Can the State Carry Out Such a Thing as a Digital Transformation?

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It is commonly accepted that we should strive for a digital transformation of society: it is one of the European Union's principal strategic guidelines, there are now many ministries that employ that name, businesses and universities have placed people in charge of the initiative and, even in families, our children—acting, as it were, as our Chief Digital Officers—offer advice about new and sometimes hostile digital environments. It is worth asking whether this outpouring of goals, designations and positions was preceded and accompanied by corresponding reflection on what a transformation of this size means and whether we have correctly understood the relationship between technology and society. The failure (or incomplete success) of some of the transformations that have been attempted can be explained precisely because the attempted interventions were external, infrequent or insufficiently negotiated with the society they were meant to transform.

When one wants to realise a transformation, one must first understand what it consists of, what differentiates it from the things that merely inject money into a sector or focus on a flagship project, without realising the in-depth changes that were the goal. In this regard, it is not helpful to focus on "disruption," which suggests that technological innovations elbow their way in and are nearly ungovernable. It is somewhat facile to make declarations about the end (of work, even of that which is human) and about the advent of new eras. In reality, social changes are less abrupt and more given to continuous and shared intervention than to a type of magic that makes things appear and disappear. Digital transformations demand reflection about the problems that exist, the structures that should be digitally transformed and the ways in which people, the actors and the corresponding institutions should be involved. Let us not forget that the true subject of digital transformation is society; what must be digitally transformed is society, not the State.

When we talk about transformation, we are referring to something more radical than an evolution or a development where an object, which remains identical, experiences a slight modification. Transformative processes are those in which the object itself undergoes change. A digital transformation does not entail the transposition of an analogue product into a digital one or of an analogue process into one carried out through digital means. If it is a transformation, there will be a change in both the product and the process. It will not be the same thing done in a different way, but something distinct and new, whether it is an administrative act, a communication, teaching and learning, attention, cultural consumption, privacy or business. Anyone who believes that digitalisation will entail doing the same thing as before, while only the process changes, is mistaken. In the history of humanity, the movement from one means to another (orality, writing, digitalisation) has always also meant a profound change in the thing being done (reading, buying, teaching, governing, entertainment). Communications have changed with email, not only

in velocity but also in intensity and quality. When computers or virtual classes are introduced, they are not simply another method; they imply profound transformations in educational activities. Digital administrations modify the relationship between citizens and the State when it comes to proximity, accessibility and trust, to the extent that the technology may represent very different things for distinct population groups and be seen as a facilitator or a barrier.

Social transformations have two enemies: poor comprehension and poor implementation, but I would like to emphasise the first of these. Many failed transformations stem from a conceptual error, from poor comprehension of what is at stake. We think of technology as a totality that is only accidentally related to society, that "impacts" society, that must be "controlled," to which some ethical components should be "added" to humanise it, and in this way, we lose sight of the extent to which technology and society are connected. This dualism leads to various errors. The utopia that believes that technology solves everything and the dystopia that sees nothing in it but danger have a profoundly ahistorical vision that localises power only in technology and not in the way people appropriate it. This diagnostic error also explains the fact that the ethics of technology are dominated by an externalist focus, envisioned as a type of "guardian of the limits." If we thought about technology as a complete reality, intertwined with society, then ethics would not mean a protection of "humanity" against "technology," but would consist of experiencing and evaluating technological mediations, with the goal of explicitly configuring the ways they contribute to shaping the subjects in our technological culture (Verbeek, 2011, pp. 40–41). There are no purely technological solutions for complex problems, such as those that are raised and addressed by digitalisation. Technology is socially constructed and acts in social contexts where its validity is ultimately at stake.

Unlike a planning process, transformation is a procedure with open results. It is not fully predictable how society will finally appropriate governmental actions focused on that process. The social transformations that were put into motion by digital hyperconnectivity are not predetermined by those technologies. They emerge from the ways in which those technologies and the practices that develop around them are culturally understood, socially organised and legally regulated. Anyone who wants to change a sociotechnical system needs to understand both what the technological problem is and the social context in which the problem should be addressed. We need to understand the technology, and we need to understand society, but most importantly, we must understand how the two things interact. We should think about technology and society at the same time and examine the ways they are interconnected.

The fact is that society does not behave neutrally when it comes to digitalisation. It is not an inert space that meekly receives technopolitical prescriptions. Society is not a "start-up," an experimental model that can be expanded upon later. Instead, it is the space in which each of the decisions taken about digitalisation has its impact, sometimes with irreparable results. Digitalisation makes more acute the thing that always happens when a technology is introduced in society: the result is rarely exactly what was expected and that is largely due to the vitality of society, which makes the technology its own in unexpected ways.

Research from the last thirty years about the sociology of technology has developed a series of concepts about the relationship between technology and society that are very relevant for the debate about digital transformation. In the first place, we should stop thinking that technology is something that is present in a complete fashion, at our disposition, offering itself unquestionably as the best solution for a permanent problem, or threatening us, like something that has an impact on us but that we are unable to configure in any way. Technology is always the result of a process of negotiation between different technologies, economic interests, social expectations, legal requirements and the political configuration. This is the case for railroads, refrigerators, bridges and algorithms (Bijker & Law, 1992). Another contribution is the concept of "affordance" to explain that technology does not determine social structures but that it opens possibilities of action (Hutchby, 2001, p. 444; Latour, 2017, p. 124; Evans et al., 2017, p. 36). This concept refers to the structural relationships between artefacts and the users who make possible or limit certain actions in a given situation.

In the context of digital transformation, people and computers are entering into an intriguing symbiosis. It is not only that algorithms act upon us, but that we act upon algorithms. When we use algorithms, we modify and reconfigure them. The algorithms of machine learning are developed in an environment that is social, not geological, so they are continually being shaped according to the user's input (Bucher, 2018, pp. 94–95). From this standpoint, the most important thing is not only the algorithm's effects on social actors, but the interrelationship between the algorithms and the social acts of adapting them: "a recursive loop between the calculations of the algorithm and the 'calculations' of people" (Gillespie, 2014, p. 183).

The fact that algorithms can be used to resist the power of those who programmed them does not mean that perfect balance is restored between the two entities, but that technological power is not employed upon passive subjects. Those relationships, no matter how asymmetrical they may be, are dynamic, incidental, socially constructed and constantly renegotiated (Bonini & Treré, 2024). In the end, the social power of algorithms—especially in the context of machine learning—stems from recursive relationships between people and algorithms. These are encounters that do not take place in a single direction; people limit and expand the ability of algorithms. The activity of an algorithm can be read as the outline of the ways in which its encounters with the social world are evaluated. Here, we see a clear manifestation of Foucault's idea that power is a transformative ability that always implies forms of resistance (1976).

We are, therefore, facing the great challenge of how to bring technological development and social realities together. Technology does not prescribe only one possible development; in its encounter with society, many options arise: it is contested, it is used for something other than what was foreseen by its designer, inclusive uses are demanded. In sum: a dialogue of options is produced that suggests technological pluralism, a diversity of ways of viewing technology through its social implementation. A good indication that this is what happens with technologies in our societies is that, at a global level, if we consider what the United States, the European Union or China think and do with artificial intelligence, digitalisation acquires formats that are very distinct, with models that bring together technology, the state and the marketplace in diverse and even antagonistic fashions. The project of

introducing artificial intelligence in Spanish or other languages is an example of the potential pluralisation of technology: it would foreground different visions of the world, and there would be increased accessibility for many people. If we talk about political or moral pluralism, we should also talk about "technological diversity;" about pluralism in relation to technology, which is neither unquestionable, immediately applicable nor unique.

The reason many transitions, in this and other areas, have failed is found in the mechanical and vertical application of new requirements without sufficient attention to the diversity of people affected and without including them in the process. The case of the ecological transition and the resulting protests by farmers reveals how hard it is to reconcile what should be done and the ramifications for a particular sector of society. Failed transformations stem from not developing a successful process of negotiation that would lead to a sustainable and satisfactory solution for everyone. Resistance to change should not be interpreted as some perverse type of boycott; instead, it often reveals that those who are promoting change have not successfully facilitated it, negotiated it and made its advantages clear to everyone.

As with any other type of transformation, we must examine the things that could make the digital transformation slower than ideal and the undesirable effects that could be produced by careless implementation. It is often the case that the imperative for digital transformation makes us value velocity over results, reaction over reflection. Its promoters tend to have an "action bias" that leads them to act before understanding. This leads to speed without reflection, adaptation without decision-making, direction without agreement, technology without society.

Solutions are often sought not *through* technology but *in* technology, making it an end in and of itself. I am referring to an immediate and unthinking "application" of technology to social problems, with the hope that this will lead to a quick and seamless resolution. Digital transformation provides many examples of technology's social blindness, such as: the error of believing that a digitalised administration is necessarily a closer administration; trying to respond to increased demands for healthcare only with health telematics; providing personal computers in schools or creating the virtual classrooms that were necessary during the pandemic without developing the corresponding training needed by students and teachers; encouraging companies to develop digital business models regardless of whether they have the necessary capacity and whether there is a market for them. But it is worth keeping sight of the fact that if technology alone is not the solution, neither is it the problem. The problem is a lack of thoughtfulness when it comes to bringing technology and society together. There are digital divides and other types of inequalities that the digital transformation can either correct or aggravate, depending not on the nature of technology, but on the policies with which it is implemented.

As with any other profound transformation of society, digital transformation demands at least two things: thoughtfulness and inclusion. Social transformations are produced less through speed than resulting from the quality of a continuous process. It makes no sense to gain speed at the cost of supressing moments of reflection, debate and inclusion. We cannot forego the necessary step of analysing problems and needs before beginning the process of negotiation, without which there will be no successful social transformations. The processes of digital transformation should be configured in an inclusive fashion. We must keep in mind the heterogeneity of the social groups involved

in or targeted by the strategy of digital transformation: rural and urban environments, different generations, people with a range of educational levels, diverse economic situations and the gender inequalities that condition access to and use of technology.

The difficult crossroads faced by globalisation efforts stem from the fact that, on the one hand, we need to accelerate our processes to keep up with rapid technological developments, but on the other hand, the necessary negotiations (legislative, regulatory, democratic) are increasingly complex, which slows down the time for action. We can bemoan this imbalance, but we should not forget that without an inclusive social debate, every political initiative is condemned to a lack of understanding and support from society, both of which are necessary for a true digital transformation.

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