

Environmental Impact of the Digital

Thomas Thibault

Thomas Thibault is a digital designer, working in the Paris-based studio Praticable. He's also a scholar at the Centre national de la recherche scientifique (CNRS), where his works mainly focuses on software obsolescence.

<https://praticable.fr>

<https://letrouviste.fr>

<https://limitesnumeriques.substack.com>

T.C. You work at the CNRS on issues related to software obsolescence among others. It is unusual to see a designer involved in scientific research. Can you explain what research you are pursuing in this context and what is your role as a designer?

T.T. We look into how design choices in interfaces, directly or indirectly influence the obsolescence of digital equipment and more broadly, have other forms of impacts. We think that certain forms, certain functions, certain words in our software, applications and websites, shape uses and practices that increase the necessity for new devices, and participate in an *inflation in performance* within the field of digital technologies. We analyze that phenomenon, and come up with ideas, design paths, methodologies, to fight against it.

As a member of a design studio, I was also assigned the role of thinking about the diffusion and appropriation of our work outside the research community, with design professionals, who conceive tool, services and digital interfaces.

T.C. Recent digital technologies, such as the cloud, tend to hide the material aspect of infrastructures. The industry sells us the myth of “de-materialization”, which according to you, is born out of “the transhumanist utopia of Silicon Valley, whose ultimate goal would be to split the mind and the body, and therefore, to suppress the physical and its constraints.” With the Practicable collective, you seek to integrate the representation of this material aspect into our everyday digital interfaces. Your project, *Sketchbook for an Ecological Browser*,¹ develops design proposals in this sense. Could you tell us more about them? Have any of these proposals been realized or tested yet?

T.T. Indeed, most of the vocabulary used for selling and presenting digital technologies seeks to hide their underlying infrastructure. We wanted to explore this issue from an ecological point of view, so we decided to focus on browsers. Unlike televisions or mobile applications, browsers allow you to control the way information is displayed and received from the web. It is one of the only mainstream tool that allows people to have some control over digital technologies, and it’s that aspect that makes us consider it a tool of digital disobedience.

Some of the ideas have been prototyped, but the main interest of this booklet is mostly to highlight design paths and ecological goals that can be ap-

plied in multiple contexts rather than to propose ready-made ideas.

T.C. A Netflix movie in high definition (7 GB) is about a million times bigger than an email (75 KB). The increase in server capacity, the spread of fiber technologies and the progress in optimization strategies among others, have reduced the waiting time between a request and its response, to the point where it’s now imperceptible. It becomes therefore impossible to *feel* the difference in size between a Netflix movie and an email. In your *Sketchbook for an Ecological Browser*, you develop two strategies for thinking about this. The first focuses on a design technique you called *symbolic friction*, which aims at making this difference tangible again to the user. The second is about vocabulary matters, mainly graphics, and trying to design a representation of the technique closer to reality. Could you explain these two strategies?

T.T. In this booklet, we explore indeed many ideas, sorted by design strategies. In *symbolic friction*, we imagine downloading images only when the mouse passes over the media, or implementing an artificial lag to make the size of a web page more tangible. Actually, this idea of artificial lag is already in use for online transactions, without most people being aware of it. The loading time is artificially increased when you use a credit card, to provide a feeling of security and protection. We aim at doing the same thing regarding the size/weight, of digital technologies. In the part *vocabulary shift*, we change the digital pictograms to give away their true function: the *play* icon displayed on videos is replaced with a *download* icon, which describes better what the browser actually does.

There are also great tools for reclaiming the web already implemented in browsers, though gathered under a tab called *development tools*. In other words, “If you’re not a developer, move along, there’s nothing to see.” It becomes therefore a matter of re-thinking the vocabulary, to increase the accessibility of certain tools within the interface.

T.C. Do you think that excessive digital consumption is mostly due to a lack of knowledge in the public? Would it be enough to make the material aspect of digital technologies tangible to re-shape individual uses? Or would restrictions have to be enforced?

T.T. Absolutely not. Being the best-informed person is of not much use when devices are not designed to last or to be

repaired. You can't do much about the technical choices of digital corporations. As a design studio, we address designers of digital services and objects, whose choices condition the uses of billions of people. If it's not possible to buy a ticket without downloading an app, or to play only the audio of a video, then it's a question of conception, not use. We are therefore careful never to separate the matters of the perception of impacts (making tangible, readable, understandable) from the possibilities of acting upon them (being able to set up, adjust, disconnect). Although, we're aware that market economy does condition many choices designers make. Hence the importance of regulation, that you can support through the work of associations such as Systext, Halte à l'Obsolescence Programmée, etc.

T.C. Some of us might feel overwhelmed, or even angered, by the burden being constantly placed on individual shoulders in the green transition to come, in a context where individuals are constantly encouraged to consume all sorts of good, digital or not. Personal actions, even the most virtuous, seem to actually have very small effect on our collective conditions of existence. They're far better at making us feel good about ourselves (which *green-washing* is very good at playing with). Although, that's no reason for discarding them, can individual actions matter at all without collective rules?

Of course not. Without regulations, the most polluting companies will remain the most profitable. This is called the "prime for vice".² A more ethical and repairable smartphone like the FairPhone is much more expensive than a smartphone made by a company taking advantage of the 40,000 children still working in mines.³ Without state intervention, no change is possible. Although France and the EU don't progress as fast as they should on these issues, it remains better than throughout the rest of the world. We can think of the REEN Bill, or the repairability (and soon sustainability) index exported in the United States. These progress are, of course, mainly the work of associations, and also, of committed companies (FairPhone, Commown, etc.), which count on the support of their members, shareholders and customers. From the individual to the collective. From the collective to the individual.

T.C. Could the growth of cloud computing services be compatible with the *green transition*? What alternatives would you think of?

Rather than speaking about green transition—which implies that it would be enough to transition for everything to be OK—I prefer to use the expression *planetary boundaries*. There are of course *thenine planetary boundaries*,⁴ but also the increasing scarcity of mineral resources (which doesn't count in the initial nine, since they do not directly endanger human life on earth).

More cloud services imply a growing number of terminals, a bigger and more powerful network, and therefore an exponential demand in different metals. Researchers (Eco-info) and associations specialized in mining (Systext) estimate that in the next 35 years, we'll have to extract more than we have since antiquity. Known mine reserves for critical metals used in high-tech are expected to last between twenty and a hundred more years (Alain Geldron). The vast majority of these metals cannot be recycled, because they're used in quantities too small within devices. These figures show quite well that a super-connected and digitalized future cannot happen. Some people even speak of obsolete futures (A. Monnon; D. Landivar).

With this in mind, we need to think about how to prioritize the use of digital technologies. If they're limited, what should they be used for? Should electronic disposable cigarettes be allowed? Non-repairable AirPods? Get laid off in the metaverse?

T.C. This question is not only technical, but also political. It should therefore be discussed publicly, as the implementation of 5G also should have been.

We could also think about un-digitalizing some services. Or think of services that could be used with obsolete devices, or with a simple text message, like the designer Anaëlle Beignon did.⁵

Finally, these issues must be thought of more globally: digital technologies are often pushed forward as a tool that favors remote working and road traffic reduction. But these virtuous effects would be easily erased if digital equipment was multiplied from the office to the home, if new online uses consuming a lot of energy were deployed, or if online-shopping was encouraged, etc. Whereas public transportation or cycle-path deployment could have actually, been a solution to the initial problem.

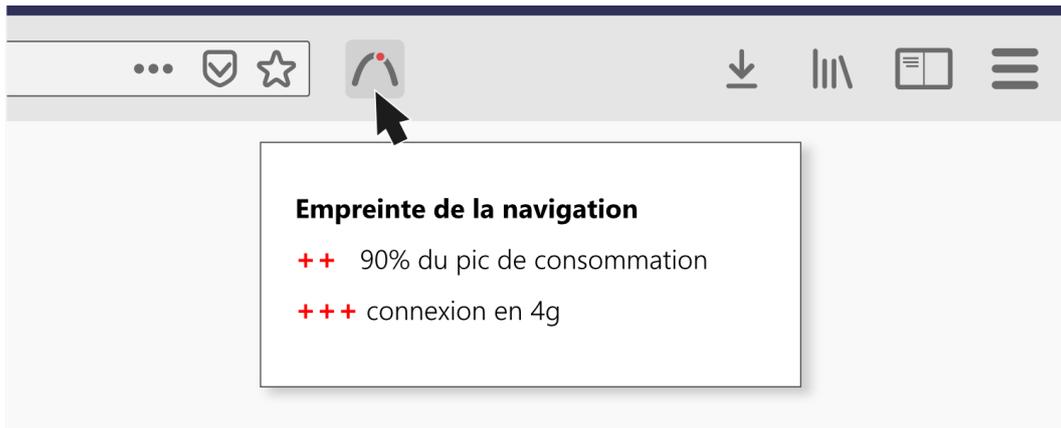
¹ Cahier d'idées pour un navigateur écologique <https://praticable.fr/navecolo/>

² See: <https://la-mode-a-l-envers.loom.fr/la-prime-au-vice-en-bd>.

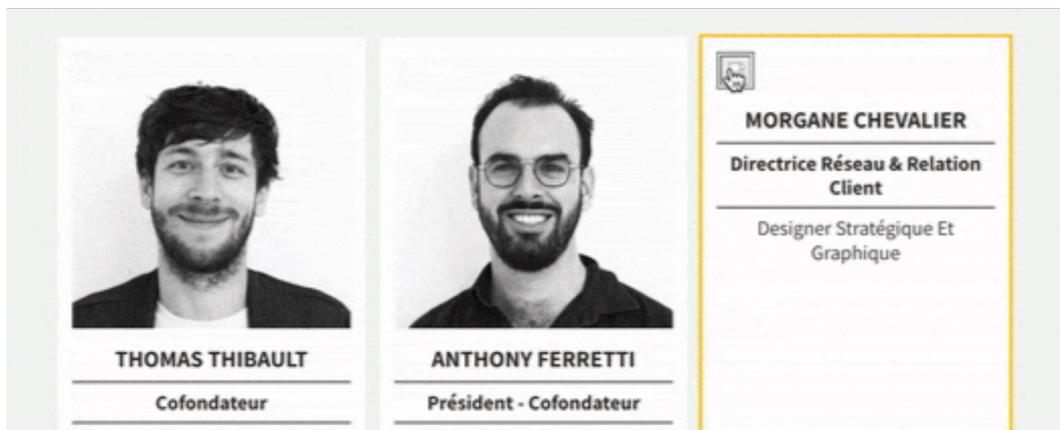
³ See: <https://institutnr.org/40-000-enfants-travaillent-toujours-dans-les-mines-pour-nos-batteries>.

⁴ See: https://en.wikipedia.org/wiki/Planetary_boundaries.

⁵ See: <https://anaellebeignon.fr/design-for-obsolete-devices.html>.



Cahier d'idées pour un navigateur écologique, Praticable, consommer des données de saison, 2008



Cahier d'idées pour un navigateur écologique, Praticable, télécharger les médias à la demande, 2008



Cahier d'idées pour un navigateur écologique, Praticable, consommer des données de saison, 2008

Further readings

- Bradley, Marion Zimmer n.d.. *La vague montante* (É. Vonarburg, Trans.). Le Passager clandestin. (OCLC: 867594008)
- Denis, Jérôme and Pontille, David n.d.. *Le soin des choses: politiques de la maintenance*. La Découverte. (OCLC: 1350520854)
- Maudet, Nolwenn, Tabard, Aurélien, and Thibault, Thomas n.d.. *Limites Numériques*. Retrieved from <https://limitesnumeriques.substack.com/>
- Régnauld, Irénée. and Benayoun, Yaël n.d.. *Technologies partout, démocratie nulle part: plaidoyer pour que les choix technologiques deviennent l'affaire de tous*. Fyp éditions. (OCLC: 1201181479)

