Digital technology and energy:
Between dream and reality

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Abstract:

Action needs grounds in the imagination if it is to be socially acceptable and galvanize users and stakeholders. The imagination has been tapped very little for the energy transition. "Technicist" visions have won out over those arousing positive images. No words have come to soothe concerns about the acceleration of everyday life owing to information and communications technology. The few wisps of imagination that have been elicited are incapable of bestowing meaning on changes in uses and behaviors; and the results obtained through pressure are not satisfying.

Even the most rational and calculated actions trigger the imagination.[1] We cannot change the world without a dream of what we want it to be. However technocratic or managerial our thinking might be, it is always grounded on a worldview (We need but think of the values and visions proposed during election campaigns) that draws on the imagination. But the ways of imagining an action differ significantly. The imagination not only adds a few embellishments to the line of reasoning that calls for action but also occupies, visibly or invisibly, the core of the reasoning process. When Hitler asked Albert Speer to build a monumental Berlin that would make "beautiful ruins", his request cast a gloomy light on the program for the "thousand-year Reich". Would General de Gaulle have so vigorously advocated plans for modernizing France if they had not corresponded to his political vision of the country's destiny — a vision referring to a history with roots in the imagery of the French nation?

Actions are never completely separated from the imagination on which they are grounded. The imagination might be that of an individual, group or caste or, if widely shared, of the society. Certain images, dreams, are in and of themselves, highly stimulating, whereas others are laden with direct references to the society's common stock of cognitive representations. Our welfare societies have arisen out of a shared, positive imagery that leads everyone (at least superficially) to accept to contribute to them. When the first signs of a refusal to pay for others appeared in California, we realized that this collective imagination was coming undone.

The success of public authorities' actions for effecting social change requires the activation or creation of a shared imagination. Another factor is social movements. Does a shared imagery justify and make socially acceptable the changes that public authorities and major social actors want, guide or simply follow? Does it have a direct impact on individual behavior patterns? What in this social imagery must be activated so that many automobilists will want to drive carefully? Communication campaigns and their ambiguous results have taught us that the answer is not at all simple (in this case as in others). No leader, or at least no one in charge of public interventions, can elude this sort of question. From a sociological viewpoint, deciding whether digital technology is (or can become) a tool for accelerating the energy transition raises two questions:

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[1] This article has been translated from French by Noal Mellott (Omaha Beach, France).

— Is there a pool of images that bring the energy and digital transitions together in a shared, positive vision of a possible future for our societies? If this imagery does not exist, can it be created?

— Does or can this imagery have an impact on everyday behaviors and practices?

We have the impression of going back forty years, before the Bruntland report (WCED 1987).

To its advantage, the phrase "sustainable development" bears the image of something that lasts, involves a legacy and serves as a reference mark. It evokes the idea of security. These connotations are even stronger when, as in French, this phrase is formulated as "durable development".

What is the energy transition? Not a turning point, even less a revolution! It is of the same type as the demographic transition: a set of observed facts that signal the passage from an old to a new state of equilibrium. The persons involved in the demographic transition fortunately had other ideas (the family, consumption, happiness, the future…) than demographics in mind.

It is hard to come up with an idea that so weakly activates the collective imagination as the energy transition. This idea is relegated to the purely technical realm of utility companies and public policy-makers. Energy does not draw references from a rich repertory in the imagination. There is no (or no longer) an imagery associated with energy. The time has passed when energy was brought up vivid images: the horsepower of steam engines and locomotives during the industrial revolution; or the "electricity fairy" who, with a wave of the wand, turned on something priceless and recognizable: light. Even though energy is omnipresent in daily life, we sorely lack basic ideas about it. As a consequence, our relation to energy has become abstract, image-less. For this reason, games, contests, etc. are important when we want to induce or follow up on behaviors for saving energy.

Opposite this "technicist" dismissal of the imagination, Jeremy Rifkin's (2011) "third industrial revolution" proposes positive images of a future that strongly stimulate the imagination. He makes us dream of a world where each house generates its own energy, where electric cars have gained the upper hand (the electricity needed for them generated from renewable sources), where digital devices and applications adjust not only the production and distribution of energy but also many everyday activities with, as a consequence, the upsurge in "telecommuting" (working on-line from home), and where pyramidal (hierarchical) relations yield to lateral (horizontal) relationships. We are entering a world of mobility, individuality, cooperation. This series of images evokes individualization and the return to an old American dream: the end of cities. This last point might not attract other societies, unlike the association between the energy transition and the process of individualization, which takes on meaning in quite different contexts. Individualization does not mean the absence of social relations and cooperative actions, or of altruism. The attraction exercised by human rights organizations stems from the association between altruism (chosen, voluntary) and individualization. This worldview corresponds to the aspirations of many people, in particular college graduates.

Rikfin's is one of the few narratives that so tightly links the energy transition to a utopia or, at least, plays on the imagination. The same ingredients could be used to bake other stories about, for example, the embellishment of cities (a major issue). We have difficulty imagining the whole world living in Rifkin-like localities, which, roughly speaking, resemble a sustainable variant of a *Little House on the Prairie* equipped with digital devices. Although this new technology is spawning a host of applications for managing and running cities, we are lacking narratives that make us enthusiastic… and reassure us. Hastily sketched images of cities going through the energy transition, debates about big data and daily news programs all call up the figure of Big Brother, as in George Orwell's novel, *Nineteen Eighty-Four*.

Alarmists' declarations, when they lead people to reason along the line of "Damned bedamned", are their own undoing. Responding to them is not easy, but for all that, we must systematically sidestep them. When ringing an alarm, it is necessary to point toward a reassuring exit. The point is the need to adopt narratives that move people and appeal to the imagination. In the case of digital technology, the purpose should also be to reassure people about the impact, but in a different way and on a different point.

Let us step out of the current crisis mode. Nowadays, innovations are supposed to be disruptive. This might make sense for certain fields of technology and certain aspects of corporate organizations. In society however, it runs counter to what we observe. Successful innovations (including products such as mobile telephones) always fit into a continuity. They deepen trends without, for all that, causing a disruption. Disruptions are never well accepted in a society.

Although digital technology does not necessarily, or totally, disrupt society (and the debate goes on…), it does have an extraordinary force of acceleration (and not just of calculation). This aspect did not use to be evident in everyday life, but it is now pervasive. This technology has become our seven-league boots: trends are fast and farher-reaching. We thus come to feel as if we are sitting on top of the world, as if we are in control, since a smartphone application lets us know where and why a subway train has stopped — even though this knowledge does not make it start running. But this also causes apprehension, a feeling of powerlessness. Is this just the reaction of people born before the Internet? Maybe, in part, but such an explanation is short shrift. Persons born after the Internet also experience feelings of apprehension and uncertainty. I am referring to technology, to what it bears, what comes with it. After all, how many students in France (and not just their parents) are uncomfortable with the on-line application procedure for enrollment in a post-secondary establishment? Here too, reassuring narratives are needed to tell about something other than the many swindles and other aggressive acts perpetrated on the Internet.

To use the "collective imagination" to construct specific images, a narrative is needed. This task is not so much the job of specialists who will optimally format the narrative for different channels of communication. It is a complicated process that draws on various talents, a capacity for creativity and a solid knowledge of the existing stock of social imagery. Among those who possess such talents are technicians, who can help spin their know-how into narratives.

To make a long story short, the imagery for bringing the energy and digital transitions together in a shared positive vision of our society's future is insufficient. The versions currently proposed are not sufficiently uplifting and reassuring. Nevertheless, creating this imagery is not at all out of reach provided that stakeholders be persuaded that it is important to do so.

What about the impact of such imagery on everyday behaviors and practices? Anyone who thinks behavior patterns change at a snap of the fingers should be reminded of the title of Michel Crozier's book (1982): "You do not change society by decree". But maybe by pressure? It does have an effect, especially when it stems from economic necessity rather than the law; but it fosters behaviors for dodging restrictions, and it breeds unrest, conflicts and, sometimes, desperation. Counting on pressure alone could turn out to be a faulty line of reasoning.

Besides, contemporary lifestyles are much more diverse than it seems. Everyone (each family unit) elaborates its own lifestyle within a set of constraints. Given that persons belonging to the same social category or living in the same area tend to adopt the same lifestyle, we might come to think that lifestyles are similar. This is a very uneven description. As Pauline Silvestre (2017) has shown, the inhabitants of a locality on the outskirts of the greater Paris metropolitan area played on constraints and elaborated rather different lifestyles as a function of their preferences and their knowledge of the context. Even under tight constraints, the lifestyles they adopted expressed the specific individual or household. It expressed their identity and self-confidence (or lack of it). I mention this to point out that we can intervene only with very fine touches.

The adoption of a set of virtuous behavior patterns for saving energy thanks, in particular, to digital devices and applications calls for changing lifestyles. Technicians often start out from the idea that people will like "it" since it is good for them — for example, that people understand the information coming from their Linky and have no phantasms about this smart electric meter, that they will happily accept to restrain their mobility to spend less on transportation, etc. How naive!

For most people, what primarily counts is their lifestyle's equilibrium. Anything disruptive risks rejection, even though it might mean savings and seems to simplify everyday life. To be accepted, a change must give the impression that it is not disruptive, that it has a purpose that fits in with the lifestyle. This might hinge on tiny details (such as the time of day when the dish washer turns on), because family rituals and meanings are hidden behind these details. One thing is for sure: the role of those who introduce new technological devices is not so much to explain the devices as to help the user find out how to fit them in with his/her own purposes. Success calls for conviction. We are all the more willing to change practices and habits insofar as we find that doing so makes sense — in particular, if the economic advantages (the driving force but under the previously made reservations) are linked to a world with meaning.

This implies that the proposed imagery extends into everyday life, in particular into the private life. The forces of consumption have drawn heavily from the stock of social imagery related to the private life. The energy transition, though also involving consumption, has hardly done this. The question of privacy has been seriously raised with regard to the circulation of personal data and, less audibly, to hesitations about exhibiting one's private self on, for example, Facebook (CASILLI *et al*. 2014). but no narrative has shone a light on practices in private life that are related to energy. This is a problem.

In brief, narratives are yet to be spun for bringing the energy and digital transitions together in a common imagery that can give meaning to new, daily behavior patterns.

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