



Tacit social experimentation with digital technologies during the Covid-19 crisis

Alain Loute¹ 

Accepted: 23 April 2024 / Published online: 25 May 2024
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Abstract

In the management of the Covid 19 crisis, digital technologies were used in a major way. This article defends the hypothesis that these technologies took the form of a “tacit social experimentation”. This article justifies this concept in three levels. The first part uses this concept to qualify the form of biopolitics that was implemented to manage the crisis. Digital technologies were used to discipline the population and, literally speaking, as instruments of knowledge of the population. Uncertainty forced experts to make preliminary observations and act to produce knowledge. Second, this article shows that the use of digital technologies during the crisis was experimental in a second sense. By promoting telemedicine within a more flexible legal framework, the authorities authorised an experimental use of telemedicine without knowledge or control of its side effects. Finally, the article defends the use of the concept of “tacit social experimentation” for ethical and political purposes. For indeed, understanding the experiments carried out during the crisis begs the question of the involvement of the participants and their democratic steering.

Keywords Telemedicine · Experimentation · Ethics · Covid-19 · Digital health

Introduction

The effects of the COVID-19 crisis are multifaceted.¹ While primarily seen on the health level, they are also economic, social, and political. Among the many analyses that have been produced on this subject, several texts point out the risks that the crisis, or rather its management, has brought to democracy. Patients’ associations (e.g., *Renaloo*, *La Ligue contre le cancer* and *France Assos Santé*), heard by a Senate

¹ This article further develops an earlier work of mine published in French in the *Cahiers du GRM* [1].

✉ Alain Loute
alain.loute@uclouvain.be

¹ Faculty of Medicine and Dentistry, Institute of Health and Society, Catholic University of Louvain, Brussels, Belgium

commission in France, confirm this. They reported a real ‘suspension of the health democracy’: ‘Media-wise and politically, we were more in reaction than in construction of a health policy’ [2]. One of the central elements for understanding this crisis of democracy concerns the question of expertise. Bernadette Bensaude-Vincent invites one to read the management of this health crisis through the Foucauldian lens of ‘power-knowledge’, referring to the idea that state power and knowledge directly involve each other [3]. For Bensaude-Vincent, in managing the crisis, the public was reduced to silence and summoned to obey—for its own good—the injunctions of the experts in power. For her, this infantilising attitude recalls that which prevailed in the twentieth century when philosophers and scientists saw only a gap between the learned and the unlearned, a gap that grew as science progressed, condemning ‘the layman’ to live under tutelage [3]. In this article, I would like to examine this knowledge-power relationship that has underpinned the management of the health crisis by our states. My thesis is that this knowledge-power has taken the subtle form of a “tacit social experimentation”.

Such an expression may be surprising. Why talk about experimentation with crisis management measures? Is it legitimate to speak of experimentation beyond the controlled environment of the laboratory? In what sense can one speak of a tacit experimentation? Is not such an expression a contradiction in terms? Who is the subject and who would be the object of this experimentation? In order to explain my use of the concept of experimentation and its variants, I will rely on the collective work *New Perspectives on Technology in Society, Experimentation beyond Laboratory*, edited by Ibo van de Poel, Lotte Asveld, and Donna C. Mehos [4]. One of the most generic definitions of the concept of experimentation is proposed by Christopher Ansell and Martin Bartenberger in this book. For them, ‘the common feature of experimentation is *taking an action with the intention of learning “what if”*’ [5, p. 39]. Here they refer to Donald Schön’s definition: ‘In its most generic sense, to experiment is to act in order to see what action leads to. The most fundamental experimental question is, “What if?”’ [6, p. 145]. Experimentation thus refers to an action that is guided by a desire to learn.

In the first part of this article, I will use this general definition of experimentation to dispel the paradox underlying the power-knowledge that underpinned the management of the pandemic crisis. Even as Covid-19 plunged scientists and experts into radical uncertainty, a technocratic management of the crisis was put in place. I will argue that the real power of experts lies less in the imposition of a truth than in the power to conduct an experiment. Thinking with Foucault, I think that the management of the crisis has taken the form of an “experimental biopolitics”.

It remains that this dynamic of experimentation has remained tacit. Again, such an expression may be surprising. If the intention to learn is central to the definition of experimentation, how could one accept the idea that experimentation is “tacit” or “implicit”? Christopher Ansell and Martin Bartenberger offer a valuable answer, referring to an article by Krohn and Weingart (1987) that describes the Chernobyl nuclear accident as an ‘implicit experiment’ [7]. For Krohn and Weingart, risky technologies like nuclear power are presented to the public as safe and tested while the high levels of uncertainty involved in the socio-technical organisation of nuclear power plants are concealed by the authorities. However, ‘given the uncertainty

that surrounds this technology, each new nuclear power plant is like an experimental trial. For the public, however, Chernobyl revealed the experimental character of the technology *retrospectively*' [5, p. 39]. Implicit experimentation is therefore an intervention whose experimental nature has been revealed in retrospect. Ansell and Bartenberger understand the idea of implicit experimentation in a second way. They specify that 'the "intention to learn" therefore also depends on the objectives of the designers, participants, or observers of the intervention. Designers of an intervention may have the intention to learn from it, while participants may be simply interested in producing some specific outcome' [5, p. 39]. In other words, the same intervention may be experimental for some but not for others. My thesis is that if the crisis management policy has been experimental, this has been hidden from the population.

The concept of "tacit social experimentation" is not only useful to qualify the form of biopolitics that was put in place during the health crisis. Accordingly, in the second part of this article, I will show that this concept also qualifies the use of some digital technologies in risk management. While digital technologies are used to carry out essential tasks such as telemedicine, tracking the population, and monitoring the spread of the coronavirus with AI analytic tools, nevertheless, some uses of these technologies are truly experimental. Technologies were used without knowing all their side effects. I will develop this thesis further by focusing on the massive use of telemedicine during the crisis.

In the conclusion of this article, I will adopt a more normative posture. Is not making explicit the experimental dimension of health crisis management measures also a major ethical and political issue? Does not the meaning of what we call in France 'démocratie sanitaire' [8] depend on the "democratic" character of the experimentation of solutions to the crisis? Should not the reflection on the ethics of experimentation extend to the use of digital technologies?

The technocratic management of the crisis as a tacit social experiment

As mentioned above, Bensaude-Vincent raised the paradox of the expertise mobilised during the pandemic. The experts, who were called upon to "speak truth to power", found themselves at a loss because they knew almost nothing about Covid-19. While it is true that sequencing methods allowed for the rapid identification of the virus, its behavior, routes of transmission, period of contagiousness, and the duration of immunity were all enigmas to be resolved [3].

For science historian Lorraine Daston, the Covid-19 crisis put us in a similar context to that of the seventeenth century. She was not doing so to compare Covid-19 with the plague, but rather to compare the situation of science in the face of Covid-19 with the beginning of modern science. She writes: 'That's what I meant when I said that we've suddenly been catapulted back to the seventeenth century: we are living in a moment of ground-zero empiricism, in which almost everything is up for grabs, just as it was for the members of the earliest scientific societies—and everyone else—circa 1660' [9, p. S56]. This scientific context was not simply

characterised by a lack of knowledge—scientific progress always opens up new questions—but by a methodological uncertainty as to the very way in which knowledge is acquired.

Behind the apparent mastery shown by the omnipresence in the media of figures, the statistics and curves concerning the disease confronted scientists—at the beginning of the crisis—with fundamental methodological and epistemological questions. As an example: how should one count the deaths linked to Covid-19? As Daston put it: ‘some countries count the death of anyone who tested positive for COVID-19 as a death due to the virus, no matter what other factors (such as diabetes, for example) might have played a role; other countries use dominant or proximate causes in their classifications; both systems have their pros and cons’ [9, p. S57]. Reading with Daston, one realises that Covid-19, far from being a stabilised scientific object, is still at the heart of many controversies within and between each scientific discipline.

Despite the scientific uncertainty, political action was necessary due to the risk of the consequences of the health crisis worsening. Political decision-makers had to act, take measures, set thresholds and rules, and prohibit and regulate certain activities, all without a secure, stabilized, and proven knowledge of all the dimensions of the risks to be managed.

If it was necessary to act without stabilised and proven knowledge, why speak of “technocracy”? I deploy this term for several reasons. First, despite the background uncertainty, expertise—in addition to enlightening the decision-makers—was mobilised for its power to “discipline” the population. As an example, the question of the death count was extracted from scientific controversies and given to the experts to decide about. This provided stability and expectation for members of society. Such a mobilisation of expertise, with a view to discipline, is not without effectiveness. It made it possible to plan and execute strong containment measures to avoid the catastrophic scenario of a saturation of our hospitals.

Nevertheless, there are several problematic consequences of such a use of expertise. First, it obscures the fact that knowledge is pluralistic, laden with controversies and conflicts within and between disciplines. Yet, for expertise to be mobilised for political action, this pluralism must be set aside to focus on a medical and economic solution, leaving the social dimensions of the health crisis in the shade.

Alongside this power to discipline the population, the power of expertise can also be understood in another way. While Daston saw in the health crisis a return to a moment of zero empiricism, where ‘observation, usually treated as the poor relation of experiment and statistics in science, comes into its own’ [9, p. S57], should one not rather speak of the rise of an “experimental moment” characterized by “provoked observation”? It seems to me that the management of the crisis took the form of tacit experimentation, of a trial-and-error dynamic that has not been named. The word “experimentation” is deliberately chosen here. Experimentation in a laboratory is an intervention, which, in a parameterised and controlled environment, allows for the production of knowledge. Far from distant and neutral observation, the experimenter acts to learn and know. In a similar way, any political action in an uncertain context of crisis is an opportunity to experiment—on a societal scale—to learn and to produce knowledge. The feedback from these experimental measures allows for readjustment and improvement of risk management. Is this not an apt explanation

for the continuous variations in thresholds and measures adopted by the authorities in the context of radical uncertainty?

Allow me to further specify this hypothesis by referring to the concept of biopolitics developed by Foucault [10], cited in numerous articles on the management of the crisis. Indeed, few deny the fact that everyday life has become more politicized than ever before, and that the exercise of power targets the general population. Accordingly, the specific form of the biopolitics of the crisis needs specified. Echoing the aforementioned paradoxical nature of the expertise mobilised during the crisis, the biopolitics of the Covid-19 crisis was based on uncertain knowledge. Rather than a biopolitics that produces a preventive risk management based on a knowledge of past diseases, the biopolitics of the pandemic crisis produced knowledge. It is in this sense that I speak of experimentation; the disciplining of the population is at the same time a provoked observation. Bensaude-Vincent defends a similar position when she affirms that ‘the coronavirus not only creates a world crisis, it transforms the world into a laboratory’ [3]. Further on in her article, she writes: ‘In this global process of learning how to control viruses, all humans, infected or not, treated or not, living or dead, become objects of experimentation, tests or clinical trials, statistical data. The quest for knowledge merges with the government of populations through biopolitics, and will undoubtedly mobilize the tracking of individuals through their cell phones’ [3].

Several authors have indeed defended the idea that ‘mobile phone data, when used properly and carefully, represents a critical arsenal of tools for supporting public health actions across early-, middle-, and late-stage phases of the COVID-19 pandemic’ [11, p. 1]. France’s National Consultative Commission on Human Rights (CNCDH), in an opinion on the digital tracking of individuals delivered in in April 2020, reports that operator Orange shared anonymised location data with the National Institute of Health and Medical Research (INSERM), among others, to allow epidemiologists to model the spread of the disease. ‘It is also Orange that shared with the public authorities its study, conducted from the geolocation data of its subscribers’ phones, according to which 17% of the inhabitants of the Greater Paris metropolitan area left their region between March 13 and 20’ [12, p. 13]. As the data is globalised and anonymised, the risk is not so much of endangering privacy but of creating mistrust between the population and authorities and digital tools. Does not the mobilisation of geolocalisation data attest that the world has become a laboratory?

Let me conclude this section with a word of clarification. The point here is not to denounce the experimental nature of crisis management as such. In the context of radical uncertainty that was the Covid-19 crisis, there was no way out other than to experiment with solutions to the crisis. Perhaps biopolitics could only be experimental. The question is, why did the authorities not make the experimental nature of crisis management more explicit? Why did they not make the experimentation of solutions more explicit and deliberative by involving civil society to a greater extent? These questions will be addressed in the final section of this article. Before that, however, in the second part of the article, I would like to show that the concept of tacit experimentation can be applied to the use of digital technologies during crisis.

Tacit social experimentation with telemedicine

Negreiro writes, ‘Coronavirus has accelerated the rise of digital health, a broad concept that includes solutions for telemedicine and teleconsultation, remote monitoring, connected devices, digital health platforms and health apps’ [13, p. 1]. During the crisis, digital health was used to serve multiple purposes such contact tracing, screening for infection, clinical management, telemedicine, and more [14].

In particular, telemedicine has been strongly and unanimously encouraged by various authorities. The World Health Organization (WHO), in trying to prevent potentially infected citizens from coming to the general physician’s office, recommended patient assessment using digital care. The computer screen can be understood, metaphorically, as a digital visor that allowed the practitioner to safely consult with a patient suffering from COVID-19. Now, telemedicine has proven to be an essential device to ensure continuity of care for other patients, especially chronically ill patients. However, for at-risk patients that require regular follow-up physical consultation (subjects on immunosuppressants, chronic diseases, etc.), but who cannot physically go for consultation, the issue of continuity of care is essential. A report by the French *Assurance maladie* has thus highlighted a real drop in the activity of medical practices as soon as a patient’s confinement is announced [15]. Thus, the renunciation or the rupture of the continuity of care is a real danger [16]. In the rest of this article, I will focus mainly on teleconsultation during the health crisis in the French and Belgian context.

The number of telemedicine procedures exploded during the crisis. 80,000 teleconsultations were billed to the French *Assurance maladie* in the week of March 16, 2020, then 486,369 from March 23 to 29, 2020, and more than 1 million in early April 2020. The French *Assurance maladie* counted less than 10,000 per week until early March 2020 [17]. In Belgium, a recent study reports that approximately 11 million teleconsultations were performed in 2020, mainly by general practitioners (85%) and specialists (12.5%) [18]. This use of telemedicine was encouraged and supervised by the authorities. In this way, remote medicine was not practiced clandestinely. A temporary and flexible regulatory framework was put in place to specify the conditions of its practice and to facilitate its development by organising its reimbursement. Nonetheless, in my opinion, this massive use of telemedicine during the crisis took the form of “tacit social experimentation”. To clarify this thesis, consider the way in which the framework for practicing telemedicine during the crisis was set up in Belgium and France.

Until the temporary measures introduced in March 2020 in the context of the COVID-19 pandemic came into force, there was no specific legislation to define and organise the use of video-consultation in Belgium. Prior to the measures taken during the crisis, there was no reimbursement provided by Belgian health insurance for teleconsultation; the National Institute for Health and Disability Insurance (NIHDI) required the physical presence of the provider and the patient at the consultation for reimbursement.

During the pandemic crisis, this situation changed dramatically. In mid-March 2020, the Belgian government issued a Royal Decree [19] to allow all physicians

to provide telephone counseling to their patients, with the aims of “triaging,” referring probable cases of COVID-19, and to ensure continuity of care for other patients. The option of telephone counseling was later expanded to include the option of counseling via video consultation. New nomenclature codes were introduced to provide for reimbursement of these services. Several conditions for the use of these services were established: patient consent, video communication with end-to-end encryption, patient physically and intellectually capable of using a computer, etc.

Moreover, a “Data & Technology against Corona” Task Force was set up from the end of March 2020 until mid-May 2020. This task force carried out an evaluation and monitoring of the development of platforms and applications developed in digital health. A list of recommended platforms was drawn up and minimum conditions and rules for the use of these tools were established. It should be noted that these recommendations do not constitute a formal certification of these tools. Such official certification does not yet exist.

Belgium was not the only country to have very quickly implemented telemedicine during the crisis. This was also the case in France, although France’s history of telemedicine regulation is different from that of Belgium. Whereas in Belgium, there was no specific legislation on telemedicine before the crisis, a regulatory framework for telemedicine did exist in France for over a decade. France is one of the first countries to have established a legal basis for the practice of telemedicine through the law n°2009–879 of July 21, 2009, and its decree of October 19, 2010. Since 2018, teleconsultation has been reimbursed by social security. The conditions of reimbursement by the health insurance, however, were added to those provided by the decree of 2010, making them more complex [20].

Faced with the crisis, the French public authorities relaxed the pre-existing framework for telemedicine to facilitate continuity of care. The decree n°2020–227 of March 9, 2020 was created and identified derogatory conditions that allowed health insurance to cover teleconsultation for patients infected or potentially infected by Covid-19 [21]. Among these conditions, an initial face-to-face consultation was no longer required to obtain reimbursement for teleconsultation and teleconsultation could be carried out by any technological means to achieve a video transmission. Indeed, the order of March 19, 2020 specifies that ‘Healthcare professionals providing telehealth management of patients suspected of having an infection or recognized as covid-19 use digital tools that comply with the general policy on the security of health information systems and the regulations on the hosting of health data or, to deal with the health crisis, any other digital tool’ [22, p. 19].

In Belgium as well as in France, provisional framework for the practice of telemedicine were put in place to ensure the reimbursement of teleconsultation, generalising their use during the crisis. Faced with this massive use of uncertified digital technologies, the digital sociologist Antonio Casilli warned in March 2020: ‘The digital technology we are being urged to practice at the moment could thus be described as “quick and dirty”: solutions adopted in a hurry which, at best, can pose serious problems in terms of surveillance, governance and ownership of the data produced; and, at worst, which expose us to a whole host of risks that we have not yet considered’ [23]. Although regulated by law, the use of telemedicine on a massive scale has been experimental;

i.e., technologies have been used, within a relaxed legislative framework, without any knowledge of their side effects.

While I have focused here on teleconsultation, the phenomenon seems to have been the same for other uses of digital health. For example, Martinez-Martin et al. report that, ‘In the U.S., the Food and Drug Administration relaxed regulation of mental health apps for depression, anxiety and insomnia in order to facilitate expanded use of digital health tools during the pandemic’ [24, p. 3]. For them, the relaxation of the rules is not without risks: ‘Lowering standards may lead to efficiency in the short-term but the widespread adoption of low-quality technology during the pandemic could lead to a long-term substandard tier of service’ [24, p. 3].

The practice of telemedicine during the crisis should therefore be considered as ‘an experimental process because of the myriad of uncertainties which will only be reduced gradually after the technology is actually employed’ [4, p. 1]. The authorities have organised a “society-wide experiment” of these technologies. For Belgium, it was the first time that teleconsultation was organised by a legal framework without official certification of digital tools and without training of professionals. In France, the authorities organised a telemedicine experimentation program for several years in different regions of France. Article 36 of Law No. 2013–1203 on the financing of social security for 2014 was specifically intended to allow the implementation of telemedicine experiments through the ETAPES program (Expérimentations de télémédecine pour l’amélioration des parcours en santé). Since 2018, the experimentation of teleconsultation has ended and a legal framework for reimbursement of teleconsultation has been established. Cannot the derogatory conditions for the exercise of teleconsultation during the Covid crisis be understood as a return to an experimental phase of telemedicine?

My thesis is that this experimentation with teleconsultation during the crisis must be considered as “implicit” for several reasons. On the one hand, it does not seem that this experimental character was well explained to the population. Were the patients aware of the side effects of the use of these technologies? Moreover, will not this massive use of teleconsultation serve as a basis for reflections on the future of telemedicine? To quote the French National Pilot Committee for Digital Ethics, the concept of tacit experimentation invites us to ‘ask ourselves now about the societal mutation that the generalization of these innovations would eventually bring about’ [25, p. 4]. The concept of tacit experimentation is also useful here because it allows us to ask another question. A report from the Belgian Health Care Knowledge Center [26] states that the accelerated adoption of video-consultation as a result of the coronavirus crisis has propelled several new industrial actors into the market with their own solutions or products based on an existing application. In this context, can we not assume that some industrial actors took advantage of the Covid crisis to tacitly experiment on a large scale with new technologies?

From tacit to deliberate and democratic experimentalism

I would like to end this article by justifying the interest of adopting the concept of experimentation to describe the political management of the crisis and the massive use of digital technologies during it. What does this concept bring? What

is its usefulness? To answer these questions, I will again draw inspiration from Ibo Van de Poel and his colleagues. For them, the choice to conceptualize new technologies as “social experiments” is doubly justified. The first reason is epistemological: ‘the conceptualization of new technologies as social experiments sheds light on the introduction of new technologies even when the experimentation is tacit. Furthermore, by calling the introduction of a new technology a social experiment, characteristics may be revealed that are not seen by the actors themselves’ [4, pp. 11–12]. Making explicit the tacit and implicit experimentation that constitutes the introduction of new technologies into society would foster learning opportunities. Revealing the implicitly experimental nature of the use of telemedicine during the crisis could thus encourage authorities, professionals, and patients to learn from this use.

But, for Ibo Van de Poel and his colleagues, revealing the experimental dimension of technology also has a normative motivation. For them, ‘people have the right to know that they are involved in an experimental process and this knowledge may provide new options for action’ [4, p. 12]. Much has been said about the importance of ethics during the crisis. The importance of the ethics of patient triage has been reiterated by all ethics committees and learned societies. The ethics of clinical trials were also recalled. Jean-Ganascia stated that ‘The ethics of experimentation, especially human experimentation, remains an imperative no matter what happens, even in a health crisis’ [27, p. 241]. But shouldn’t we have also insisted on the importance of the ethics of the experimentation of all the measures taken during the crisis?

Should the experimental nature of the current responses to COVID-19 [28] have not been recognized? Would not explaining and recognising the experimental nature of these measures, as well as the use of digital technologies during the crisis, have made it possible to clarify and make explicit essential questions and consent imperative for ethics? During the health crisis, was the population not reduced to the object of an experiment? Could not civil society have contributed more actively to the intelligence of the experimentation? Nicolas Henckes [29] reminded his readers of the role of investigator played by social movements in the fields of disability, mental health, and AIDS. Far from being reduced to interest groups representing the sole interests of patients, these movements have contributed to the improvement of science and medical practices. Would not these types of movements have made it possible to produce alternative perceptions of the consequences of the pandemic and the effects of the crisis management measures?

In the same way, it is undeniable, as Michaël Foessel points out, that ‘during the containment, it was the creativity and capacity for self-organization of the exposed personnel (nurses, cashiers, garbage collectors, etc.) that, more than the governmental decisions, made it possible to modify the scenario written in advance of a disaster with no return’ [30, pp. 73–74]. Ultimately, I have argued that the hypothesis of an interpretation of the relationship of knowledge and power at the heart of the management of the crisis in terms of experimentation makes visible the particular technocratic form that the exercise of power took. In response, and for the future, would not an explicit and deliberative social experimentation of solutions to the crisis have been possible and desirable?

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