizing the systems in place, capable of legally or technically constraining them, whether authoritarian or democratic... without promoting democracy. And

[233] OLLITRAULT Sylvie " Les mobilisations citoyennes au XXIe siècle : un défi pour les ONG ? ", *Humanitaire*, 41 | 2015, : http://journals.openedition.org/humanitaire/3232

we might add, in the light of this research, that surveillance capitalism does not create the tools for its own contestation either, but only for the contestation of systems likely to stand in its way: legal, partisan, electoral, media, cultural...

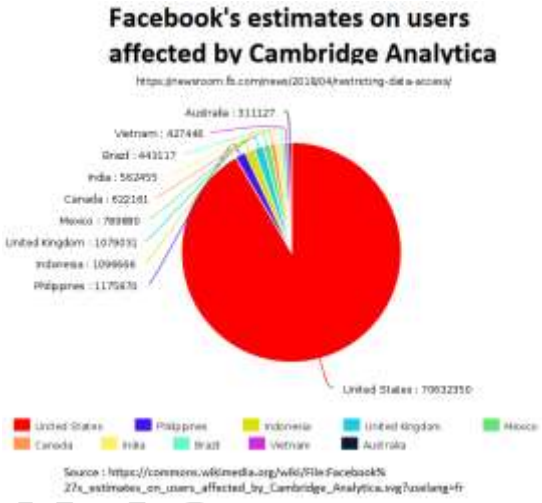
In this very gradual process of public revelation over more than a decade, other events are of great importance - at least for the "general public" informed by the mass media (probably more so than for the espionage and counter-espionage services of the world's various countries): ● **THE SNOWDEN REVELATIONS (2013/2018...)** - Edward Snowden from June to December 2013 passes on to journalists part (200,000?)[234] of the 1.7 million NSA documents, a phenomenon without historical precedent; such a mass of documents, to be analyzed individually and as a corpus, requires years of work spanning the period 2013/2018; and even today revelations are still being made by journalists based on the Snowden documents.

Photo extraite du site d'Amnesty International - France : Jean Stern, "Portrait : Edward Snowden", Amnesty International - France, https://www.amnesty.fr/personnes/le-lanceur-dalerte-confine-a-moscou

● **THE FACEBOOK-CAMBRIDGE ANALYTICA AFFAIR (2018...)** - Cambridge Anaytica is created in December 2013. Although two

[234] PéTINIAUD Louis, "Cartographie de l'affaire Snowden", *Hérodote*, 2014/1-2 (n° 152-153), p. 35-42 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-35.htm

press articles[235] denounce electoral manipulations linked to data capture as early as 2015, these investigations go unnoticed. It wasn't until 2018 that the controversy revealed the scale and technical details of digital crowd manipulation, as well as the three election campaigns most likely to have been impacted by it: the BJP's in India in 2014[236] , the UK's Brexit in 2016, Trump's in the USA in 2016... before it was discovered, more recently, that dozens of election campaigns around the world had been digitally manipulated[237] . The documentary *The Great Hack*, by Jehane Noujaim and Karim Amer presents to the general public, in a serious and reliable way, the main elements of the case and the investigative journalistic work from July 2019[238] .



[235] Kenneth Vogel, "Cruz partners with donor's 'psychographic' firm," *Politico*, July 7, 2015: https://www.politico.com/story/2015/07/ted-cruz-donor-for-data-119813; Harry Davies, "Ted Cruz campaign using firm that harvested data on millions of unwitting Facebook users," *The Guardian*, December 11, 2015: https://www.theguardian.com/us-news/2015/dec/11/senator-ted-cruz-president-campaign-facebook-user-data

[236] MIRCHANDANI Maya, "Populisme, propagande et politique : les réseaux sociaux au cœur de la stratégie électorale de Narendra Modi", *Hérodote*, 2020/2-3 (N° 177-178), p. 59-76 : https://www.cairn.info/revue-herodote-2020-2-page-59.htm

[237] Ivan Manokha, "Le scandale Cambridge Analytica contextualisé: le capital de plateforme, la surveillance et les données comme nouvelle " marchandise fictive " ", *Cultures & Conflits*, 109 | printemps 2018 : http://journals.openedition.org.ezpaarse.univ-paris1.fr/conflits/19779 ; PECH Yannick, " Le hacking comme opération spéciale permanente des guerres de l'information ", *Revue internationale d'intelligence économique*, 2021/1 (Vol. 13), p. 93-118 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-internationale-d-intelligence-economique-2021-1-page-93.htm ; BOYADJIAN Julien, THEVIOT Anaïs, " Chapitre 12. La politique à l'heure des réseaux sociaux", in: Thomas Frinault ed, *Nouvelle sociologie politique de la France*. Paris, Armand Colin, " Collection U ", 2021, p. 165-175 : https://www-cairn-info.ezpaarse.univ-paris1.fr/nouvelle-sociologie-politique-de-la-france--9782200628727-page-165.htm and NEIHOUSER Marie, BOYADJIAN Julien, THEVIOT Anaïs, " " Campagnes électorales et numérique : regards croisés à l'international " - Avant-propos ", Revue internationale de politique comparée, 2022/2-3 (Vol. 29), p. 7-29 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-internationale-de-politique-comparee-2022-2-page-7.htm and THEVIOT Anaïs, " Usages électoraux des big data. Un modèle américain?", *International Journal of Comparative Politics*, 2022/2-3 (Vol. 29), pp. 157-190: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-internationale-de-politique-comparee-2022-2-page-157.htm

[238] Szadkowski Michaël, "'The Great Hack': diving into the murky waters of Cambridge Analytica's political marketing - The documentary, available on Netflix from July 24, is a compelling summary of the major scandal that hit Facebook in 2018.", Le Monde /Pixels, July 24, 2019: https://www.lemonde.fr/pixels/article/2019/07/24/the-great-hack-plongee-dans-les-eaux-troubles-du-marketing-politique-de-cambridge-analytica_5492703_4408996.html

4.5 Ambivalence of professional journalism in the digital age

Professional journalism[239] has been heavily impacted by the digital revolution[240] . Competition from digital platforms known as "social media" or "social networks" (Twitter, Facebook, TikTok, Instagram, etc.) is no longer in question. The vast majority of users of these platforms get their information in this way, firstly because of the "ease" of unpaid access to press articles retransmitted without authorization, which are part of a theft logic to which many people have become accustomed over the past twenty years; theft is then confused with pseudo-gratuity. Secondly, a false sense of freedom to choose articles to read from any traditional media, while losing the benefit of the essential work of each editorial team: 1) the work of selecting and weighting subjects in order of importance - known in the social sciences as the "agenda" - which is reflected in the choice of presentation of articles in a traditional newspaper (management of the front page, titles and headlines, positioning on the page, volume of writing...), 2) but also by losing the benefit of long-term monitoring of certain subjects by editorial teams who train their collective journalistic skills through the accumulation of a corpus of articles and internal deliberations, between journalists, on the various ways of dealing with a subject, on which aspects to emphasize rather than others, etc.

[239] LYUBAREVA Inna, MARTY Emmanuel, " Vingt-cinq ans d'information en ligne : une exploration des transformations structurelles des médias ", *Les Enjeux de l'information et de la communication*, 2022/1 (N° 23/1), p. 5-14 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-les-enjeux-de-l-information-et-de-la-communication-2022-1-page-5.htm

[240] AMIEL Pauline, BOUSQUET Franck, "La presse quotidienne régionale : un modèle informationnel sous tension", *Les Enjeux de l'information et de la communication*, 2022/1 (N° 23/1), p. 81-92 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-les-enjeux-de-l-information-et-de-la-communication-2022-1-page-81.htm

Lacking knowledge and understanding of these editorial functions, lacking training in these emerging digital aspects, lacking the methods and knowledge to reflect on the quality of their sources of information, lacking the ability to integrate the variations in skills on the same subject depending on the person or organization[241] , the so-called "digital natives" generations perceive nothing but constraint in the classic system of subscribing to a traditional media outlet (just as they do when joining a party, trade union, association...). These readers are unaware of the implicit constraints imposed on them by the platforms that have become their "editors-in-chief": instead of professional newspapers drawing their attention to a topic/article... it's Facebook, TikTok, Instagram, or others that determine the priorities for posting on walls or ads. Instead of a professor, a researcher, an experienced professional, an expert who has been following the subject for a long time, some or others chosen by professional journalists... it's YouTube[242] that tells them - for the sole reason of increasing its profits by capturing personal data - to follow this or that "influencer" with ambiguous status,[243] but charismatic, however incompetent, and with a sympathetic image and easy language, full of spontaneous innocence, but working for brands[244] . With the inherent limitations of any partly

[241] FOUCART Stéphane, HOREL Stéphane, LAURENS Sylvain, "5. La trollisation de l'espace public", in: *Les gardiens de la raison. Enquête sur la désinformation scientifique*, edited by FOUCART Stéphane, HOREL Stéphane, LAURENS Sylvain. La Découverte, 2020, p. 129-166: https://www-cairn-info.ezpaarse.univ-paris1.fr/les-gardiens-de-la-raison--9782348046155-page-129.htm

[242] MATTELART Tristan, " L'élaboration par YouTube d'un modèle mondial de production de vidéos ", *Questions de communication*, 2021/2 (n° 40), p. 119-140 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-questions-de-communication-2021-2-page-119.htm

[243] DESFORGES Barbara, "Les problématiques découlant du " statut " des influenceurs", *Légipresse*, 2021/HS2 (N° 66), p. 21-28 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-legipresse-2021-HS2-page-21.htm

[244] MARTY Stéphanie, " " Swipe up " et " codes promo " : quand les influenceurs donnent vie à un storyliving dédié aux marques ", *Communication & management*, 2021/1 (Vol. 18), p. 47-65 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-communication-et-management-2021-1-page-47.htm

fictionalized documentary (the fiction of three clones manipulating teenagers serves to embody the phenomenon of "Artificial Intelligences" difficult to illustrate otherwise in pictures), **Jeff Orlowski's documentary "*The Social Dilemma*" (2020,** in French under the title "*Derrière nos écrans de fumée*") clearly illustrates this phenomenon and other aspects of the abuse suffered by people who are victims of surveillance and influence capitalism (preference bubbles, systemic addictions, misinformation bounty, loss of self-esteem, depression and suicides, polarization and radicalization of debates...). The film also illustrates some of the analyses presented by the CNIL in its dossier entitled "*La forme des choix. Personal data, design and desirable frictions*". [245]

Netflix's recent documentary, "The Social Dilemma," highlights many of the problematic aspects of social media.

Source : Shreyas Banerjee, A&E Editor October 23, 2020, ""The Social Dilemma" is a hokey but critical look at our digital lives", The Observer : https://observer.case.edu/the-social-dilemma-is-a-hokey-but-critical-look-at-our-digital-lives/

From another point of view, if we examine the role of professional journalism in the information blackout of 2001-2013 and in the public revelations massively produced by professional journalists between 2013 and today, the assessment is mixed and the trend positioning of professional journalists ambiguous. On the one hand, professional journalists, particularly in the U.S., are part of a broad political consensus (Republicans and Democrats) that masks the birth of surveillance capitalism in its most illegitimate invasion of privacy. On the other hand, it is

[245] CNIL, *La forme des choix. Données personnelles, design et frictions désirables*, Dossier thématique in *Cahiers IP*, n°6, January 2019, 47 p. : https://www.cnil.fr/sites/default/files/atoms/files/cnil_cahiers_ip6.pdf

the professional newspapers that give the revelations made by individuals, sometimes described as "whistle-blowers", an audience they would not otherwise have had. Unable to cover every revelation, their photos are used to highlight the importance of individuals, sometimes heroic like Edward Snowden, who have contributed to revelations in the press: *The New York Times, The Washington Post, The Intercept, Der Spiegel, El País, Le Monde, L'espresso, O Globo, South China Morning Post, ProPublica, Australian Broadcasting Corporation, Canadian Broadcasting Corporation, NRC Handelsblad, Sveriges Television, Wired, New Zealand Herald, Todo Noticias...* have published articles using this documentation, usually after further investigation and cross-checking.

From yet another point of view, the work of professional journalists (forms of investigation, investigative tools, working conditions...) is impacted by this capitalism of surveillance and influence[246] . "*Journalists are becoming a particularly connected profession in a short space of time, but are struggling to grasp the extent of the phenomenon*"[247] notes Romain Badouard, reflecting what all sociological observations of this profession show:

- Digital tools (blogs, social networks, public disclosure platforms...) have become **working tools** in the most everyday journalistic practices of exchanges and collaborations between journalists, creating a new, functional dependency ;

[246] SONNAC Nathalie, "La puissance des Gafam. Les transformations économiques de l'espace médiatique contemporain", *Esprit*, 2022/9 (September), p. 37-52 : https://www.cairn.info/revue-esprit-2022-9-page-37.htm
[247] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p.27.

- The Internet in its current depth offers them an inexhaustible supply of relatively easy-to-access **information "sources"** or means of identifying sources, which reinforces the functional dependence[248] ;

- Social media" and their "hashtags" in particular are creating **pseudo-free substitutes** for traditional investigative methods, which are much more costly in terms of time and resources, such as "micro-tests", opinion polls and long-term surveys, adding financial dependence to functional dependence.

- The world's major press companies have preferred to negotiate the **sharing of** advertising **profits** ("neighbouring rights") with GAFAM rather than fight them judicially and politically, which reinforces financial dependence[249] .

- Finally, "social media" creates a **personalized audience** for each journalist that did not exist, or hardly existed, before the digital turn, and which is sometimes quantitatively larger than the newspaper's own audience, creating a personal, psychological, even addictive, dependence of journalists on digital communications[250] . And it's not uncommon today for a

[248] Franck REBILLARD and Nikos SMYRNAIOS, " Quelle " plateformisation " de l'information ? Socioeconomic collusion and editorial dilution between media companies and internet infomediaries", tic&société, Vol. 13, N° 1-2 | 1st semester 2019 - 2nd semester 2019,: http://journals.openedition.org.ezpaarse.univ-paris1.fr/ticetsociete/4080

[249] OUAKRAT Alan, "Negotiating dependency? Google, la presse et le droit voisin", *Sur le journalisme - About journalism - Sobre jornalismo* - Vol 9, n°1 - 2020 : https://revue.surlejournalisme.com/slj/article/view/417/388 ; PIQUARD Alexandre "Facebook News, nouvelle étape dans les négociations entre les médias et les géants du numérique", *Le Monde*, February 15, 2023 : https://www.lemonde.fr/economie/article/2022/02/15/facebook-news-nouvelle-etape-dans-les-negociations-entre-les-medias-et-les-geants-du-numerique_6113755_3234.html.

[250] Brailovskaia, BierhoffH., Rohmann E.. , Raeder F., Margraf J. (2020) The relationship between narcissism, intensity of Facebook use, Facebook streams and Facebook addiction. Addictive Behavior Reports - Elsevier 2020: https://www.kli.psy.ruhr-uni-bochum.de/klipsy/public/margraf%20Journals%20with%20Peer-Review/Brailovskaia,%20Bierhoff,%20Rohmann,%20Raeder,%20&%20Margraf,%202020.pdf

political science teacher to have to explain to journalism students the differences between "blogger" and "journalist".

Professional journalists' relationship with digital platforms has moved "***from symbiosis to dependency***"[251] . In 2017 94% of journalists used social networks to promote their articles[252] . For journalists, digital has become a highly addictive social work environment, as Le *Monde* journalists Matthieu Goar and Nicolas Chapuis lucidly observe: "*Putting the blue bird on mute? Easier said than done, as the network is so addictive that politicians and journalists are used to denigrating Twitter while frantically refreshing their feeds*.[253] Work tools, sources of information, pseudo-free substitutes, benefits to be shared, personalized audience... these five items configure a structure of journalistic "**social addiction**" to digital. The concept of social addiction is to be understood in a Durkheimian sense: addiction can be analyzed as a sociological rather than just a psychological tendency[254] . This addiction is particularly apparent in the poor ability of professional journalists to speak out about what they suffer in terms of surveillance, online harassment, threats, intimidation, identity theft or worse...[255] Surveillance of journalists has become an easy and lucrative business[256] which is intensifying in the global

[251] SEBBAH Brigitte, Guillaume SIRE, Nikos SMYRNAIOS, "Journalisme et plateformes: de la symbiose à la dépendance ", *Sur le journalisme*, vol 9, n°1, 15 juin 2020 : https://revue.surlejournalisme.com/slj/article/download/413/390/1171

[252] Cision, *Journalists and social networks - Key trends. Survey of 1787 journalists in France, Germany, Finland, the United States, Canada and the United Kingdom*, Cision and Canterbury Christ Church University, 2017: https://www.cision.fr/content/dam/cision-fr/ressources/livres-blancs/FR_0118-Etude-JRS-Monde-avec-page-de-garde-min.pdf

[253] Matthieu Goar and Nicolas Chapuis, "Présidentielle 2022 : faut-il se couper de Twitter, huis clos politique devenu hostile?", *Le Monde*, March 31, 2022; URL: https://www.lemonde.fr/politique/article/2022/03/31/presidentielle-2022-faut-il-se-couper-de-twitter-huis-clos-devenu-hostile_6119885_823448.html

[254] COLLARD Victor, "L'addiction au prisme de la perspective sociologique", *Philosophical Implications*, March 27, 2017: https://www.implications-philosophiques.org/laddiction-au-prisme-de-la-perspective-sociologique/

[255] Cf.: Council of Europe, "Safety of journalists" dossier: https://www.coe.int/fr/web/freedom-expression/safety-of-journalists

[256] Reports Sans Frontières, "Censorship and surveillance of journalists: an unscrupulous business", Rsf.org, March 11, 2017: https://rsf.org/fr/censure-et-surveillance-des-journalistes-un-business-sans-scrupules-0

geopolitics following the invasion of Ukraine[257] . More than others, because of their profession and their tendency to addiction, journalists' data is captured and their surveillance is generalized, as confirmed by a former French intelligence agent[258] . The risks go as far as assassination: Cecilio Piñeda, a Mexican journalist investigating corruption within the state, was murdered a fortnight after being registered in the *Pegasus database*[259] ; proof of correlation is lacking, but *The Washington Post* points out that this technology enables real-time geolocation[260] . And *Reporters Sans Frontières*' annual report card for 2022 lists 1,787 journalists killed worldwide since 2000[261] .

This structure of dependence not only endangers journalists, but also considerably reduces their critical capacity with regard to the capitalism of surveillance and influence, even when they disclose it. Researcher Camila Perez Lagos observes, "*Articles from Le Monde mention the consequences of the CA scandal more for Internet users and Facebook users than for citizens understood (in the broadest sense) as individuals who belong to a nation and have rights and duties.*"[262] Generally speaking, the current media "framings" of the subject by the professional media tend rather to trivialize the "NSA & GAFAM System" than to present it as

[257] Council of Europe, "Defending press freedom in times of tension and conflict", Annual report of the partner organizations of the Council of Europe Platform to strengthen the protection of journalism and the safety of journalists, 2022: https://edoc.coe.int/fr/module/ec_addformat/download?cle=ed2357bbbd318d584d579d024d9fd808&k=2100bd4f9203a3a5210271091cf99892

[258] Guilhem Giraud, *Confidences d'un agent du renseignement français*, published by Robert Laffont, 2022.

[259] Amnesty International, "Forensic Methodology Report: How to catch NSO Group's Pegasus", Report, July 18, 2021 : https://www.amnesty.org/en/latest/research/2021/07/forensic-methodology-report-how-to-catch-nso-groups-pegasus/

[260] The Washington Post, "Private Israeli Spyware used to hack cellphones of journalists, activists, worldwide", on July 18, 2021: https://www.washingtonpost.com/investigations/interactive/2021/nso-spyware-pegasus-cellphones/

[261] Reporters Sans Frontières, "Journalists detained, killed, hostages and missing around the world", 2022: https://rsf.org/sites/default/files/medias/file/2022/12/RSF_Bilan2022_FR.pdf

[262] Camila Pérez Lagos, "Making visible the consequences of digital surveillance", *Communication*, vol. 37/2 | 2020 : http://journals.openedition.org/communication/13252

infringements of institutionalized fundamental human rights, notably the protection of privacy, which remains perceived as an obstacle to journalistic investigations and freedom of expression for the press[263] .

[263] DEBET Anne, "Traitement de données aux fins de journalisme : état des lieux et perspectives", *Légipresse*, 2020/HS3 (N° 63), p. 51-65 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-legipresse-2020-HS3-page-51.htm

5. State intervention in question: "overwhelmed" states?

What is the State doing? ...or, what are States doing in the face of digital technology? During the first twenty years of the Internet's societal expansion (1995-2015...), the most widespread response to such questions was that the State was "overwhelmed", i.e., its regulatory capacities were overtaken by the lightning speed of technological evolution in digital computing.

5.1 Technological developments too fast to govern?

This speed of change in digital computing can be illustrated by the famous "**Moore's Law**"[264] , which in 1965 predicted an annual doubling of semiconductor complexity, and ten years later an annual doubling of the number of transistors integrated in a microprocessor chip. Moore's Law is of course debatable: the long-term trend predicted in 1965 is not quite the same as that observed since then. But the variations are marginal, and Moore's Law remains impressive; there are few laws that explain and predict techno-socio-economic evolutions that have been as durably verified a posteriori as this one. Simply put, this law explains technology, but not politics: there are many factors, other than technological ones, that intervene between the

[264] Loeve, Sacha. "La Loi de Moore, entre anticipation technologique et économie de la promesse.", February 13, 2020, *Cahiers COSTECH* number 3. http://www.costech.utc.fr/CahiersCOSTECH/spip.php?article85

composition of electronic chips on the one hand, and decisions not to regulate on the other.

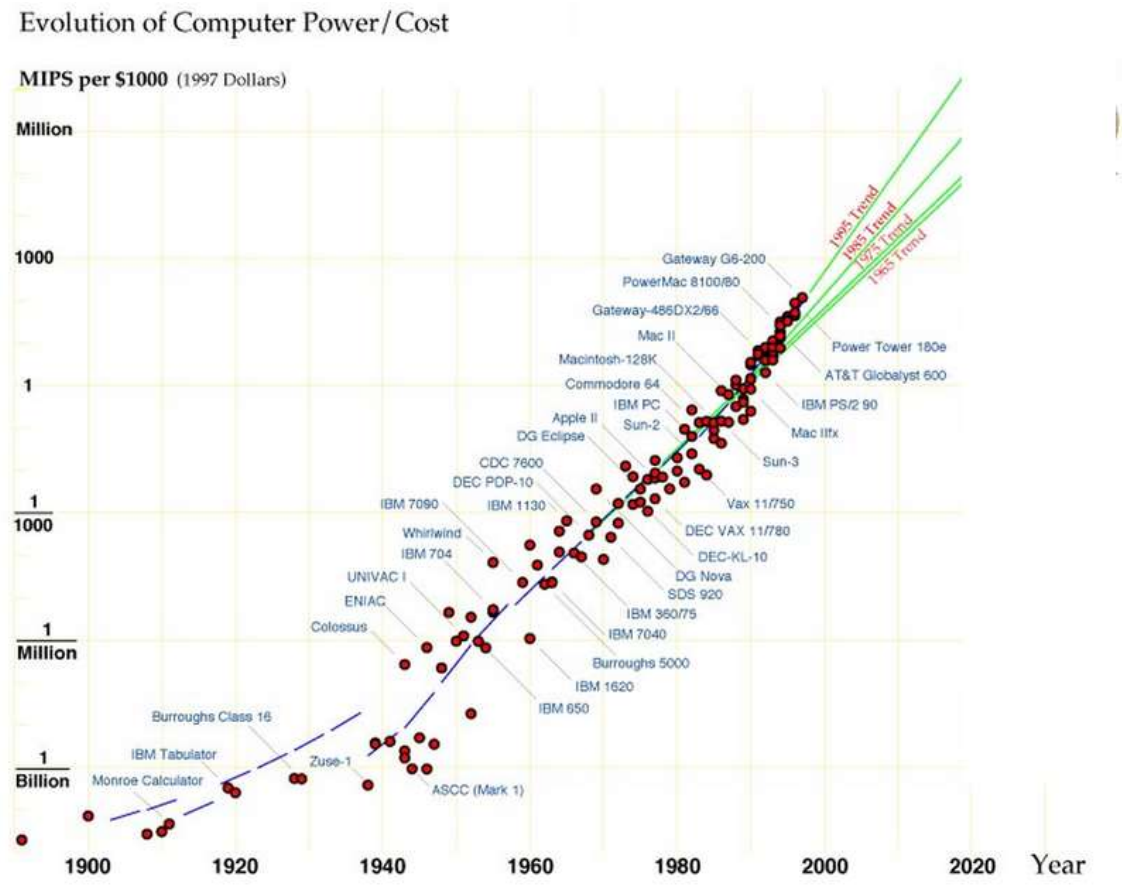


Figure 2 Extrait de "Courbe loi de moore" Clementinehf - 10 novembre 2013 : www.pearltrees.com/t/publier-sur-internet/generalites/id9763726/item95103896 - Graphique modifié par J.Valluy 2022

Moore's Law is often used strategically[265] in rhetoric against any attempt or desire for state regulation. We could illustrate this discourse in a thousand ways. But we'll retain just two quotes from Eric Schmidt (Google's main CEO and the main author of its commercial "success"); one on the first page of his book co-written with Kared Cohen and emphatically titled: *A nous d'écrire l'avenir - Comment les nouvelles technologies bouleversent le*

[265] ELSTER Jon, "L'usage stratégique de l'argumentation", *Négociations*, 2005/2 (no 4), p. 59-82 : https://www.cairn.info/revuenegociations-2005-2-page-59.htm

monde, Denoël 2013: "***The online world is not really constrained by earthly laws (...). It's the biggest space in the world to be ungoverned.***"[266] ; the other corresponding to these remarks reported by an American newspaper at the 8ème Mobile World Congress: "***Asked about government regulation, Mr. Schmidt also said that technology is evolving so fast that governments shouldn't try to regulate it, because it's changing too fast and any problem will be solved by technology. "We will evolve much faster than any government," said Mr. Schmidt.***"[267]

In certain respects, this perception of the State is reminiscent of that expressed in 1889 by the economist Paul Leroy-Beaulieu at the end of his book *L'État moderne et ses fonctions*: *"We need only a few lines to sum up this entire work. We have studied both the origins of the State and its concrete nature. A heavy, uniform organism, slow to conceive and slow to move, it is suited to certain general tasks. It lacks the inventive faculty and the gift of rapid adaptation. As we have seen, human and social progress has been achieved through the free initiative of individuals, associations or the plastic social environment*.[268] On the other hand, the idea expressed by E. Schmidt that "*every problem will be solved by technology*" is more recent, and corresponds to what is known today as "solutionism" or "technological solutionism", following in the footsteps of Evgeny Morozov[269] . Françoise Laugée describes it well: "*A current of thought originating in Silicon Valley that*

[266] Quoted in Zuboff, ibid. op.cit, p.148.
[267] Pascal-Emmanuel Gobry, "Eric Schmidt To World Leaders At eG8: Don't Regulate Us, Or Else", *Business Insider*, May 24, 2011: https://www.businessinsider.com/eric-schmidt-google-eg8-2011-5?r=US&IR=T.
[268] LEROY BEAULIEU Paul, *L'État moderne et ses fonctions* (1889), Paris: Guillaumin et Cie, (3ème ed.) 1899, p.460-461: https://gallica.bnf.fr/ark:/12148/bpt6k37103k.pdf
[269] MOROZOV Evgeny, *To solve everything, click here! L'aberration du solutionnisme technologique* (2013), FYP éditions, 2014, 352 p.

emphasizes the ability of new technologies to solve the world's major problems, such as disease, pollution, hunger or crime. Solutionism is an ideology promoted by the major American Internet groups that shape the digital universe. At the 2008 edition of the South by Southwest festival, Facebook founder Mark Zuckerberg declared: "As the world faces many major challenges, what we're trying to build as a company is an infrastructure on which to unravel some of them." In a similar vein, Google executive chairman Eric Schmidt announced at a 2012 conference, "If we get it right, I think we can fix all the world's problems."[270]

As Shoshana Zuboff observes, this political culture, both anti-statist and solutionist, values the legal vacuum (Carbonnier's "non-droit"). This culture is not new, but it has experienced unprecedented diffusion since it became the spearhead of GAFAM: "*This form of legal vacuum has been a decisive success factor in the short history of surveillance capitalism. Schmidt, Brin and Page have ardently defended their right to free themselves from the law, even as Google has grown to become undeniably the most powerful company in the world (23). Their efforts were marked by a few consistent themes: 1) technology companies like Google grow faster than the state's ability to understand or keep up; 2) all attempts to intervene with them or to constrain them in any way are therefore doomed to be ill-conceived, if not foolish; 3) regulation is always a negative force that prevents innovation and*

[270] LAUGEE Françoise, "Solutionnisme," *The European Journal of Media and Digital*, No. 33, Winter 2014-2015: https://la-rem.eu/2015/04/solutionnisme/

progress; 4) finally, the legal vacuum is the necessary context for "technological innovation". (ibid.,p.149)

Has the digital dimension of the social world been and is it "ungoverned", as Éric Schmidt maintains? This question brings us back to a classic political science question: **does one govern?** (... in the sense of "can one govern?" or "is there (effective) governance?" in the course of history). Research in the social sciences over the last half-century or so has tended to provide two divergent orientations, each with a rather negative or rather positive answer[271] . From this point of view, the bibliography highlights two interpretative schemes, which constitute the two poles of a continuum between which most studies fall. The first position, which we'll call ***interactionist***, sees each public action process composed by the interaction of a multitude of actors, like an "emergent effect" or "composition effect", and following a fairly unpredictable evolution over time, whose trajectory cannot be attributed to the will of any one actor, group or category. The second position, which we'll call ***directionist***, draws attention to the predominant role played by a "social class" or "elite" likely to influence social representations and value systems, and to control the sequence of social interactions that shape the meaning of public action over time. Neither approach is absurd or disconnected from reality, and to reject one of them completely and a priori runs the risk of dogmatic blindness, leading to the

[271] VALLUY Jérôme, "Introduction - Gouverne-t-on? Perspectives scientifiques et didactiques", in: *Transformations des États démocratiques industrialisés*, Terra-HN Editions, 2022 (p. 15 et S.): http://www.hnp.terra-hn-editions.org/TEDI/article15.html

obscuring of essential aspects of social reality[272] . We will therefore seek to articulate them, while reasoning about their respective weightings.

It is the empirical material of the history of computing and the digital age that will provide the means to articulate the two schemas: since its first societal expansion in 1890 for the American census, the State, first American and then European, has been first and foremost a user of computing, i.e. a funder of computing resources as much as a consumer of computing results. It could even be said that the State has historically been the biggest user of IT: scientific research into IT was massively financed by the State via universities and the armed forces, in particular from 1890 to around 1960. The Second World War boosted publicly-funded research and development, particularly in encryption and decoding, and led to further technological acceleration[273] . The speculative bubble in electronics and computing (1958/62) marked the turning point in the distribution of computers by private companies. For four decades, the state's supremacy in information technology faded behind the growth in the number of private producers and consumers of information technology, and then digital technology. But even during this period, the State remained one of the biggest consumers of computers and networks, thanks to its public orders, particularly for equipping government departments. And the Arpanet (the prehistoric

[272] For more detailed theoretical explanations on the use of the two schemes: J.Valluy, "Interactionnisme, directionnisme (oecuménisme) : schémas de contrôles croisés", in: *Transformations des États démocratiques industrialisés*, http://www.hnp.terra-hn-editions.org/TEDI/article19.html

[273] FOUCRIER Jean-Charles, "XI. La naissance de l'informatique", in: *La guerre des scientifiques. 1939-1945*, edited by FOUCRIER Jean-Charles. Paris, Perrin, 2019, p. 335-364: https://www-cairn-info.ezpaarse.univ-paris1.fr/la-guerre-des-scientifiques--9782262067939-page-335.htm

ancestor of today's network, which connected just 562 computers in 1983) was still military-university, and therefore state-run, until 1983, when the military Milnet was separated from the civilian Internet.

5.2 States that are mainly users and reluctant to regulate

During the first period (1890/1958), this state supremacy did not encourage the State to regulate its own activities according to a ***Rechtsstaat*** logic, and the first state rules only appeared in **reaction to the massive arrival of private companies and citizens in the IT sector** from the 1960s onwards. But while judicial authorities were making progress, government authorities in both Europe and the United States seemed reluctant to regulate.

In 1975, when the Council of Europe had already adopted its first two non-binding resolutions on personal data protection, including the famous *Convention 108*, the ECJ's ability to guarantee fundamental rights and freedoms was still uncertain. In 1975, the Parliamentary Assembly of the European Communities (the future "European Parliament", but with no power of initiative) adopted a non-binding resolution drafted following a report by the Assembly's Legal Affairs Committee. It "[*urged*] *the Commission, in the light of the report of this special committee, to draw up as soon as possible a directive designed to protect citizens in the Community against the abuses engendered by the storage, processing and communication of personal information stored in data banks, in both the public and private sectors*" (OJEC 1975 No. C 60, p. 49). The request went unanswered.

In 1976, the Parliamentary Assembly of the European Communities adopted a new resolution on "*the protection of human rights in the face of the development of technical progress in the field of information technology*"[274] , which was also not acted upon, but was repeated in 1979[275] . In the latter, the Parliamentary Assembly, now renamed the "European Parliament", insisted on a new argument. On the one hand, it *pointed out that "national provisions concerning the protection of privacy are liable to have a direct impact on the establishment and operation of the Common Market, and in particular to distort the conditions of competition therein*", and on the other, it considered that *"it would be unwise for the Community institutions to wait to act until serious disturbances in the operation of the Common Market have occurred*"[276] . In this way, we can see the construction of an argument aimed at making the protection of personal data a matter of common market law, which fell well and truly within the sphere of competence in which the EEC was empowered to adopt binding regulations and directives.

In 1981, the European Commission responded to Parliament's repeated requests by adopting a non-binding recommendation encouraging member states to ratify Council of Europe *Convention 108.* **This was an elegant way of indicating that the Commission refused to do anything more**. The European Commission's Directorate General for the Internal Market took the view that personal data protection did not fall within its remit,

[274] Official Journal of the European Communities 1976 No. C 100 p. 27 ff.
[275] Official Journal of the European Communities 1979 No. C 140 p. 34 ff.
[276] Official Journal of the European Communities 1979 No. C 140 p. 35

but within the realm of fundamental rights, and that Council of Europe *Convention 108*, if ratified by all member states, would suffice to prevent obstacles to the free circulation of data between EEC countries. Moreover, it was reluctant to adopt binding measures on private-sector companies.

However, the European Parliament reiterated its request in 1982[277] . In this resolution, it continued to build on its argument **that data protection was a political problem falling within the scope of the common market**, even specifying the article of the Treaty of Rome which, in its view, conferred competence on the EEC to adopt legal acts in this field: "[The European Parliament] *refers to Article 100 of the EEC Treaty, which provides for the approximation of the provisions laid down by law, regulation or administrative action in Member States which have a direct bearing on the establishment and functioning of the internal market*".

In the 1980s, a number of national data protection authorities, using their own regulatory powers, demonstrated their capacity to be a nuisance and a potential obstacle to the free circulation of personal data within the EEC. It is essentially this risk that seems to have convinced the European Commission to act, not so much to protect data and citizens, but rather the free circulation of data. In 1990, eight years after the European Parliament's fourth resolution, it proposed two directives, one on "*the protection of individuals with regard to the processing of personal data*", and another "*concerning the protection of personal data*

[277] Official Journal of the European Communities 1982 No. C 87 p. 39 ff.

and privacy in the context of public digital telecommunications networks, in particular integrated services digital networks (ISDN) and public digital mobile networks".)

These two proposals respectively gave rise to Directive 95/46/EC of October 24, 1995 "on the *protection of individuals with regard to the processing of personal data and on the free movement of such data*", and Directive 97/66/EC of December 15, 1997 "*concerning the processing of personal data and the protection of privacy in the telecommunications sector*" (the first "e-Privacy" Directive). Of these two directives, Directive 95/46/EC established the general framework applicable to the processing of personal data (similar to the role played today by the RGPD).

Under the triple inspiration of expert networks (Council of Europe, OECD, local authorities...), in view of the obstacles created by the new national/local authorities to the free circulation of personal data in the European market, and under the effect of the political orientation propelled by the European Parliament, placing this issue within the economic sphere of competence of the construction of the European single market... the economic orientation became central to the debate, and competed with that of the protection of fundamental human rights. This is how the title of Directive 95/46/EC came to end with "*and the free movement of its data*". Although the term "data protection" does not appear in the title of the directive, and rarely in its body text, Directive 95/46/EC became known as the "*Data Protection Directive*".

At the start of the Internet's societal expansion in 1995 and 1996, it was still the States that decided to make platforms legally irresponsible, considering them to be mere "pipes" rather than newspapers, both in the USA (Section 230 of the *Communications Decency Act* of 1996) and in Europe (whose States aligned themselves with American legislation), thus freeing them from press and publishing laws. And in the mid-2010s, after waves of terrorist attacks in the United States and Europe (e.g., the attack on Charlie Hebdo in France in January 2015), it was once again the states that ordered platforms to control and censor their content, thus producing a privatization of political censorship. The role played by Silicon Valley's technological giants, or GAFAMs, in the highly political regulation of freedom of expression owes nothing to the impotence of the State, but quite the opposite to its willingness, both in the United States and in Europe, to go easy on these companies, as Romain Badouard analyzes: "*Until recently, they* [the American technology giants] *have always defended a "plumber's" posture, arguing that they merely manage "pipes" and are loath to control what circulates in them*. *The wave of Islamist attacks that hit Europe and the United States in the mid-2010s changed all that, and today's web giants no longer hesitate to delete, filter and downgrade problematic information, whatever the problem. A limit was crossed the moment these companies decided to intervene in content on their own initiative, with the blessing of public authorities. What we have witnessed in*

recent years is a voluntary delegation of censorship powers from governments to the private sector."[278]

During the same period and the following one, it was the States, via the Central Banks, that adopted accommodating financial policies with very low interest rates, encouraging venture capital investment and enabling technology companies to prosper for years on low incomes. In 2001 in the USA, it was once again the State that pushed the NSA towards Silicon Valley to find the means of global police and military surveillance likely to stop any future terrorist intervention on American territory (*Patriot Act* 2001[279] *, Total Information Awareness* TIA-2003, *Patriot Act* II-2003[280] ...).

In 2016, after twenty years of a regime of ineffective European directives, the European Union adopted its first regulation, the famous RGPD, which also remains ineffective, with most companies not in compliance five years after the start of its implementation (May 2018). This European data protection reform is the subject of intense lobbying activity on the part of the United States and more specifically its Department of Commerce with the help of documents distributed to European diplomats showing the infringement of fundamental rights that the RGPD would entail and through the action of the American ambassador to the EU. The United States has a twofold interest in influencing the preparation of the RGPD: firstly, the digital sector is

[278] BADOUARD Romain, *Le désenchantement de l'internet*, op.cit. p. 22.
[279] Robert Harvey, Hélène Volat, *De l'exception à la règle : USA Patriot Act*, Lignes-Léo Scheer, 2006, 224 p. https://www.editions-lignes.com/DE-L-EXCEPTION-A-LA-REGLE-USA.html
[280] SIDEL Mark, "Après le Patriot Act : la seconde vague de l'antiterrorisme aux États-Unis", *Critique internationale*, 2006/3 (no. 32), pp. 23-37 : https://www.cairn.info/revue-critique-internationale-2006-3-page-23.htm

dominated by American firms whose sales are split between the North American and European continents (any European legislation has a strong impact on these American companies) and secondly, the United States has a major say in the definition of standards. In this context of negotiating a new global framework to regulate data transfers between the USA and the European Union, the positions were contradictory. The US government took a stand from the outset: its ambassador to the European Union, William E Kennard, published an op-ed on December 11, 2012, explaining that companies must be able to use data without having rules that are too cumbersome, which could harm innovation. Other arguments were a denunciation of a myth relating to the *Patriot Act*[281] . The issues at stake for the United States focus on the "right to be forgotten", "the transfer to a third country - essential points for its companies", "the obligation to warn the user in the event of a detected security flaw" and "finally, explicit consent". We note that on several of these issues, the USA risks an explosion of litigation against installed companies for data erasure... American lobbying has been particularly intense. In 2013, La Quadrature du Net, an NGO, listed the organizations involved in European parliamentary debates on personal data protection[282] . The most frequent type of organization is a company, with the number of independent associations/NGOs being marginal. These companies are about half American and half European. All are in the digital economy, banking or

[281] William E. Kennard "Data protection reform must not prevent a transatlantic digital single market", *Euractive.fr*, December 11, 2012: https://www.euractiv.fr/section/l-europe-dans-le-monde/opinion/la-reforme-sur-la-protection-des-donnees-nedoit-pas-empecher-un-marche-unique-numerique-transatlantique
[282] Cf.: wiki.laquadrature.net/lobbies_on_dataportection

insurance. Using information from the "Lobbyfact.eu" website, which publishes data from lobbying accreditation declarations to the European Parliament, we can observe a - sometimes spectacular - growth in the lobbying expenses incurred by these organizations between 2011 and 2015: Facebook, for example, went from spending €150,000/year in 2011 to almost €800,000 in 2015; Google from €1 million in 2012 to almost five million in 2015; Insurance Europe from €1 million to over €7 million... If we examine the amendments tabled in parliamentary committee by MEPs (5,314 amendments) and compare them with those proposed by lobbies (1,158 proposed amendments)[283] , we find more than a thousand parliamentary amendments in the first corpus that appear to be simple copies of proposals from the second corpus. This observation applies only to the parliamentary debate - which is not always the most important politically - but, by extrapolation, we can assume that the same lobbies are active in a more confidential way with other players, in the Commission and the Council, without prior registration being required, nor the positions being made public. American pressure was so strong that, in 2014, European Commissioner Viviane Reding was forced, in a highly undiplomatic form, to publicly accuse the United States of not being interested in data protection, forcing her counterpart, US Attorney General Eric Holder, into an embarrassed denial[284] . Ten years on, the mistrust between the EU and the USA has only increased, judging by the recent rejection of

[283] ROSSI Julien, *Protection des données personnelles et droit à la vie privée : enquête sur la notion controversée de " donnée à caractère personnel*, Doctorant en Sciences de l'information et de la communication, Dir. V.Julliard, J.Valluy, UTC Costech, July 2, 2020 : http://www.theses.fr/2020COMP2549/document

[284] Toby Vogel, US "envoy rejects Reding's charge on data protection", *Politico.eu* December 20, 2014: https://www-politico-eu.ezpaarse.univ-paris1.fr/article/us-envoy-rejects-redings-charges-on-data-protection

an American candidate to head the European Commission's Directorate-General for Competition: in July 2023, American economist Fiona Scott Morton was forced to withdraw her candidacy because of her past activities with American tech giants[285] . And Europe's ability to hold its own against American players remains as weak as ever[286] .

If we reread the history of IT and digital technology from this political angle (do we govern?), it's clear that **American and European states have been more users than legislators (or regulators) of IT and digital technology**. Consequently, the "delay" or "absence" or "ineffectiveness" of regulations, or even their non-existence, can be interpreted not as a reflection of the structural impotence of these states, but on the contrary as the expression of a political will that is both clear in intention and powerful in execution: ***"laissez faire, laisser passer"... technological innovation for commercial and police surveillance***. The predominance of this trend, which is to be found in most American, European and now African public policies, does not, however, eliminate all internal heterogeneity within states, nor all political pluralism within their territories. Counter-discourses and counterweights do exist[287] , linked, for example, to fundamental human rights such as "privacy" and "human dignity", or to

[285] EGON Nicolas, "Fiona Scott Morton renounces a key EU post: between controversy and economic stakes"; *Le journal de l'économie*, July 19, 2023: https://www.journaldeleconomie.fr/Fiona-Scott-Morton-renonce-a-un-poste-cle-de-l-UE-entre-polemique-et-enjeux-economiques_a12579.html

[286] TOLEDANO Joëlle, "La Commission européenne, la norme et sa puissance", *Pouvoirs*, 2023/2 (N° 185), p. 83-95 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-83.htm

[287] See the work of the UN Office of the High Commissioner for Human Rights, under the heading "Digital space and human rights": https://www.ohchr.org/fr/topic/digital-space-and-human-rights and also the work of the Council of Europe, from Convention 108 (1981): https://www.coe.int/fr/web/data-protection/convention108-and-protocol ... and its updates (2018): https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=09000016807c65c0 ... to the Convention on Cybersecurity, adopted on November 23, 2001 and which came into force in 2004: https://rm.coe.int/168008156d and for the list of the 66 States that have ratified it: https://fr.wikipedia.org/w/index.php?title=Convention_sur_la_cybercriminalit%C3%A9&oldid=197410994

consumer protection or child welfare, but they are marginal, dominated, in the political deliberations that make up the day-to-day (administrative rather than parliamentary and media) processes of public policy. The anti-regulatory prescription and the political preference for a legal vacuum are all the more powerfully supported as they are by the public policies of states that were historically and remain very large and powerful consumers and/or "beneficiaries" of digital computing, including the capture of personal data, from censuses to the functioning of public services and police and military surveillance...

And yet, an "**overworked state**" resembles a "**laissez-faire state**" as closely as two drops of water resemble each other, all the more so since the bodies and individuals assigned to regulation can always mask their political will not to intervene behind declarations of inability to do so[288] . In another field, but one that also touches on the regalian foundations of the State, that of crypto-currencies, it is striking to note that the same ambivalence between the "overwhelmed State" and the "laissez-faire State" can be observed. Aurore Lalucq notes an explicit political version of "laissez faire": "*Cryptos enjoy strong support within the executive branch. For example, on November 3, 2021, Cédric O, then Secretary of State for Digital Transition and Electronic Communications and avowed ambassador for the sector, organized a conference at Bercy entitled "Crypto: what's at stake? Nouveaux défis et opportunités", in the company of Binance CEO Changpeng Zhao (Binance, 2021), at which he declared that*

[288] ELSTER Jon, "L'usage stratégique de l'argumentation", *Négociations*, 2005/2 (no 4), p. 59-82 : https://www.cairn.info/revue-negociations-2005-2-page-59.htm

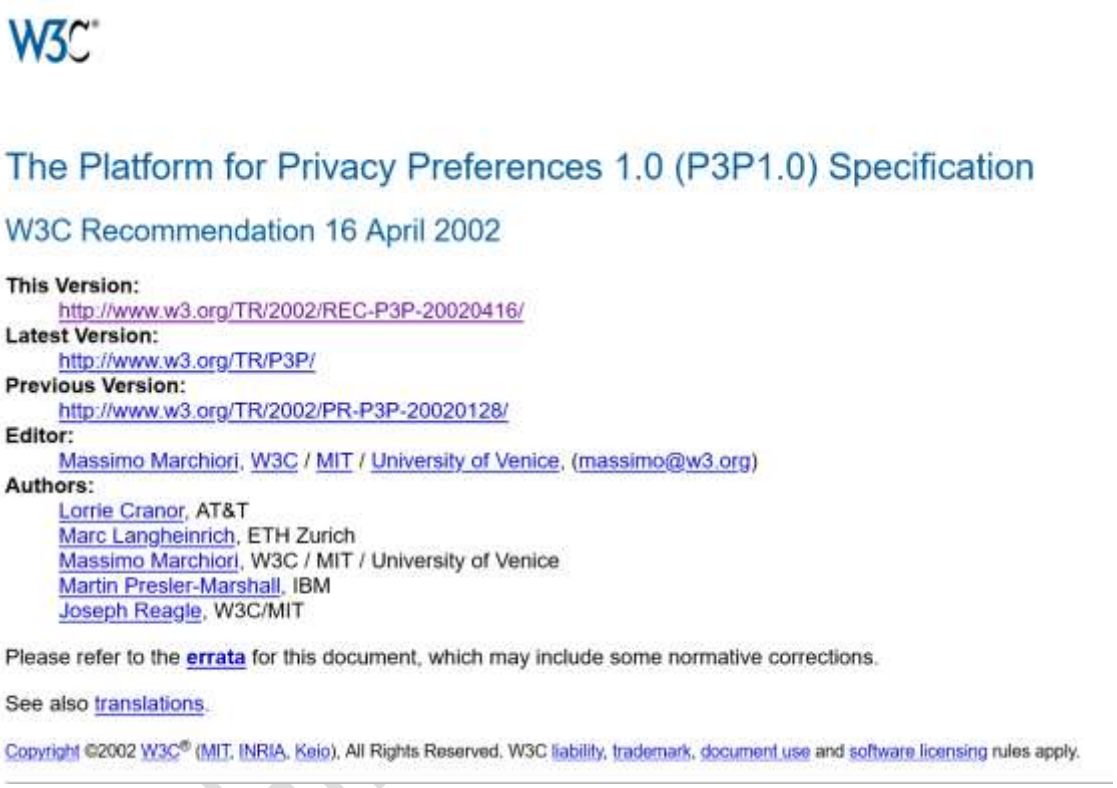
"innovation cannot be achieved by complying with all the rules, and that it's even normal not to comply with all the rules". She goes on to demonstrate the desire to regulate nothing by relaying the critical expression of financial institutions above any suspicion of anti-statism or economic incompetence: "*Yet, in the face of this blindness on the part of legislators, the warnings came from regulators and supervisors, both European and American. As early as April 25, 2022, Fabio Panetta (2022), a member of the ECB's Executive Board, expressed himself in the same terms as we do, describing the cryptoasset sector as a veritable wild west, totally escaping any rule of law, and in which the weakest get fleeced with no sheriff to intervene. (...) In the United States too, a number of supervisors have tried to sound the alarm about the excesses and risks of a totally deregulated sector. This is particularly true of Gary Gensler, Chairman of the SEC, who, as early as August 2021 (Gensler, 2021), reminds us of the cases of fraud and money laundering that particularly plague the crypto sector*."[289] .

5.3 Digital turning point(s): 1995 hesitations, 2001 renunciations

The first period of the digital revolution illustrates the ambiguities of public inaction, between technical difficulties and lack of will. The first period of societal expansion of the Internet was characterized by a proliferation of initiatives in all directions to experiment with new "business models", arousing uncritical media enthusiasm and even blinding private investors into

[289] LALUCQ Aurore, "Les cryptos : la bienveillance coupable des régulateurs", *Revue d'économie financière*, 2023/1 (No. 149), pp. 19-31: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-d-economie-financiere-2023-1-page-19.htm

speculative over-investment. But all of this is accompanied by political gropings that are still preoccupied with privacy protection, as demonstrated by Netscape and Microsoft's "P3P" project at the W3C (1997), or the banning of all cookies on US federal government websites in June 2000.



W3C

The Platform for Privacy Preferences 1.0 (P3P1.0) Specification

W3C Recommendation 16 April 2002

This Version:
http://www.w3.org/TR/2002/REC-P3P-20020416/
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Please refer to the **errata** for this document, which may include some normative corrections.

See also translations.

In 1997, several organizations, including the American think tank *Centre for Democracy and Technology* (CDT "P3P and Privacy"), which aims to defend human rights on the Internet, the official and institutional *Federal Trade Commission* and a number of consumer organizations (*Consumers Union*, *National Consumers League*...), digital companies (*Microsoft*, *IBM*, *AmericaOnline*...), marketing companies (*American Association of Advertising*...) and financial companies (*Citicorp Credit Services*...) are proposing the creation of a **so-called "P3P" platform (*Platform for Privacy***

Preferences : **https://www.w3.org/P3P/), on which any Internet user could set their personal data protection preferences once**, and any company could then link their IT designs and developments to a prior, automatic consultation of this platform[290] . The technical specifications of the P3P project have been translated into French: http://www.yoyodesign.org/doc/w3c/p3p1/ They are studied, for example, in this doctoral thesis by Kheira Dari Bekara "*Protection des données personnelles côté utilisateur dans le e-commerce*" (Telecom Sudparis et Univ. Pierre et Marie Curie, December 12, 2012): https://tel.archives-ouvertes.fr/tel-00923175/document The project is well advanced: on June 2, 1997, two competing companies, **Microsoft** and **Netscape**, filed two projects with the W3C for standardizing the exchange of information on user profiles on the web. A first demonstration of the prototypes was made to the **Federal Trade Commission** on June 11, 1997 by Tim Berners-Lee (which means that the project had been in gestation for some time...). Presentations of these prototypes can still be found on the web, with very precise settings[291] . But these projects were mysteriously and silently abandoned: the first draft of a technical standard ("W3C recommendation") was published by W3C on May 19, 1998, the first official version was adopted on April 16, 2002, and the proposed standard for P3P version 1.1 was adopted on November 13, 2006... **then followed years of internal**

[290] Julien Rossi, Protection des données personnelles et droit à la vie privée : enquête sur la notion controversée de " donnée à caractère personnel, Doctorant en Sciences de l'information et de la communication, Dir. V.Julliard, J.Valluy, UTC Costech, July 2, 2020 : http://www.theses.fr/2020COMP2549/document

[291] Thanks to the WP.fr archive, version archived on 24/02/2011; see "Help Safeguard Your Privacy on the Web" published on March 26, 2003: https://archive.wikiwix.com/cache/index2.php?url=http%3A%2F%2Fwww.microsoft.com%2Fwindows%2Fie%2Fusing%2Fhowto%2Fprivacy%2Fconfig.mspx#federation=archive.wikiwix.com&tab=url

silence on email discussion lists (it was only in 2014 that Microsoft published a brief statement officializing without explanation the end of this project... actually completed more than seven years ago). The personal protection afforded by this tool should not be overestimated; as Karen Coyle, a highly competent librarian, points out in her dialogue with the *Center for Democracy and Technology, it does* not replace state regulation[292] . And there was the problem of ownership and location of such a platform. On the other hand, the aborted P3P project reveals the level of awareness (even after the passage of the *1996 Decency Act*, which seemed to authorize everything) that specialized players had of the level of invasion of privacy of their technological creations.

This U.S. law was passed under pressure from the new digital capitalists, as a sort of echo of the "***Declaration of Independence of Cyberspace"* (1996).[293]** It was published on February 8, 1996 at Davos (the famous business forum) by one of the founders of *the Electronic Frontier Foundation*, a think tank very active in anti-regulation lobbying. The success of this text has less to do with its author or its folkloric style than with its perfect compatibility with the central concerns of the Davos forum. Under the guise of adolescent ludo-subversive style and an appeal to a few juvenile utopias, the text follows a strictly anti-statist and solutionist line: "*Governments of the industrial world, tired giants of flesh and steel, I come from cyberspace, the new home of the spirit. In the name of the future, I ask you of the past to leave us alone. You are*

[292] See http://www.kcoyle.net/p3p.html and http://www.kcoyle.net/response.html

[293] BARLOW John Perry, "Declaration of Independence for Cyberspace", in: Olivier Blondeau ed., *Libres enfants du savoir numérique. Une anthologie du "Libre"*. Paris, Éditions de l'Éclat, "Hors collection", 2000, p. 47-54: https://www.cairn.info/libres-enfants-du-savoir-numerique--9782841620432-page-47.htm

not welcome among us. You have no right of sovereignty over our meeting places. (...) *You claim that there are problems among us and that you need to solve them. You use this pretext to invade our territory. Many of these problems do not exist. When real conflicts arise, when mistakes are made, we will identify them and resolve them on our own.* ***We draw up our own social contract. Authority will be defined according to the conditions of our world, not yours. Our world is different****. Cyberspace is made up of exchanges, relationships and thought itself, spread like a wave across the network of our communications. Our world is both everywhere and nowhere, but it's not where bodies live.* ***We are creating a world where all can enter, without privilege or prejudice dictated by race, economic power, military might or place of birth****. We create a world where anyone, anywhere, can express their ideas, no matter how singular, without fear of being silenced or held to a standard. Your legal notions of property, expression, identity, movement and context don't apply to us. They are based on matter. Here, there is no matter."*[294] . These are the doctrinal lines we find in the lobbying, marketing and media activities of digital companies. All this might seem to boil down to the kind of propaganda we often hear at Davos, but the *Declaration of Independence has* a much wider scope if we consider its proximity to egalitarian and anti-discrimination stances that are not likely to be in the service of these companies, but are on the contrary at the opposite extreme...

[294] BARLOW John Perry, "Declaration of Independence for Cyberspace", in: Olivier Blondeau ed., *Libres enfants du savoir numérique. Une anthologie du "Libre"*. Paris, Éditions de l'Éclat, "Hors collection", 2000, p. 47-54. https://www.cairn.info/libres-enfants-du-savoir-numerique--9782841620432-page-47.htm

At the other end of the political spectrum, four years later, Michael Hardt and Antonio Negri published an important book for certain political circles on the left and far left: ***Empire* (2000).** Their criticisms are aimed less at states in general than at the American state and its allies, which have effectively constituted a digital "empire"[295] . They place their hopes in "**multitudes**" as a counter-power to capitalists and their states: "*Empire creates a greater revolutionary potential than have modern regimes of power, because it presents us, alongside its machine of authority, with* ***an alternative: the ensemble of all the exploited and subjugated, a multitude directly opposed to Empire, without any mediation between them****. (...) Today's multitude resides in imperial lands where there is neither God the Father nor transcendence. Instead, there is our immanent work. The teleology of the multitude is "theurgic": it resides in the* ***possibility of directing technologies and production towards its own benefit and its own increase in power (...)*** *The processes of construction of the new proletariat, which we have been following, go beyond a fundamental threshold* ***when the multitude identifies itself as machinic****, when it conceives the possibility of a new use of machines and techniques in which the proletariat is not subsumed as "variable capital", i.e. as an internal part of the production of capital, but is rather an* ***autonomous agent of production****. In this transition from struggle to the construction of a new system of machines via the meaning of language,* ***the telos gains greater consistency****. (...) The hybridization of human and machine is no longer a process*

[295] NORDMANN Jean-François, "Michael Hardt et Antonio Negri : empire", *Les Études philosophiques*, 2002/4 (n° 63), p. 549-552 : https://www.cairn.info/revue-les-etudes-philosophiques-2002-4-page-549.htm

occurring only at the margins of society: it is a fundamental episode, at the heart of the constitution of the multitude and its power"[296] In 2000, this utopia was not absurd; in 2023, it is invalidated by the facts that have subsequently emerged: the multitude unwittingly works to reinforce the power and wealth of the "NSA & GAFAM System", without any autonomy of production with regard to platform owners and surveillance systems. To the authors' credit, it must be admitted that there was a lack of empirical data in 2000 to guess that in the following two decades, surveillance and influence capitalism would enlist the *multitude in* the hyper-concentration of wealth characteristic of the new GAFAM capitalism.

In the 1990s and 2000s, the dreams of capitalists and revolutionaries sometimes converged towards a common utopia of the digital overrunning of states, which was embraced by large sections of the population throughout the world, even in academic circles close to the state. A French jurist concluded his study of the subject in 1996 with these words: "*In conclusion, it seems to us that the best system for controlling the electronic media is control by the users themselves (...) As for criminal messages disturbing public order, it will be advisable to identify their authors in order to prosecute those truly responsible, and not mere carriers whose criminal intent is not necessarily established*."[297]

[296] Michael HARDT, Antonio NEGRI, *Empire*, Exils Editeur, 2000, p.474 - 486 - 487.
[297] GRAS Frédéric, "internet et la responsabilité pénale", *LEGICOM*, 1996/2 (N° 12), p. 95-99 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-legicom-1996-2-page-95.htm

Under-informed, unskilled and unable to anticipate (i.e.: unable to foresee the consequences of such legislation twenty/thirty years down the road), American and European public opinion gave in to capitalist & revolutionary pressure - or even supported it - and let the irresponsibility of digital platforms pass. Political leaders, for their part, complacently initiated or accompanied the movement as early as 1996 in the USA, and over the following ten years in Europe: "*In the USA, Acts of Congress play an equally important, or perhaps even more important, role in protecting surveillance capitalism from scrutiny. The most famous is a piece of legislation known as* ***Section 230 of the Communications Decency Act of 1996, which prevents website owners from being sued and persecuted by the state for user-generated content****. "No provider, no user of an interactive computer service," says the text, "shall be treated as the publisher or sender of information delivered by another provider of information content*[49] *." Such is the regulatory framework that allows a site like TripAdvisor to include negative hotel reviews and lets aggressive Twitter trolls roam free without the company being subject to the liability standards that traditionally govern news sites. Section 230 has institutionalized the idea that websites are not publishers, but rather "intermediaries". As one journalist put it, "suing an online platform for an obscene blog would be like suing the New York Public Library for holding a copy of Lolita*[50] *". As we shall see, this* ***reasoning collapses as soon as surveillance capitalism enters the scene****."*[298] And the collapse concerns both the USA and the European Union, whose June 8, 2000 e-commerce directive aligns member states

[298] Zuboff, op. cit. p.157.

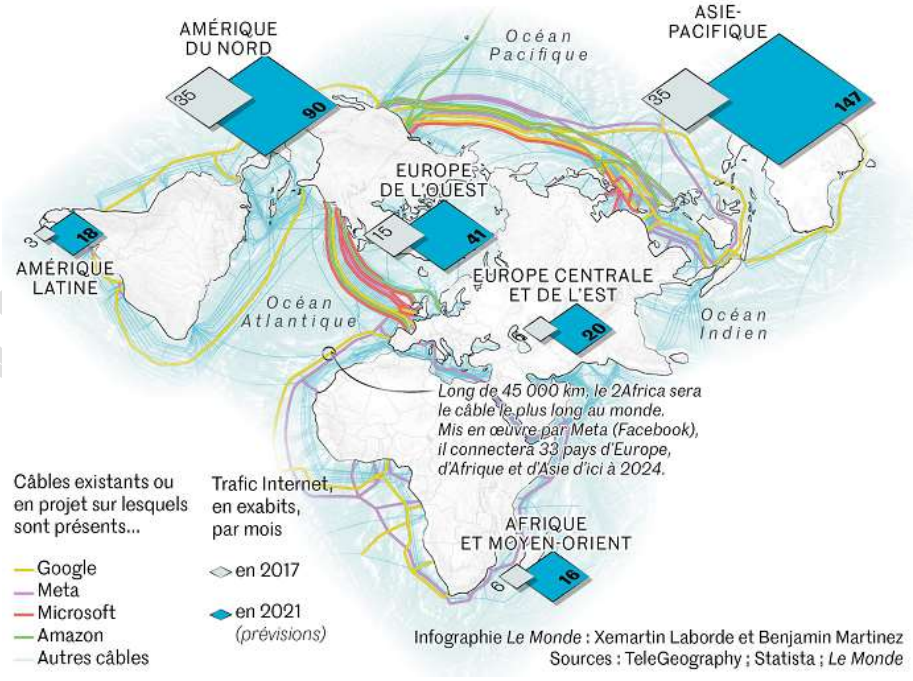
with American legislation (its transposition into French law is to be found in the June 21, 2004 Law for Confidence in the Digital Economy, which distinguishes between publishers and hosts to reduce the latter's liability for content published on their systems). In fact, all European countries have aligned themselves with this founding system of irresponsibility.

The user-state trend is also present in China and Russia, and is reinforced globally by the growing role of China[299] and, to a lesser extent, Russia, in the international digital economy and geopolitics. Following the start of the Snowden revelations (June 2013), China and Russia quickly took steps to block American surveillance, and both countries began to seek a return to centralized political control of the digital world. Now, the competition between China and the USA can be analyzed as much as a classic competition - economic, technological and diplomatic-military - as one linked to a **new issue of international rivalry concerning... the greatest capacity for totalizing surveillance, i.e. for the most exhaustive possible surveillance of the personal data of the largest possible populations**. Between the Snowden revelations of 2013 on the "NSA & GAFAM System", and the publication of the Chinese *State Council* in 2014 announcing plans for the generalized surveillance of Chinese citizens in a future "Social Credit System" that would compile all Chinese databases, we may wonder who, China or the USA, is aiming more at totalizing surveillance(s) of populations, but, in both cases, **we can't ignore the state origin of the demand for digital**

[299] WANG Alain, "Surveillance numérique - La Chine s'exporte", *Revue Projet*, 2023/4 (N° 395), p. 38-42 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-projet-2023-4-page-38.htm

surveillance. The trend towards the state as user can be seen in the digital world of Africa and the Mediterranean region: billions of people are connected, but states remain, more than ever, powerful users of the digital world, without equals in financial capacity, major clients of the digital industries and primary consumers of digital surveillance. **In many countries, after a period of adaptation, the state has become the most powerful Internet user,** but this mode of intervention by state services is discreet, even secret, when it's the secret police who are in charge[300] .

Growing Sino-American competition in the digital economy since 2018, and the Russian invasion of Ukraine in February 2022 in the context of a Sino-Russian alliance, are *accentuating* the features of a new global geopolitics, leading the countries of the "Group of Five" or "Five Eyes"[301] to *accelerate* (USA 2018, Australia 2018, UK 2020....) their closing of "digital borders" with China (increasing



[300] Didier Bigo and Laurent Bonelli, "Nous ne sommes pas un Big Brother!", *Cultures & Conflits*, 114-115 | Summer/Autumn 2019: http://journals.openedition.org.ezpaarse.univ-paris1.fr/conflits/21180

[301] Military alliance, since the Second World War, of the intelligence services of Australia, Canada, New Zealand, the United Kingdom and the United States.

data center storage capacity), by gradually excluding companies like Huawei and ZTE from telecommunications systems and curbing imports of Chinese and Russian connected objects. In 2019, the "private-public" Huawei group generated 75% of its export sales from infrastructure and cell phones (ZTE, half the size, has little presence abroad). However**, cell phones and connected objects can be used to monitor populations by capturing personal data and thus obtain strategic information (commercial, military, sociological, etc.)**[302] . The European Union is moving towards the closure of digital borders, but with many more domestic political and economic problems[303] .

Source : https://fr.wikipedia.org/wiki/Huawei

In this new geopolitics, Africa, like other "southern countries", is becoming one of the "digital battlefields" for the cheap and/or pseudo-free distribution of connected objects, which are already a major source of global supply for the largest personal databases (e.g. Google and Meta-Facebook... versus... Chinese "social credit"). **In 2019, the Huawei group accounted for 70% of the infrastructure market in Africa, where it had already installed 60% of 3G-4G networks, giving it a dominant position in 5G deployment;** as of July 2020, no African state had taken action against Huawei, which is building the majority of "connected cities" and installing most of the new "data centers". Even if data

[302] LIMONIER Kévin, BERTRAN Marie-Gabrielle, "Enquêtes et renseignement numérique dans la guerre en Ukraine", *Multitudes*, 2022/4 (n° 89), p. 88-94 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-multitudes-2022-4-page-88.htm
[303] UEDA Yuki, *Action publique del Union Européenne pour la sécurité numérique - Le cas de l'entreprise chinoise Huawei*, Mémoire de recherche en Master Science politique, Dir. J.Valluy, Institut National du Service Public / Université Paris 1 Panthéon-Sorbonne, 2022, 91 p.

centers installed in Africa represent only 1% of global capacity, they raise the prospect of politically double-edged "sovereign clouds" for African citizens. Cybersecurity" and "sovereign clouds" are political issues that have suddenly risen to the top of the political agenda in English-speaking countries ("Five Eyes") and - albeit with different interests - in European Union countries.

Trade: China conquers Africa

Leading source of imports for African countries in 2000 and 2020

African countries do not necessarily have the same[304] interests as the two previous groups, particularly when it comes to importing cheap or even "free" (i.e.: pseudo-free) connected objects, Chinese surveillance systems and data centers, and oil financing for "sovereign clouds". The observation that American and Chinese digital companies and systems are hyper-concentrated, monopolistic or oligopolistic, and the asymmetries of power and information between African populations and digital giants, leads **Cédric Leterme** in the collective work ***"Impasses numériques - Points de vue du Sud" (2020)*** to an already consolidated hypothesis: "*Difficult, in these conditions, to imagine that the simple "digital inclusion" of the most marginalized countries and groups could translate into anything other than new forms of dependence and exploitation. The various contributions gathered here each confirm this intuition in their own way*.[305] Following in the footsteps of these authors, and Renata Avila Pinto in particular, we'll be talking about "**digital colonialism**" to deal with the countless attacks on the sovereignty of African countries[306] without ignoring that the concept also concerns the European Union[307] for example in this

[304] LETERME Cédric, *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, "Alternatives Sud", 2020: https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183.htm

[305] LETERME Cédric, "Nouveaux enjeux Nord-Sud dans l'économie numérique", in: Cédric Leterme ed., *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, "Alternatives Sud", 2020, p. 7-19: https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183-page-7.htm

[306] ÁVILA PINTO Renata, "La souveraineté à l'épreuve du colonialisme numérique", in: Cédric Leterme ed., *Impasses numériques. Points de vue du Sud*. Éditions Syllepse, " Alternatives Sud ", 2020, p. 25-35 : https://www-cairn-info.ezpaarse.univ-paris1.fr/impasses-numeriques--9782849508183-page-25.htm ; MARTIN Aaron, Sharma Gargi, Siddharth Peter de Souza, Taylor Linnet, van Eerd Boudewijn, McDonald Sean, Martin, Marelli Massimo, Cheesman Margie, Scheel Stephan & Dijstelbloem Huub, " Digitisation and Sovereignty in Humanitarian Space: Technologies, Territories and Tensions ", *Geopolitics*, 2022 : https://www.tandfonline.com/doi/full/10.1080/14650045.2022.2047468

[307] ISAAC Henri, "Quelle souveraineté numérique européenne?", *Revue française de gestion*, 2022/4 (N° 305), p. 63-77 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-francaise-de-gestion-2022-4-page-63.htm ; NOCETTI Julien, "L'Europe reste-t-elle une " colonie numérique " des États-Unis ?", *Politique étrangère*, 2021/3 (Automne), p. 51-63 : https://www.cairn.info/revue-politique-etrangere-2021-3-page-51.htm

wide-ranging question posed in 2013 to the Senate in France: "*The European Union, colony of the digital world?* "[308] ; the question is still topical in 2023, in the cold war geopolitics opened up by the Russian invasion of Ukraine, for Europe and Africa in particular, as Asma Mhalla observes: "*In a multipolar world devoid of truly effective multilateralism, the issue is nothing less than who will govern the world through the prism of cyberspace, who will set its rules and standards. In this respect, whether in the political, military or geopolitical arena, American Big Tech is the repository of unquestionable attributes of power, the armed arm of the United States in its technological and military rivalry with China. But the ultimate sovereign attribute remains, in theory, the mark of the State. In a turbulent geopolitical context, Big Tech is just that: an extension of its country, a technological auxiliary in warfare, whether overt or covert, hot, lukewarm or cold, high or low intensity*." [309]

Based on the knowledge available to us in 2023, **governments appear to have been "overwhelmed" (i.e., outpaced) only partially, and for periods of** approximately forty years in the West (1960-2000) and twenty years in Russia and China (1991-2011). But if we consider all 133 years of the period studied (1890-2023), governments appear to be the main sponsors, financiers and consumers, i.e. users of digital computing, rather than legislators (or regulators) of the sector, their political choices tending to be

[308] "The European Union, colony of the digital world?" *Information Report No. 443 (2012-2013)* by Ms. Catherine MORIN-DESAILLY , made on behalf of the European Affairs Committee, submitted on March 20, 2013, Senate, France: https://www.senat.fr/rap/r12-443/r12-443.html

[309] MHALLA Asma, "Les Big Tech, de nouveaux États parallèles?", *Pouvoirs*, 2023/2 (No. 185), pp. 69-81: https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-pouvoirs-2023-2-page-69.htm

to "let go" of advances in digital surveillance in order to reap the results. **State reactions to the Snowden revelations have been more than mixed[310] and no state has declared its intention to renounce this type of surveillance out of respect for privacy**, as one journalist summarizes in his headline "*Espionnage de la NSA : au-delà de l'indignation, la coopération continue - La grande proximité entre services secrets occidentaux limite l'ampleur de toute réaction"*[311] . This trend was particularly spectacular in the USA from 2001 onwards, but then spread to all states without exception, with the variations between them depending more on their means than their objectives, as shown by the many revelations about the widespread distribution and multiple uses of the "Pegasus" software.

5.4 Treating humans like animals: "instrumentarism

In the USA, the personal data reprocessing business model that serves as the cornerstone of the new capitalism of the 21ème century began to take shape discreetly in 2001, and only became visible to a larger number of social players ten years later. As early as 1997, American authorities and companies were fully aware that this *business model* infringed a fundamental human right - the right to privacy - recognized by the Universal Declaration of Human Rights (UN 1948) and the case law of the U.S. Supreme

[310] PéTINIAUD Louis, "Cartographie de l'affaire Snowden", *Hérodote*, 2014/1-2 (n° 152-153), p. 35-42 : https://www-cairn-info.ezpaarse.univ-paris1.fr/revue-herodote-2014-1-page-35.htm

[311] Jacques Follorou, "Espionnage de la NSA : au-delà de l'indignation, la coopération continue - La grande proximité entre services secrets occidentaux limite l'ampleur de toute réaction.", *Le Monde*, June 24, 2015: https://www.lemonde.fr/international/article/2015/06/24/espionnage-de-la-nsa-au-dela-de-l-indignation-la-cooperation-continue_4660641_3210.html

Court (1965). In so doing, they enter into an axiological perspective that leads us to consider the human as the animal: a mere raw material to be observed and influenced. The human is then reduced to a non-human otherness under what Zuboff calls "**instrumental power**", exercised by means of a device known as the "**Big Other**".

These two neologisms also serve to demarcate him from **George Orwell**'s famous "**Big Brother"** and the totalitarian horizon. Although she often expresses concern about the future, Zuboff remains a scientist and intends to limit herself to what can be observed by science: the present and the past. From this point of view, she maintains that totalitarianism has always been accompanied by a dimension of terror and even massive physical violence, dimensions absent - for the time being - from the capitalism of surveillance and influence that has been observable until now. This capitalism does not want to harm animals, but to breed them in order to milk their personal data. **Surveillance capitalism benevolently encourages users to go online more and more, and thus to leave traces of their identities, preferences, tastes, behaviors and purchases, which serve to observe and influence them so that, via smartphones in particular, but also other connected objects, they divulge even more monetizable data**. As Zuboff points out: "*Considering instrumental power as a new totalitarianism hinders our understanding of its power, as much as it hinders our ability to resist it, neutralize it and, ultimately, defeat it*. Conversely, what she calls the "Big Other", a set of interconnected networks for capturing the information of daily life, accumulating it, reprocessing it automatically, and

influencing behavior through personalized advertising targeting, serves the **instrumental power of** the new capitalists, without psychological terror or physical violence, for the sole purpose of increasing monetization possibilities and financial profits. *As for this fourth power,"* writes Zuboff, "*I'll call it* ***instrumentarism****, and define it as* ***the instrumentation and instrumentalization of behavior for the purposes of modification, prediction, monetization and control***".

This discussion opened by Zuboff between ***totalitarianism*** and ***instrumentarism***, is not closed. Zuboff is right not to confuse futuristic predictions with scientific observations regarding the "NSA & GAFAM System" revealed by Snowden. We cannot indeed speak of "totalitarianism" in the USA or because of the USA, nor in China, in world surveillance. But... there are three buts: **1) forms of massive physical violence have already appeared in connection with digital surveillance**: on the one hand, since 1997, the Uighurs in China have been persecuted in a way that could[312] stem either from "targeted totalitarianism" or from a "tyranny"[313] whereby a state mistreats part of its population; now that digital surveillance is very advanced in China, it can be used against this population. 2) on the other hand, the Rohingyas of Burma have been suffering genocide for a long time, but particularly since 2016, during which the activation of racial hatred via the Facebook platform has already been highlighted[314] . **2) Zuboff's distinction between totalitarianism and instrumentarianism, based**

[312] Subject to further investigation of the regional political system and its relationship with China's national political system.
[313] In the sense of H.Arendt in "What is authority?", in: *La crise de la culture*, op. cit. p.128 et seq.
[314] Amnesty International: "Myanmar: The atrocity of social networks. Meta confronts the Rohingyas' right to reparations (Summary)", September 29, 2022: https://www.amnesty.org/fr/documents/asa16/5933/2022/fr/

primarily on the criterion of physical violence, remains to be clarified with regard to Arendt's central criterion of the invasion of privacy through searches of the individual "innermost being" for political loyalty checks, including the political instrumentalization of children denouncing their parents[315] . **3) And the conditions - particularly political, depending on the national configuration - for a possible shift from *instrumentarism* to *totalitarianism*** need to be considered (for example, with regard to the "authoritarian transitions" and "totalitarian shifts" observed in history) before concluding that the two phenomena are radically and definitively separate. Since the invasion of Ukraine in March 2022, the return of a "Cold War" global geopolitical configuration has created new conditions that are worrying, to say the least, for democracies and authoritarian regimes likely to tip over into totalitarianism more quickly and powerfully than in the 20th[ème] century, due to the digital surveillance of the 21st[ème] .

[315] Cf.: J.Valluy, "L'identification contemporaine des formes de gouvernement: totalitaire, autoritaire, démocratique" in: J.Valluy, *Transformations des États démocratiques industrialisés* (2017): http://www.hnp.terra-hn-editions.org/TEDI/article32.html

Conclusion

To understand the human societies in which we live after the digital turn (1995-2023...) two approaches are available today: ● the "design" approach is the oldest, dating back to the mid-20ème century, and stemming from engineering concerns. It remains hegemonic in engineering universities (public, private or public-private), and dominant in the mass media as long as they massively relay inventors' discourses on their own technological innovations and the marketing discourses tending to commercialize them. ● The "expansion" approach emerged at the end of the 20thème century, when social science researchers, particularly in the history of science and technology, turned their attention to the technological and, in particular, the computer-digital dimension of the social world. This approach gained momentum at the start of the 21ème century, producing more independent and scientific discourses that distanced themselves from the professional sector, highlighting not only technological progress, but also the negative consequences of certain technological expansions on human societies.

The societal expansion of a technology includes all the social processes involved in the spread of a technology or of objects incorporating it in a society (in particular: numbers of objects sold, numbers of users of these objects, frequency of use of these objects, etc.), as well as the transformations brought about by this technological spread in societies and their various segments (sectors, regions, cultures, etc.) in human behavior, in particular

in ways of communicating, but also of working, entertaining, grouping together, learning, thinking, etc.

When we construct the object of study in reference to the "mixed computing" (fusion of several currents of thought and technological creations) in societal expansion, the history begins in 1890 and can be periodized in a relatively precise and justified way for the following one hundred and thirty-three years, which lead to today's computer-digital world. Five periods can be distinguished: state computing (1890-1958 = 68 years), private computing (1958-1995 = 37 years), the digital turning point(s) (1995-2011 = 16 years), the public revelations on this turning point (2011-2020 = 9 years), the recent accelerations linked to the Covid19 pandemic since March 2020 and the new Cold War following the Russian invasion of Ukraine in February 2022 (2020-2023 = 3 years). The decreasing number of years in each period could reflect a form of acceleration. This acceleration is evidenced within each period by a second date of societal expansion: 1933, in the first period, corresponds to the first computerized totalitarianism and genocide; 1978, in the second, to the transition from private corporate computing to that of families and then individuals; 2001, in the third, to the birth of the capitalism of surveillance and influence theorized by Shoshana Zuboff; 2013, in the fourth, to the massive media revelations resulting from the disclosures made by Edward Snowden; 2022 to the transformations in social reasoning and uses of the digital in a global situation of new Cold War geopolitics.

The central question of our study was to identify the factor or factors that could be considered the most decisive in determining

the course of this societal expansion of IT-digital history: *is it the genius of the inventor that makes a technological innovation (here, IT-digital) successful in society, or is it the business model that supports it, or the political authorizations (even implicit) given to this business?* In the light of previous research, our hypothesis was that the societal expansion of digital computing was determined more by political and economic than technological factors. Further research from this angle not only consolidates the hypothesis, but also clarifies the relationship between the political and the economic: if we consider that the political factor corresponds to the will and power of the State (in Europe) or public authorities (in the USA), this factor largely determined economic advances during the first period of State computing (1890-1958), which was entirely driven by public, military and university funding, without public authorities limiting their own possibilities of use through regulations corresponding to a general logic of the rule-of-law state. This age-old tendency of states not to regulate the IT-digital sector, and then to regulate it marginally, subsequently determined the conditions for the expansion of private IT in companies and families (1958-1995). Public authorities remain the biggest purchasers and users of digital computing, which curbs their inclination to limit its uses. Particularly where privacy is concerned, the authorities allow socio-technical systems and ideologies to flourish that run counter to the fundamental principles previously or simultaneously enshrined in constitutions, international texts, legislation and higher court rulings. What's more, this expansion of private IT is leading to changes of scale, particularly in terms of the number of users, and in the speed of social change, so rapid that it may also

have outstripped the cognitive and decision-making adaptation speed of the producers of legal norms, i.e. legislators and judges. This overtaking, reflected by the theme of the "overwhelmed state", can only be observed over limited periods (forty years from 1958 to 2001 in the USA and Europe) and varies from country to country (twenty years from 1991 to 2011 in China and Russia); periods during which the economic factor seems to become predominant over the political factor. On the other hand, from 2001 onwards, the relationship was reversed in the USA, where public authorities, notably the federal government and intelligence services, pushed Silicon Valley companies to capture personal data for police surveillance. During the first decade of the 21ème century, public authorities in China and Russia are simultaneously experiencing the growth in the number of Internet users (with disruptive effects) and American hegemony over all global digital exchanges. This has led them to react in line with their historical traditions of authoritarianism and political control of individuals. Since the early 2010s, the central state in China and Russia has been regaining, or attempting to regain, the ascendancy through increasingly restrictive public policies for digital companies and citizen users. Lastly, the Covid19 pandemic caused an explosion in the social uses of digital technology and in corporate profits, which can be interpreted as a new phase in the overflow of the State, which was caught in its stride, but was short-lived: Russia's invasion of Ukraine ushered in a new period of Cold War, which once again reinforced the power of the State in society, and the domination of the greatest geopolitical powers over their allies and their respective camps. If we consider the one hundred and thirty-three years from 1890 to 2023, the State is the

dominant player throughout the entire period, except for three or four decades corresponding to the societal expansion of private IT and the first phrases of digital turning points.

What is now commonly referred to as the "digital turnaround" refers to a period of around three decades characterized by an increase in the number of Internet users, from around 45 million worldwide in 1995 to five billion out of a population of eight billion in 2023. The use of the singular to designate humanity's digital turnaround is not wrong, but it is imprecise: this digital turnaround is not unfolding in the same way, at the same pace or with the same effects, depending on the country and continent. Above all, it is subdivided into successive periods that are sufficiently distinct for us to be able to speak, in the plural, of digital turning points. In the USA, two phases can be clearly distinguished: the first digital turning point, from 1995 onwards, saw public authorities and American companies still debating politically and seeking legal or technical solutions to protect privacy while developing digital activities. But from 2001 onwards, as a result of the cultural trauma suffered by Americans in the wake of the twin crises of DOT-COM and the World Trade Center attacks, these concerns disappeared from the political arena, replaced by a general focus on security, with no concern for privacy. The result was the birth of a new economic and social system which, in the space of a few years, brutally reconfigured first the American and then, by extension, the Western economic and social system. It is this second phase of the American-Western digital turnaround that Shoshana Zuboff named "surveillance capitalism" in 2018.

What is surveillance capitalism? The answer to this question is not simple, since it involves presenting a necessarily complex social science theory, as outlined by Shoshana Zuboff in her book "The Age of Surveillance Capitalism". This theory includes multiple aspects and multiple new concepts needed to analyze this economic and social system ("surveillance capitalism", "behavioral surplus", "decontract", "two texts", "ineluctabilism", "instrumentarism", etc.). According to Zuboff, this surveillance capitalism corresponds to a new stage of capitalism, based not only on the exploitation of nature and human labor, but also, and more essentially today, on the massive capture of personal data for the purposes of police surveillance, to combat terrorism, and socio-economic surveillance, to monetize this knowledge of individuals on the market for individualized advertising. Artificial intelligence" is at the heart of this new economic and social system, since the immense volumes of personal data already captured would be unusable without this type of algorithm. The spectacular differences between the market capitalizations of the world's leading companies in old capitalism and those of the new companies in the digital economy are enough to attest to the profound transformation of the economic and social system. And Edward Snowden's revelations from 2013 onwards confirm the scale of the change, revealing in particular a close and intense interweaving, without historical precedent, between the American police authorities (the NSA in particular) and the biggest American digital companies (the GAFAMs in particular). This system, which we have dubbed the "NSA & GAFAM System" (SNG), is just one aspect of surveillance capitalism, but an essential one that has radically redefined the American political

system in a very statist and, above all, highly unusual direction in American political history. If we consider national historical traditions of relations between the state and civil society, the emergence of such a system would have been less surprising in European countries with institutions marked by monarchist traditions than in the USA. Finally, to the surveillance dimension quickly perceived by some Americans (debates in parliament in the first decade, professional press and social sciences in the second, rapid evolution of public opinion at the beginning of the third) is added an influence dimension already very well analyzed by Zuboff in 2018, but which seems much more important and has been much better documented in the last five years following two media scandals, that of the Cambridge Analytica affair from 2018 and that of the Team Jorge affair from 2020. The share of the world's advertising markets already monopolized by the GAFAMs confirms, as far as the commercial market is concerned, the capacity for influence that we assume has been at work since the early years of the 21ème century on the electoral market in the USA and in many other countries around the world. Zuboff's central concept can now be reintitled as surveillance and influence capitalism.

One of the most crucial questions surrounding the emergence of this new capitalism is that of its relative discretion or invisibility, not only in the United States, but also in the rest of the world: how, between 2001 and 2011/2013 in particular, could the American and European populations (with their precociously high equipment rates) and more specifically, among them, journalists, elected officials, senior civil servants and intellectuals, have

remained unaware of the scale of the infrastructural transformation for so long? The answers already produced by social scientists cannot be reduced to a simple explanation with a single explanatory factor. Admittedly, there was indeed a conspiracy, that of the long-secret agreements between the NSA and GAFAM for direct access by intelligence agents to corporate servers without having to depend on the judicial controls previously created to keep secret police in check and protect citizens' fundamental freedoms from their activities. But the conspiracy was revealed almost immediately by well-informed individuals who took the risk of speaking out early on. NSA executives denounced the "NSA & GAFAM system" as early as 2001/2002, but without being heard, or rather, without reaching a large audience. Specialized and pioneering researchers also spoke out in their social science works, but the audiences for such works were small. We need to consider all aspects of the configuration of the first ten years of the birth of surveillance and influence capitalism to understand the discretion of this birth: : the weight of neoliberal ideology, which had become hegemonic, and the inclination it produced not to regulate; a shareholding structure that enabled a few founders to dominate the boards of directors of even the biggest companies; the continually repeated demands of these founders for legal loopholes that they believed favored technological innovation ; permissive, even lax or simply non-existent state regulations, due to a refusal to regulate; the pressing interest of states, particularly after the terrorist attacks, in individualized mass surveillance; the intense collaboration between companies and secret police used to maintaining secrecy

according to a professional habit formed long before the digital revolution...

However, these explanatory factors for the generalized blindness only concern the analysis of the short conjuncture of the beginning of the 21ème century. If we examine the long history of digital computing since 1890, other factors emerge that are perhaps even more important in understanding this decade of informational blackout: privacy as we understand it in the face of the capture of personal data, i.e. as a sphere of individual intimacy possibly to be protected from the gaze of others, did not exist in the history of political ideas until it was set out in Article 12 of the Universal Declaration of Human Rights adopted by the UN in 1948. It began to be recognized very late and slowly by American and German courts, mainly in the 1960s, without much electoral or popular legitimacy, but in contexts of growing protests against data capture and state censuses. And even today, no consensus exists either internationally or nationally between various conceptualizations of privacy as a fundamental human right that can be linked to human dignity, honor, freedom or property.

In addition to this cultural unthinking about privacy in the digital age, there's a whole host of beliefs projected onto the digital revolution and its future, particularly by the system's main beneficiaries. The most fundamental and widely-shared belief is undoubtedly that of an intellectual focus on the technological design of the Internet's "distributed" character, whereas network computing, examined from the political angle of its governance and economic concentration, has continually been centralized by the domination of American players, right up to the gradual

dissociation of the Chinese and Russian networks. This initial belief in the equality of countries is extended by a second belief in the equality of Internet users, who can express themselves individually in the public arena without depending on intermediaries to select public actors, interests and discourse. This egalitarianism has never existed, however, due to the dominant position of Internet users who are owners and employees of platform management companies vis-à-vis other, subaltern Internet users. Even the equality of subordinate Internet users has been belied by variations in individual influence. And the concentration of power of a few over tens of millions became apparent with the lucrative influence of individualized advertising and the manipulation of electoral processes. Finally, intermediaries have not disappeared, but simply changed: instead of journalists selecting the topics, ideas and actors to be featured, they are algorithmic robots manipulated by Google, Facebook and others. Many other beliefs typical of the digital age could be listed, forming a veritable mythology of the emancipatory and democratic Internet. This mythology has been bolstered by communication flows on the theme of the student, hippie and counter-cultural origins of network computing in the USA. These origins have sometimes been described as "anarcho-libertarian" or referred to as the "ideology of Silicon Valley"... whereas if we look at the numbers of players - individuals and collectives - those of the counter-culture are marginal in number and form at most a pleasing showcase for a system massively dominated by an entirely different ideology: that of money, business and get-rich-quick.

What is the place of the State, or States, in this historic process of societal expansion of digital computing? And, in particular, has the State been overtaken by the speed of technological developments, and unable to regulate them? Since the first societal expansion of information technology in 1890 for the American census, the State - first American, then European - has been first and foremost a user of information technology, i.e. a financier of IT resources as much as a consumer of IT results. It could even be said that the State has historically been the biggest user of IT: scientific research into IT was massively financed by the State via universities and the armed forces, in particular from 1890 to around 1960. The Second World War boosted publicly-funded research and development, particularly in encryption and decoding, and led to further technological acceleration. During this period of state IT, whether in the United States or Europe, the state did not regulate its own activities in order to limit them in line with the self-limiting logic of a rule-of-law state. The companies developing in this sector, starting with IBM, are getting used to operating in a world apart, with very little regulation. The more massive arrival of private companies, i.e. private investors, is highlighted by the speculative bubble in electronics and computing between 1958 and 1962. It was only at this time that the public authorities began to concern themselves with ensuring that computer industry players respected the rules of law. But while the judicial authorities made progress, government authorities in both Europe and the United States were reluctant to regulate, as shown by the twenty years of difficult dialogue between the European Parliament and the European Commission, from 1975 to 1995, before arriving at a directive. For four decades,

state supremacy over IT in the United States and Europe faded behind the growth in the number of private producers and consumers of IT and then digital technology. But even during this period, the State remained one of the biggest consumers of computers and networks, thanks to its public orders, particularly for equipping government departments. In the mid-1990s, it was governments - first American, then European - that decided that the regulations that had applied for over a century to professional media could not be applied to digital platforms, which were declared irresponsible for the content circulating via their systems. In 2001, it was the US government that pushed the NSA towards Silicon Valley, leading it to invest in the digital sector and in companies capturing personal data for surveillance purposes. In the mid-2010s, it was again governments that delegated political censorship powers to private companies. Finally, this tendency of states to use and instrumentalize economic and technological developments for their own ends is also apparent in the growth of Russian and Chinese digital technology. These two countries are reacting to the implementation of the American system of global surveillance, first with demands and protests, then with a political takeover of their own networks in line with the long traditions of authoritarianism that characterize their respective histories.

In view of the knowledge available to us in 2023, governments appear to have been "overwhelmed" (i.e. caught up) only partially, and only for certain periods of approximately forty years in the West (1960-2000) and twenty years in Russia and China (1991-2011). But if we consider all 133 years of the period studied (1890-2023), governments appear to be the main sponsors,

financiers and consumers, i.e. users of digital computing rather than legislators (or regulators) of the sector, their political choices tending to be to "let progress in digital surveillance take place", in order to reap the results. Consequently, the "delay" or "absence" or "ineffectiveness" of regulations, or even their non-existence, can be interpreted not as the reflection of a structural impotence on the part of States, but as the expression of a will: **"*let it happen, let it pass" ... technological innovation in commercial and police surveillance***.

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For professional reasons, I feel that this training aid needs to be made public quickly, so that it can be discussed by other researchers and teachers. During the intermediate stages of my work, I distributed it to my colleagues in the Political Science Department of the Université Paris 1 Panthéon-Sorbonne and in the Costech research center of the Université de Technologie de Compiègne. I benefited from numerous formal and informal discussions with these colleagues, for which I would like to express my sincere thanks.

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Table of contents