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MANIFESTO FOR AN ACENTRIC DESIGN

By Anthony Masure

*"Human, All Too Human is the monument to a crisis. It calls itself a book for free spirits: almost every sentence is the manifestation of a victory – I used it to liberate myself from things that *did not belong* to my nature. Idealism is one of them: the title says "where you see ideal things, I see – human, oh, only all too human!"... I know people *better*... The term 'free spirit' does not want to be understood in any other way: a spirit *that has become free*, that has taken hold of itself again."*

– Friedrich Nietzsche, Ecce Homo [1888], in: The Anti-Christ, Ecce Homo, Twilight of the Idols: And Other Writings, eds. Aaron Ridley and Judith Norman (Cambridge 2005), pp. 115–116. In this seemingly autobiographical fragment, Nietzsche refers back to his book Human, All Too Human [1876–1878].

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Aren't there some aspects of human life that can't be replaced by the "experiences" generated by "user-centered" design?

In current discussions of "interface design," catchphrases such as "user-centered design," "the user experience," and by extension, "experience design" might not, at first glance, seem to draw scrutiny. After all, isn't the purpose of design to create 'useful' things based on the users' needs, 'centered' on them and on the improvement of their 'experience'? However, if one looks at these concepts more closely, one might wonder what these methods engage as conceptions of design, and more broadly as an understanding of human relations and human-machine relations. Indeed, it is not unproblematic to presuppose that "we" are users *first and foremost*, i.e. beings solely concerned with relations of utility. What are we to think, then, of terms such as "user-centered design (UCD),"¹ "human-centered design (HCD),"² "activity-centered design (ACD),"³ or "people-centered design (PCD)"⁴? Why must design be "centered" on something? More broadly, aren't there

some aspects of human life that can't be replaced by the "experiences" generated by "user-centered" design?

In order to critique the engineering of design and the reduction of the designer's task to normative and even quantitative methodologies, I propose, as a research method, to bring together a historical study of the concepts to be questioned with technical analyses and the related discourses surrounding them. More precisely, I could synthesize this text's research method in the following way:⁵

1. To analyze the concept determining the process by which design issues were constructed in order to draw out the underlying philosophical concepts.

2. To retrace the genealogy of this concept, connecting the technical reality of the products of design with the discourses of all entities being at the origin of the project (originators, designers, contractors, communicators, marketers, etc.) regarding these products.

3. To synthesize the history and the discourses of these entities concerning matters of design more broadly in order to draw out the philosophical issues entailed in them.

4. To connect the philosophical issues revealed by the analysis of the discourses of the entities with those of the original concept to show how these come to condition and determine the technical reality.

1 Shawn Lawton Henry, Justin Thorp, Notes on User Centered Design Process (UCD). W3C.org (March 2004), <http://www.w3.org/WAI/redesign/ucd>, access: July 1, 2019, 10:00pm.

2 Human-Centered Design Toolkit. *Ideo* (2009), <http://www.ideo.com/work/human-centered-design-toolkit>, access: July 1, 2019, 10:00pm.

3 See Geraldine Gay, Helene Hembrooke, *Activity-Centered Design. An Ecological Approach to Designing Smart Tools and Usable Systems* (Cambridge, MA 2004).

4 Hugh Graham, People-Centered Design, <http://hughgraham-creative.com/people-centered-design>, access: July 1, 2019, 10:00pm.

5 Here, I borrow the useful summary provided by Alexandre Saint-Jevin in his review of the essay *Design et humanités numériques*: Alexandre Saint-Jevin, Sur la trace de l'humain dans les "objets" de design. *Non-Fiction* (2018), <https://www.nonfiction.fr/article-9264-sur-la-trace-de-lhumain-dans-les-objets-de-design.htm>, access: July 1, 2019, 10:00pm.

This is thus not a matter of constructing a model of design activity in the form of logical sequences (diagrams, schemata, timelines, etc): rather than trying to tell designers what they should do, this analysis is intended to provide them with critical tools allowing them to analyze, in their own process, what they have already made or are still working on. In order to open up possibilities for making interfaces other than the behavioral scripts of experiential design, I will begin my analysis by turning back to the history of the first graphic interfaces. How do the values embedded within these technological strata infuse and even limit our relations to technology?

Xerox Star's “conceptual model of the user”

The expression “user interface” correlates temporally with the development of microcomputers at the end of the 1960s. In 1968, Douglas Engelbart presented the result of the research undertaken at Xerox PARC at the time of an event retrospectively called the “mother of all demos”, where were first showcased videoconferencing, teleconferencing, email, the hypertext navigation system, and the interface modeled on the “office metaphor” based on “windows,” “folders,” the “trash,” etc. Partially realized in the

1973 Xerox Alto computer⁶, this first form of graphic user interface (GUI) was included in the 1981 Xerox Star. Moreover, the latter was accompanied by network access, email capabilities, a mouse, and a WYSIWIG (*What You See Is What You Get*) printing system precise enough to make what is seen on the screen coincide with a paper output.

In order to specify the origin of the conceptual model used as a basis for a design explicitly asserting needs of “users,” it is important to reconsider the founding principles of the Xerox Star. In an article dating from 1982, five former employees of Xerox Corporation explain their comprehension of the human-machine relations, and more precisely their methodology of interface design:

*We have learned from Star the importance of formulating the fundamental concepts (the user's conceptual model) before software is written, rather than tacking on a user interface afterward. [...] It was designed before the functionality of the system was fully decided. It was even designed before the computer hardware was built. We worked for two years before we wrote a single line of actual product software.*⁷

Contemporary readers, used to design being relegated to the end of a process, dependent on a multitude of external parameters, will certainly wonder at the attribution of such importance to de-

6 Only 1500 units were produced: 1000 for employees of Xerox and the remainder for universities and public institutions.

7 David Canfield Smith, Charles Irby, Ralph Kimball, Bill Verplank, and Eric Harslem, *Designing the Star User Interface*. *Byte* 4 (1982), pp. 242–282, here p. 246. Republished online: <https://guidebook-gallery.org/articles/designingthestaruserinterface>, access: July 1, 2019, 10:00pm.

sign “before” the material specifications are even formulated. In the case of the Star, it was much more a question of introducing the market to “radically new concepts”⁸ than of seeking to apply an “order” issued from above. By dedicating a quantity of memory to the screen display, the originators of the Star were able to create a visual interface functioning in tandem with the mouse (also used on Xerox Alto), defined in the 1982 text as “a way to quickly point to items on the screen”⁹ more effective than the cursors activated by the keyboard.

It is particularly interesting to study how the Xerox teams developed a project methodology linked to what is today called “user-centered design.” The development of an interface poses many problems indeed: taking into account the variety of languages in which the users address their commands to the computer, the design of on-screen representations displaying the state of the system to the user, and other abstract problems that can affect the understanding of the system’s behavior. According to the Star teams, these problems are highly subjective, and can be solved only on a case-by-case basis. The method employed thus consisted in focusing on what should precede any design of a successful interface, namely “task analysis”:

The current task description, with its breakdown of the information objects and methods presently employed, offers a starting point for the definition of a corresponding set of objects and

*methods to be provided by the computer system [including programs and peripherals]. The idea behind this phase of design is to build up a new task environment for the user, in which he can work to accomplish the same goals as before, surrounded now by a different set of objects, and employing new methods.*¹⁰

For Xerox, the user is an entity centrally dedicated to carrying out tasks in order to achieve objectives. One finds here the common definition of an algorithm, namely, a set of instructions intended to accomplish a given action. In other words, isn’t this understanding of what a user is derived from the “program” (an algorithm written in machine language) as a model of thought? Isn’t it odd that, in order to improve human-machine relations, human beings are to be imagined on the model of the machines?

In this sense, what one would call a “user” in the data-processing context would often be merely a logical reduction of human subjectivity, consequently able to hold a dialogue with “extra-human” programs.¹¹ Just as some see design as a discipline capable of becoming a science¹², here it is a matter of constructing “models of behavior” in order to improve the effectiveness of the “tasks.” The etymology of the French noun “*tâche*” (“task”) can be traced back to the Latin

8 Ibid., p. 242.

9 Ibid., p. 246.

10 Ibid., p. 248.

11 I borrow this expression from the exhibition “Haunted By Algorithms”, a research project directed by Jeff Guess and Gwenola Wagon, Paris, ENSAPC / YGREC, January 21, 2017 – March 5, 2017.

12 See Anthony Masure, Pour une recherche en design sans modèle, in: *Design et humanités numériques*, ed. Anthony Masure (Paris 2017), pp. 41–56.

verb “taxare” (“to tax”), indicating “a determinate work that one is obliged to perform, together with a concept of ‘remuneration’ [or] moral duty¹³”. The French verb “*tâcher*” (“to try to do”), in turn, expresses the idea of striving, sometimes accompanied by the idea of a degree of painful exertion in order to comply with the imperative to “try to do” something. If the user is a being whose objectives, to be realized, necessarily pass by a series of tasks to achieve, wouldn’t this make us “*tâcherons*” (“drudges”), i.e. “person[s] performing *work on command* [emphasis by the author] without much intelligence”?¹⁴

In the case of the Xerox Star, nevertheless, things are more complicated. The fact of starting from a “user-model” comprised of a small set of design principles makes it possible to ensure an overall coherence, since “the *user experience* [acquired in] in one area... [can] apply in others,”¹⁵ thus reducing the cognitive load involved in the use of the computer system. Another aspect discussed in the article – connected with the concept of coherence – pertains to the concept of “familiarity” (the “*Familiar User’s Conceptual Model*”):

A user’s conceptual model is the set of concepts a person gradually acquires to explain the beha-

*vior of a system [...] The first task for a system designer is to decide what model is preferable for users [...]. This extremely important step is often neglected or done poorly. The [Xerox] Star designers devoted several work-years [...] [to] evolving [...] an appropriate model for an office information system: the metaphor of a physical office.*¹⁶

The Xerox Star interface was thus constructed on the basis of the users’ current universe, namely, the hierarchical model of the office. It was important to produce a “familiar” interface in order to reduce sources of friction, making the “user experience” *seamless*. Thus, users find in the machine their customary division, organization, and management of tasks. For example, the pile of paper messages on the physical desk of office-worker users is translated, in their computer, into a pictogram of an envelope indicating when a new email has been received. It is interesting to specify that the metaphorical model defined in advance of the actual development of the program *de facto* modifies the functions of this program: the design is not approached as a matter of mere presentation. Taking the example of the emails once again, typing a “send mail” command can thus be avoided by manipulating the icons. A last important aspect of the Star interface pertains to the personalization of the interface, as the movable icons make it possible to configure the work environment.

Summarizing the overall principles of the Xerox Star, what is indicated here by

13 Alain Rey, *Dictionnaire historique de la langue française* (Paris 2010), pp. 9620–9621.

14 Ibid.

15 Smith, Irby, Kimball, Verplank, and Harslem, *Designing the Star User Interface*, p. 242: “The Star user interface adheres rigorously to a small set of design principles. These principles make the system seem familiar and friendly, simplify the human-machine interaction, [...] and allow *user experience* in one area to apply in others.” Emphasis mine.

16 Ibid., p. 248–249.

the term “user” is in fact a succession of goal-directed “tasks” from which the designers construct a “conceptual model” as a basis for the developing of the computer system and ensuring its metaphorical coherence. By providing users with a “familiar” and “friendly” environment, the interface thus developed is intended to increase their productivity by developing “human-machine synergism.” However, the Xerox Star’s “friendly” interface reveals its limitations in certain functions where the office metaphor is inoperative:

One of the raisons d’être for Star is that physical objects do not provide people with enough power to manage the increasing complexity of the “information age.” For example, we can take advantage of the computer’s ability to search rapidly by providing a search function for its electronic file drawers, thus helping to solve the long-standing problem of lost files.¹⁷

The 1982 article concludes on an intriguing note, observing that it is difficult to choose between several models of interfaces while relying on stable (scientific) criteria: “User-interface design is still an art, not a science.”¹⁸ Although the Xerox Star text ultimately pleads for the establishment of a “more rigorous process” for the development of interfaces, such an assertion must elicit the contemporary reader’s curiosity.

The emergence of “rationalized” graphic operating systems

In spite of the commercial failure of Xerox Star, these design methods will be a success, definitively changing our relations with electronic machines. A precursor of the research conducted to Xerox PARC, Jef Raskin’s thesis in computer science, *Quick-Draw Graphic System*, published in 1967 (i.e., 6 years before the Xerox Alto¹⁹), argued for a data-processing environment in which the graphic interface would hold a dominant place. Such an idea was not at all self-evident at the end of the 1960s:

The most heretical statement I made [...] was that my work was based on a “design and implementation philosophy which demanded generality and human usability over execution speed and efficiency.” This at a time when the main aim of computer science courses was to teach you to make programs run fast and use as little memory as possible.²⁰

After contacts with Xerox concerning

19 At the beginning of the Seventies, the IBM Usability lab was solely concerned with ergonomics. *The Psychology of Computer Programming* was published by Gerald Marvin Weinberg in 1971, and the work of Stuart K. Card, Allen Newell and Thomas P. Moran was only made known to the general public after the publication of *The Psychology of Human-Computer Interaction* in 1983.

20 Dr. Bob, Articles from Jef Raskin about the history of the Macintosh. *Dr Bob Tech Blog* (2013), <https://drbobtechblog.com/articles-from-jef-raskin-about-the-history-of-the-macintosh/>, access: July 1, 2019, 10:00pm.

17 Ibid., p. 252.

18 Ibid., p. 282.

the development of the mouse, Jef Raskin was hired by Apple in 1978. It is under his impetus and that of Bill Atkinson²¹ that Steve Jobs and Steve Wozniak took note of the research conducted by Xerox PARC on graphic interfaces. Everyone of us knows the rest of the story. In 1979, the CEO of Apple Inc., Steve Jobs, age 24, visited the Xerox facility. In a 1995 documentary, he recalls the shock which this event constituted for him:

They [Xerox] showed me [...] three things. [...] One of the things they showed me was object orienting programming [...]. The other one they showed me was a networked computer system [of a hundred computers] [...]. I didn't even see that. I was so blinded by the first thing [...] which was the graphical user interface. I thought it was the best thing I'd ever seen in my life. Now remember it was very flawed, what we saw was incomplete [...] [But, at the time,] within [...] ten minutes it was obvious to me that all computers would work like this some day.²²

Following this presentation, obtained in exchange for shares in Apple Inc., Steve Jobs launched the Apple LISA micro-computer, which took the principles of the mouse and the graphic interface from Xerox Star, in 1982. With a price that was too high (\$10,000 at the time, or \$24,000 today), the LISA was replaced by the much more financially accessible

Macintosh, released in 1984. While many still think that Steve Jobs did little more than “steal” the key principles of the Xerox Alto, the history is more complicated than that. The leaders of Xerox had not yet recognized the decisive consequences of what they had discovered, leaving their prospective vision in the hands of the sales and marketing teams, which were focused on photocopiers, the core of the brand, and not on the new market for computers²³. Bill Atkinson would have to rewrite and improve the quantity of functions in order for the LISA, and then the Macintosh, to take advantage of a “superior” graphic interface (with the addition of scrolling menus, the opening of windows with a double-click, the trash icon, etc). No line of code was “copied and pasted,” strictly speaking.²⁴

In order to bolster the supply of software for Apple machines, at the beginning of the 1980s, Steve Jobs invited Microsoft to publish programs for the Macintosh. In spite of Jobs' request to Bill Gates (then CEO of Microsoft) not to use a mouse-controlled graphic interface before the Macintosh (1984) had been on sale for a year, Microsoft surprised everyone by announcing the operating system Windows 1.0 in 1983²⁵, although

21 The title of Jef Raskin's thesis (*A Hardware-Independent Computer Drawing System Using List-Structured Modeling: The Quick-Draw Graphics System*, Pennsylvania State University, 1967) was echoed when Bill Atkinson named the Macintosh's graphics package.

22 Steve Jobs, *Triumph of the Nerds: The Rise of Accidental Empires*. Documentation. PBS.org (1996), <http://www.pbs.org/nerds>, access: July 1, 2019, 10:00pm.

23 For a detailed history of the Xerox company, see: Douglas K. Smith and Robert C. Alexander, *Fumbling the Future: How Xerox Invented, then Ignored, the First Personal Computer* (New York 1988).

24 Christoph Dernbach, *Did Steve Jobs steal everything from Xerox PARC?* *Mac History* (February 2012), <http://www.mac-history.net/computer-history/2012-03-22/apple-and-xerox-parc>, access: July 1, 2019, 10:00pm.

25 Windows 1.0 was not yet a complete operating system, but

it would only make its official debut in 1985. When Jobs, furious, accused Bill Gates of having betrayed him, Gates replied that they had both stolen from their “rich neighbor, Xerox.”²⁶ The suit brought against Microsoft by Apple in 1988 was unsuccessful in the courts.

Don Norman: the limits of the “user experi- ence”

After the release of Microsoft Windows, the design methods used in interface design were structured around scientific disciplines connected with this field. In addition to the expressions “human usability” and “user interface,” that of “user experience” (often shortened to “UX”) then achieved a notable success. The latter seems to appear for the first time in 1986²⁷ in a book co-edited with Donald Norman (a cognitive science researcher),

rather a “graphic shell” that could be used by third-party software.

26 Andy Hertzfeld, A Rich Neighbor Named Xerox. *Folklore.org* (November 1983), https://www.folklore.org/StoryView.py?story=A_Rich_Neighbor_Named_Xerox.txt, access: July 1, 2019, 10:00pm. See also: Andy Hertzfeld, How the Mac was born, and other tales. Conversation with Scott Ard. *CNET* (January 2005), http://news.cnet.com/How-the-Mac-was-born%2C-and-other-2100-1082_3-5529081.html, access: July 1, 2019, 10:00pm.

27 For a detailed chronology of the history of this term, see: Peter Merholz, Whither “User Experience”? *Peterme.com* (November 1998), <http://www.peterme.com/index112498.html>, access: July 1, 2019, 10:00pm.

titled *User Centered System Design: New Perspectives on Human-Computer Interaction*.²⁸ After a consideration of the impossibility of arriving at a univocal meaning by means of standardized images (pictograms), this quotation follows:

*Direct Engagement occurs when a user experiences direct interaction with the objects in a domain. Here, there is a feeling of involvement directly with a world of objects rather than of communicating with an intermediary. The interactions are much like interacting with objects in the physical world. [...] [T]he interface and the computer become invisible. Although we believe this feeling of direct engagement to be of critical importance [...] we know little about the actual requirements for producing it.*²⁹

“User experience” can thus be understood as a will to export the Xerox Star design model to fields other than that of screen interfaces and computers which can disappear, becoming “invisible.” Frequently cited as the originator of this expression, Don Norman defined it as follows in 1998:

I invented the term [user experience] because I thought Human Interface and usability³⁰ were

28 Donald A. Norman and Stephen W. Draper, *User Centered System Design: New Perspectives on Human-Computer Interaction* (San Diego 1986).

29 Edwin L. Hutchins, James D. Hollan, and Donald A. Norman, Direct Manipulation Interfaces, in: *User Centered System Design: New Perspectives on Human-Computer Interaction*, eds. Donald A. Norman and Stephen W. Draper (San Diego 1986), pp. 114–115.

30 The concept of “usability” that Don Norman judges insufficient, was addressed by its proponents, Jeff Rubin and Dana Chisnell, in these terms: “when a product or service is truly usable, the user can do what he or she wants to do the way he or she expects to be able to do it, without hindrance, hesitation, or questions.” Source: Jeff Rubin and Dana Chisnell, *Handbook of Usability Testing. Second Edition. How to Plan, Design, and Conduct Effective Tests* (Indianapolis 2008 [1994]), p. 4.

*too narrow: I wanted to cover all aspects of the person's experience with a system, including industrial design, graphics, the interface, the physical interaction, and the manual.*³¹

This broader aspect of “user experience” was then refined in the “canonical” version formulated by Jakob Nielsen and Don Norman:

*“User experience” encompasses all aspects of the end-user's interaction with the company, its services, and its products. The first requirement for an exemplary user experience is to meet the exact needs of the customer [...]. We should also distinguish UX and usability: According to the definition of usability, it is a quality attribute of the UI, covering whether the system is easy to learn, efficient to use, pleasant, and so forth. Again, this is very important, and again total user experience is an even broader concept.*³²

“Experience design” and the myth of “invisible” data processing

This interest, from then on focusing on the user rather than the technological apparatus (the interface), is even more explicit in the phrase “user-centered de-

sign” (“UCD”), which consists in basing the whole methodology of design on the central point that is the user. This design methodology enjoyed considerable success, perhaps because of the bond it helped establish between the marketing services tasked with studying consumers and the teams tasked with designing the products.

However, by the admission of its own proponent, Don Norman, the term “user” has shown its limitations. In a 2006 article titled “Words Matter. Talk About People: Not Customers, Not Consumers, Not Users,” Don Norman admitted:

*We depersonalize the people we study by calling them “users.” Both terms are derogatory. They take us away from our primary mission: to help people. [...] People are rich, complex beings. [...] A label such as customer, consumer or user ignores [their] [...] social structures. [...] It is time to wipe words such as consumer, customer, and user from our vocabulary. Time to speak of people. Power to the people.*³³

In the same way, in 2008:

*One of the horrible words we use is “users.” I am on a crusade to get rid of the word “users.” I would prefer to call them “people.” [...] We design for people, we don't design for users.*³⁴

Let us summarize these points. The methodology of “user-centered design” consists in designing so as to treat each human being as a user, as a person dedicated to maintaining with companies only relations “centered” on his or her

31 Don Norman, quoted in: Peter Merholz, *Whither 'User Experience'?*

32 Jakob Nielsen and Don Norman, *The Definition of User Experience*. Nielsen Norman Group, <http://www.nngroup.com/articles/definition-user-experience>, access: July 1, 2019, 10:00pm.

33 Don Norman, *Words Matter. Talk About People: Not Customers, Not Consumers, Not Users*. *jnd.org* (2008), http://www.jnd.org/dn.mss/words_matter_talk_a.html, access: July 1, 2019, 10:00pm.

34 Don Norman at UX Week 2008, *Adaptive Path*. *YouTube*, <https://youtu.be/WgJcUHC3qJ8>, access: July 1, 2019, 10:00pm.

"exact needs,"³⁵ concerning which there should be no "hindrance[s], hesitation[s], or questions."³⁶ This current of thought results from a scientific modeling of the principles that governed the design of the Xerox Star in order to make it a "personal" machine, optimizing the tasks to be performed by the user. Retrospectively, the performative texts of Don Norman speaking in praise of the study of "needs," by the admission of their author, led to a dead end, because the human being cannot be reduced to a specific role.³⁷ Such a reversal of thought might be amusing. However, on closer inspection, wouldn't one also have to interpret these contradictory injunctions as the sign of a power belonging not to the "people," but to those who make these speeches? In other words, isn't this an indictment of those who are constantly getting richer (in the banal sense of the term) by controlling the circulation of the design methodologies that are to be gotten rid of by this "crusade"?

More than a plea in favor of taking complexity into account in design, this "appeal to the human," for Don Norman, provides a rationale for gradually eliminating "interfaces" in the name of an

"invisible" computing,³⁸ the products of which would be "human-centered."³⁹ This prediction of invisibility, passing under the guise of a change in vocabulary, *a priori* innocent, was so absorbed so thoroughly by the corporations that in 2012, Apple made it into a selling point:

*We believe technology is at its very best when it's invisible, when you're conscious only of what you're doing, not the device you're doing it with. An iPad is the perfect expression of that idea. It's just this magical pane of glass. It can become anything you want it to be [...] It's a more personal experience with technology than people have ever had.*⁴⁰

However, Don Norman's big picture does not mean that his idea of "invisible" computing is viable. The important term here is "experience," which goes hand in hand with that of "magic." What could be more magical, indeed, than experiencing an "invisible" technology? The artist Olia Lialina, in a critical article on the study of the concept of user, does not join in the chorus:

*This is why Interface Design starts to rename itself to Experience Design – whose primary goal is to make users forget that computers and interfaces exist. With Experience Design there is only you and your emotions to feel, goals to achieve, tasks to complete.*⁴¹

35 Jakob Nielsen and Don Norman, *The Definition of User Experience*. Nielsen Norman Group, <http://www.nngroup.com/articles/definition-user-experience>, access: July 1, 2019, 10:00pm.

36 Rubin and Chisnell, *Handbook of Usability Testing*, p. 4.

37 This idea was inscribed within the ISO standards, which propose replacing the expression "user-centered experience" with "human-centred design." See: ISO 9241-210: 2010. *Ergonomics of human-system interaction – Part 210: Human-centred design for interactive systems*. *Iso.org* (March 2010), <https://www.iso.org/obp/ui/en/#iso:std:iso:9241:210:ed-1:v1:en>, access: July 1, 2019, 10:00pm.

38 Donald A. Norman, *The Invisible Computer. Why Good Products Can Fail, the Personal Computer Is So Complex, and Information Appliances Are the Solution* (Cambridge, MA 1998).

39 Chapter 2 of *The Invisible Computer* is titled "Growing up: Moving from technology-centered to human-centered products."

40 Official Apple (New) iPad Trailer. *YouTube* (March 2012), <https://youtu.be/RQieoqCLWDo>, access: July 1, 2019, 10:00pm.

41 Olia Lialina, *Turing Complete User* (2012), <http://contemporary->

A world without experience

In the conclusion of her article studying the limitations of an exclusion of the term user of the methods of interface design, Olia Lialina proposes to return to foundations predating the Xerox Star, namely those developed by the computer scientist Ted Nelson in his 1974 work *Computer Lib/Dream Machine*:

*COMPUTING HAS ALWAYS BEEN PERSONAL. By this I mean that if you weren't intensely involved in it, sometimes with every fiber in your mind atwitch, you weren't doing computers, you were just a user. If you get involved, it involves all of you: your heart and mind and way of doing things and your image of yourself. A whole way of life.*⁴²

The argument is strong. Nelson's denunciation of a "naïve" use points to the risk of a loss of contact with the computer, which, from Xerox Star to the iPad, presupposes that everything "real" (real life, creativity, etc) is external to the machine. However, in spite of the ascendancy of tactile interfaces (without mouses), in spite of the emergence of gestural interfaces (without buttons) and sound interfaces (without screens), and in spite of the return of command-line interfaces (without icons), it is clear that the great principles of the graphic interfaces crea-

ted at Xerox PARC at the beginning of the 1970s are still the main ones governing our relations with electronic machines – which are not yet "invisible," far from it. Take, for example, the "Apple Human Interface Guidelines"⁴³ and Google's "Material Design,"⁴⁴ which, in the 2010s, are the recommended readings – with the proviso of reading critically – for anyone interested in interface design.

In spite of its widespread acceptance, the cognitive model of an interface coupled with an idealized user (understood as a bundle of habits) has its limitations. Since Jef Raskin's 1967 text associating "human usability" with efficient task completion,⁴⁵ the will to create a graphic interface to procure for the "user" a new work environment and new methods "to accomplish the same goals as before"⁴⁶ has consisted in envisaging electronic media as "problem solvers" rather than as powers of transformation and invention. However, as the humanities specialist Yves Citton perceptively notes:

The invention of communication technologies [...] takes place within a vast nebula of hopes, anxieties, dreams, tinkering, parallel knowledges,

43 See for example: "Designing for Yosemite: [...] A great OS X app integrates seamlessly into this environment, while at the same time providing custom functionality and a unique user experience." Human Interface Guidelines, [developer.apple.com](https://developer.apple.com/documentation/UserExperience/Conceptual/OSXHIIGuidelines), <https://developer.apple.com/library/mac/documentation/UserExperience/Conceptual/OSXHIIGuidelines>, access: July 1, 2019, 10:00pm.

44 Google Material Design, material.io (first version published June 2014), <https://www.google.com/design/spec/material-design/introduction.html>, access: July 1, 10:00pm.

45 See Raskin, *A Hardware-Independent Computer Using List-Structured Modeling*.

46 Smith, Irby, Kimball, Verplank, and Harslem, *Designing the Star User Interface*, p. 248.

home-computing.org/turing-complete-user/, access: July 1, 2019, 10:00pm.

42 Theodor Holm Nelson, *Computer Lib. You can and must understand computers now* (self-published, revised edition 1987 [1974]), p. 3.

*subversive appropriations and reappropriations, crossing many traditional disciplinary fields [...]. Indeed, our media cannot be reduced to mere instruments for the transmission of forms and contents: it functions, first and foremost, in just the same way as the mediums who fascinate us, delude us, hypnotize us and stimulate us via simulations that penetrate our senses.*⁴⁷

Taking into consideration these foundational design texts of the computer age, it is obvious that electronic machines raise questions that did not exist before. But perhaps it is precisely *against* these innovations that methodologies of design were themselves designed with an eye to preserving the powers and knowledges already in place. In spite of its undeniably advanced technology, the Xerox Star did not have the full support of the corporate leaders, who preferred to focus on the photocopier business, more in phase with the “uses” of the time. In this history of “user-centered design,” an expression originating after the Xerox Star, it is indeed a matter of a concern about forgetting the “useful,” the utility of the object. But is this really possible in a world in which marketing services, for example, constantly seek to anticipate consumers’ “needs” by statistical processes linked to observation protocols?

Another factor suggesting a design constructing *against* technological innovations – i.e., *for* habits – is this history of the “center,” a term which should now be examined. This twofold suffix coupled with design could have been the subject

of variations. Why does one never speak, for example, of “form-centered” design, for example, or of “practice-centered” design? Perhaps is this because these two concepts (there could be others) resist the idea of a “center,” of delimitation. If one considers the concept of form, it is notable that this, historically, was related to design – according to the formula of the architect Louis Sullivan, according to which “form ever follows function.” As a canny observer of a history that sometimes “tramples” (in which the issues are sometimes obscured, sometimes rediscovered), the philosopher Pierre-Damien Huyghe notes that the concept of form expresses the “artistic interest” of design:

*It was not only a question of creating potentially functional objects. The concern for making form is absolutely essential to the design. We may note here that the Latin forma can be translated as “beauty.”*⁴⁸

In a more general way, design, in so far as it encompasses the capacity to transform the world, cannot “center” on anything. Design is only of any interest if it is derived from tensions, polarities, contradictions – in other words, the opposite of a center. Olia Lialina, in the conclusion of her article, also refuses to let herself be reduced to a label:

We, general purpose users – not hackers and not people – who are challenging, consciously or subconsciously, what we can do and what computers can do, are the ultimate participants

47 Yves Citton, *Gestes d’humanités. Anthropologie sauvage de nos expériences esthétiques* (Paris 2012), pp. 21–22.

48 Pierre-Damien Huyghe, On appelle beaucoup trop de choses ‘design’. Interview with Julie Delem. *Naja21* (April 2015), <http://www.naja21.com/fr/espace-journal/pierre-damien-huyghe-on-appelle-beaucoup-trop-de-choses-design>, access: July 1, 2019, 10:00pm.

of man-computer symbiosis.⁴⁹

One must then reconsider the fact that the conceptual model of the 1981 Xerox Star interface was decided “before” the material (hardware) existed, “two years before we wrote a single line of actual product software.”⁵⁰ Retrospectively, this account can be understood as that of a missed encounter with the otherness of the machines, since it is, in effect, a matter of subordinating the digital technology (hardware and software) to a “model,” i.e., to something anticipated and stabilized. This progressive distancing of the concept of the “General Purpose User”⁵¹ (active and polyvalent) has made possible the expressions “human-centered design” and “experience design”, which incarnate the promise of a world in which one could “do whatever one wishes,” immediately, as if by “magic.” But which kind of “doing” are we talking about when invisibility becomes the ideal for the machines?

This myth of the invisibility of technological innovations in fact already existed in a nascent form at the dawn of personal computing. In a 1979 commercial for the Xerox Alto intended to demonstrate the power of the “office of the future,” an office worker (Bill) arrives at work and greets his colleagues, coffee in hand. When he arrives at his station, he turns on his Alto computer and addresses it verbally: “Hello, Fred.” The computer

answers him: “Hello, Bill.” After a series of tasks, easily solved by the machine, comes the final dialogue:

Bill (tired): “Anything else?”

Fred: A richly detailed bouquet of daisies spreads across the screen.

Bill (puzzled): “Flowers? What flowers?”

Fred: “Your anniversary is tonight.”

Bill (chagrined): “My anniversary. I forgot.”

Fred: “It’s okay. We’re only human.”⁵²

What such initiatives describe, paradoxically, is *a world without experience* [*un monde sans expérience*],⁵³ in the sense in which experience/experimentation can take place only within a field of possibilities open to uncertainty:

Economic power is what the socialization of experiences implements. However, if this implementation augments shared experience and perception day by day, it does not appear authentically. Most often, it borrows the forms of habit, it slips mimetically into experience.⁵⁴

Symptomatic of an era when “apparatuses”⁵⁵ are no longer objects worthy of interest, human-machine relations are increasingly marked (branded) by the registers of utility, output, or time-saving. The human experience of “experience design” is often reduced to

52 Smith and Alexander, *Fumbling the Future*, p. 20.

53 The French word *expérience* can mean “experience” or “experiment” (Translator’s note).

54 Pierre-Damien Huyghe, *Faire place*, in: *Qu’est-ce que l’art domestique?*, eds. Richard Conte and Sandrine Morsillo (Paris 2006), p. 29.

55 The apparatus is defined by Pierre-Damien Huyghe as “a technological method distinct from the tool and the machine [which produces] within us a power of perception, a particular form of sensibility.” See: Pierre-Damien Huyghe, Introduction au dossier “Temps et appareils”. *Plastik 3* (2003), p. 4.

49 Lialina, *Turing Complete User*.

50 Smith, Irby, Kimball, Verplank, and Harslem, *Designing the Star User Interface*, p. 264.

51 Lialina, *Turing Complete User*.

an experimental situation, that of a rat seeking the way out of a labyrinth. Even if it is “friendly” or “invisible,” this technological medium is no less a straight-jacket, a controlled situation in which any exchange is anticipated and preprogrammed. When we are mirrored in the form of the “human, all too human” computer, we “ordinary people” are the ones who stand to lose sight of our complex and infinite possibilities.

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