Hello Future Articles Archive

Year: 2016
Welcome to the Hello Future articles archive for the year 2016. This document compiles all articles published during this period, reflecting the ideas, innovations, and insights that defined the year.

The purpose of this archive is to preserve and share significant contributions from the Hello Future community, while providing an overview of developments and trends.

https://hellofuture.orange.com/en/dare-make-share/

Dare, make, share

Tuesday 29th of November 2016 - Updated on Wednesday 22nd of June 2022

Opening and sharing are at the heart of Orange Gardens' 3e Lieu. An initiative straight from the Do It Yourself, Do It Together and Makers culture spreading the spirit of innovation among the company's employees.

A friendly place run by a group of eight to ten volunteers who welcome fifty or so people a day.

A bright, eclectic and warm room has been installed in the new Orange Gardens premises in Châtillon. Tools on the wall, work benches and design furniture are home to high-tech equipment, the *3e Lieu* is a space for meeting and sharing. 40 m² where employees can come to learn about programming, repair an object or work on a personal project.

Transverse Team

Catherine Ramus, researcher and designer at Orange Labs, created a cross-functional team of design engineers, project managers and a handyman / developer. They all pooled their equipment in a common pot that makes up the lab's equipment. The only thing missing was a place to put it– and the company gave them that. "*After working for a year on the project, we pulled it all together in three weeks when we arrived at Orange Gardens*," she says.
The result? A friendly place run by a group of fifteen or so volunteers: Jean-Philippe

Bazin, Christian Bourliataud, Marc Brice, Philippe Clément, Camille Dauhut, Clément Laurenziani, Frédéric Lorsignol, Anne-Charlotte Migot, Jean-Olivier Perello, Bertrand Petit, Frédéric Pradier, Catherine Ramus, Anne Ripaud, Gregory Roger, and Christian Tran. They welcome about fifty people a day – come to learn about the 3D printer, simple DIY techniques or to mend something. For example, employees come to repair a cooking utensil, a headset or to make everyday objects. So "Sylvain saws a part for attaching a trailer to his bike," you see "Frédéric busy machining to make buffer" or a " wooden spool chess game 3D printed by Emmanuel".

Open and sharing

The *3e Lieu* is a space designed for people in the way it is organized and managed: in a spirit of openness and sharing it welcomes the general public during the same hours as Orange Gardens. Sharing ideas, sharing skills. It very principle makes it a place for innovation since it was designed to allow Orange employees to create prototypes of their professional projects. But that's not all.
This group also conducts one hour workshops offering entertaining and offbeat introductions to simple technology. The themes are varied: an introduction to SketchUp software or to the MakerBot 3D printer, an introduction to Arduino (to build an automatic sprinkler system or Privacy Box, etc.) or developing video games using Scratch.

Trust and self-service

In the *3e Lieu*, employees work together, initiatives are welcomed, and permanent staff offer introductions to the Do It Yourself and Do It Together culture. The *3e Lieu* slogan of "dare, make, share," sums up the philosophy well. Dare is not a hollow word: it's a question of getting rid of newcomers' hang-ups so they can get started, have fun and enjoy themselves. Unlike company FabLabs, often reserved for insiders, the *3e Lieu* is open to everyone, neophyte as well as technicians, and the warm welcome there gives it a more human dimension. Besides offering an introduction to machines and DIY, it invites makers, artists and enthusiasts to give atypical talks. For example Nicolas Bard (ICI Montreuil), Mickaël Desmoulins (internal Renault FabLab), etc

"*The way the 3e Lieu works is based on trust: the tools are self-service and everyone spontaneously respects the rules,*" emphasizes Catherine Ramus. On the Orange Gardens campus, every day skill sharing helps spread a culture of innovation in order to build a "smarter society".

https://hellofuture.orange.com/en/go-girls/

Go girls!

Tuesday 29th of November 2016 - Updated on Monday 4th of December 2017

The 5th edition of Science Factor was launched on September 9th. A scientific and technical competition, it aims to give teenagers, and especially girls, a taste for science and innovation.

Girls realize that their ideas and ways of understanding and solving problems are as valid as those of their male counterparts.

Eating a balanced diet in a smart canteen so that teens equipped with their personal magnetic cards (with their size, weight, age, schedule of physical activities) can make the right choice of menus on interactive terminals. Facilitating the detection of water pollution with drifting buoys fitted with several sensors that measure various indicators (pH, temperature, conductivity, chlorophyll, chemical substances, etc.) – the two winning projects last February in the 2015 edition of Science Factor.

One particularity: the projects are all led by girls because the objective of this scientific and technical contest, chaired by Mari-Noëlle Jégo-Laveissière, Orange's Executive Director responsible for Innovation, Marketing and Technologies, is to show that girls can contribute to developing citizen innovations as much as boys can!

"The point of making it a rule that girls are the team leaders is to give them confidence – it is a solution that ensures they are heard," explains Claudine Schmuck, organizer of the operation. Encouraged, the girls then realize that their ideas and ways of understanding and solving problems are as valid as those of their male counterparts. Other advantages include the fact that boys' perceptions of female capabilities change when in contact with female teammates, and mixed teams are more creative and perform better than single sex teams.

And that's the challenge of the initiative: to show girls it is possible to move into the industries of the future from which they currently tend to exclude themselves, stimulate scientific vocations among female high school students, and ultimately promote equal access for women to the jobs of the future.

Even today, despite better academic achievement, young girls remain clearly in the minority in science and technology fields. Worse still is that the "Mutationnelles-Y Factor 2015", an international survey sponsored by Orange, reveals a stagnation, and even a slight fall in the feminization of scientific and technical training in France

– as well as in digital subjects. As a result, the proportion of women in innovation, science and technology occupations is lower.

5th edition underway

Designed by Global Contact, in partnership with France's Ministry of National Education, Orange and the ManpowerGroup Foundation, Science Factor is aimed at students aged 11 to 18 and invites them to devise a citizen innovation project – that is to say, an invention with "a clearly demonstrated positive impact at a societal, economic or environmental level". The 2016-2017 edition of Science Factor is open until 31 December 2016. The awards ceremony will take place on 7 March 2017 during the national Science Factor meetings. This year, three prizes will be awarded: the Prix Collège, the Prix Lycée, and the Engie Science Factor Award for the most energy efficient or energy optimized solution.

https://hellofuture.orange.com/en/design-helps-free-people-technological-complexity/

"Design helps free people from technological complexity."

Design, both as an approach and an area of expertise, encourages another way of working by facilitating a permanent loop between the idea, the prototype and interaction with the users. This loop has to operate in a multidisciplinary way including the technical aspects, the business and support from the human and social sciences – so that the developed solutions serve people. Chantal Maugin, Director of Design at Orange, responsible for the XDLab (Xperience Design Lab), explains.

Design and the social and human sciences are more essential than ever in projects that address the issue of progress underpinning innovation at Orange.

In what way does design serve people?

In practical terms, in a project, design addresses issues related to meaning, utility, usability, and aesthetics. What are the lives of the people to whom we want to address this service really about? How will this service facilitate their everyday lives? How will they change their practices and what will the progress be? Will it be easy to use? Is it intuitive? Does it reduce stress? Quite simply will people like the product? All very human questions.

At Orange, design is about making services which actually rely on a lot of technical and structural complexity both simple and intuitive. And today more than ever, this complexity is added to by the incredible speed of evolution – disconcerting for all of us. Practices change with new technologies and come in multiple forms. In this context, there is no absolute truth. Design, both as an approach and a skill, drives another way of working: a loop of repetitions between the idea, the prototype and interaction with the users.

This loop has to operate in a multidisciplinary way including the technical aspects, the business and support from the human and social sciences – so that the developed solutions serve people. Within the multidisciplinary approach, design provides valuable assistance because, as it uses very visual tools and engages the emotions, it makes it possible to share a common language within the project team.

But taking people into account in designing products and services is nothing new…

That's true. At Orange in particular, ergonomics and the human and social sciences have long been present, particularly in research. Today, all the areas of expertise (technical, marketing and design) have to move forward together, from the idea to finally selling the product, and proceed by repeated loops between the customer and us. This is the whole purpose of "Test & Learn". Human and social sciences must be even more present in this process in order to shed light on the disruptive social changes underway and help us to question the meaning and identify the opportunities. When design devises a service, it must consider the technological constraints and opportunities, the challenge of sustainable development, accessibility, the relevance of the content, new modes of interaction, economic models, and security issues. The result of this journey is to give as many people as possible a special experience with Orange. Whether in their living spaces (home, car, work), when they need assistance, or when we offer them our latest services.

Special, meaning multisensory?

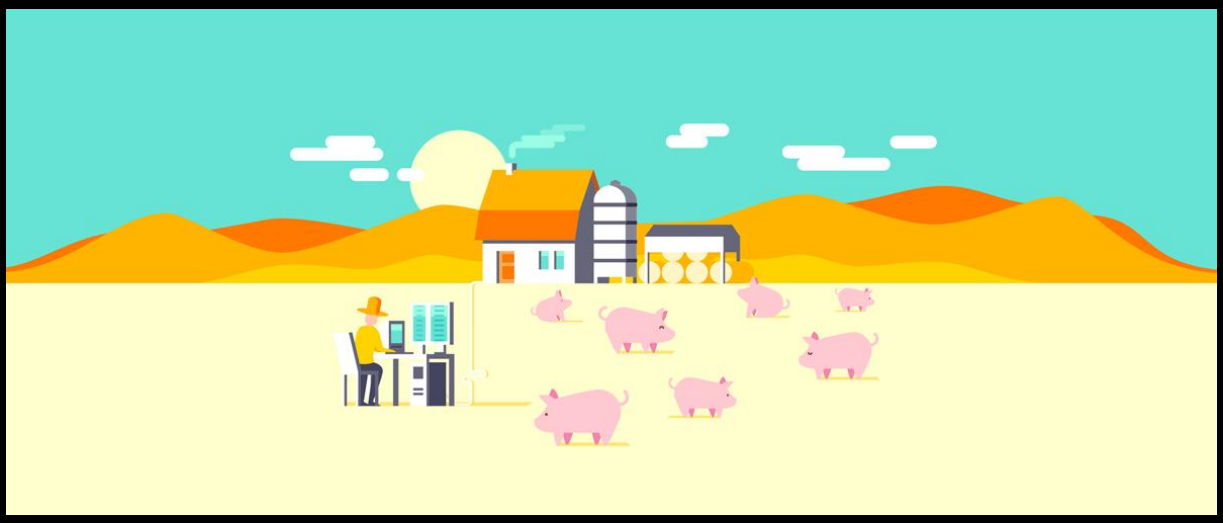
Yes exactly. Technology means we can integrate new ways of interacting with devices into the services and engage all our senses. This will change many of our practices. And the possibilities here are immense. Nowadays, touch has become a natural way of appropriating digital interfaces. But tomorrow, how will we integrate the explosion of connected objects, the use of conversational agents, artificial intelligence, and what will the progress be… How do we anchor all these innovations in our daily lives? What services will we create? Because it embraces the material, cognitive and emotional components of the experience, design makes it possible to put the "humanness into technology" and address all the points of contact with the brand.

This approach requires both an excellent and plural understanding of human behavior…

To be able to address every dimension of usage, technology, however sophisticated, is not enough. The contribution of the human sciences is indispensable. Within the Innovation, Marketing and Technology division of Orange, we work with sociologists, ethnologists, psychologists, we cross-reference views, develop the links between design and human and social sciences in order to bring a point of view to innovation projects. It gradually builds an idea of progress that Orange can choose to deliver. Design must free people from technological complexity. It must allow customers to choose the experience that suits them and therefore understand it, and actively engage with digital technology.

https://hellofuture.orange.com/en/design-helps-free-people-technological-complexity/

Pigs and data



Tuesday 29th of November 2016 - Updated on Thursday 16th of June 2022

Orange Labs researchers have developed a tool able to make use of data from pig farms. Data at the service of controlled and reasonable precision agriculture.

"Behind precision agriculture is the idea that we should bring only what is strictly necessary."

Two years ago, engineers from the Orange Labs site in Lannion, Côtes-d'Armor, decided to take a look at smart agriculture. A new field in which to experiment with data recovery solutions while helping a sector that sometimes struggles to embrace new technology. Brittany's chamber of agriculture gave them a set of pig farming data from three experimental stations in its area. It also gave them an expert with whom to discuss the needs of pig farmers and the specificities of zootechnical data. You've heard of Big Data – now here's Pig Data!

Lannion researchers then began working on the "Pig Data Solution" project, in collaboration with their colleagues at Orange Labs Sophia Antipolis who specialize in data analysis and processing. They firstly discovered that pig data cannot be exploited by data processing software. So they decided to develop a mobile app. Its aim? To enable pig farmers to enter data using their smartphones which can now be directly exploited by IT tools.

“And then we wanted to go further,” says Yvan Picaud, research and development engineer at Orange Labs Lannion. “We thought it was important to simplify the actual use of this app with contextualization. In a porcine maternity unit, for example, when a producer puts the phone over the light that illuminates the animal’s compartment, the file is automatically retrieved and the relevant information can be entered.
It’s made possible by Li-Fi, a wireless communication technology that uses light. As Internet connection problems are frequent on farms, Li-Fi particularly interests the Lannion laboratory. “The advantage is that the connectivity is where the light is,” says Yvan Picaud. “With Pig Data, we are continuing to work on the new connectivity technologies which are our core business.”

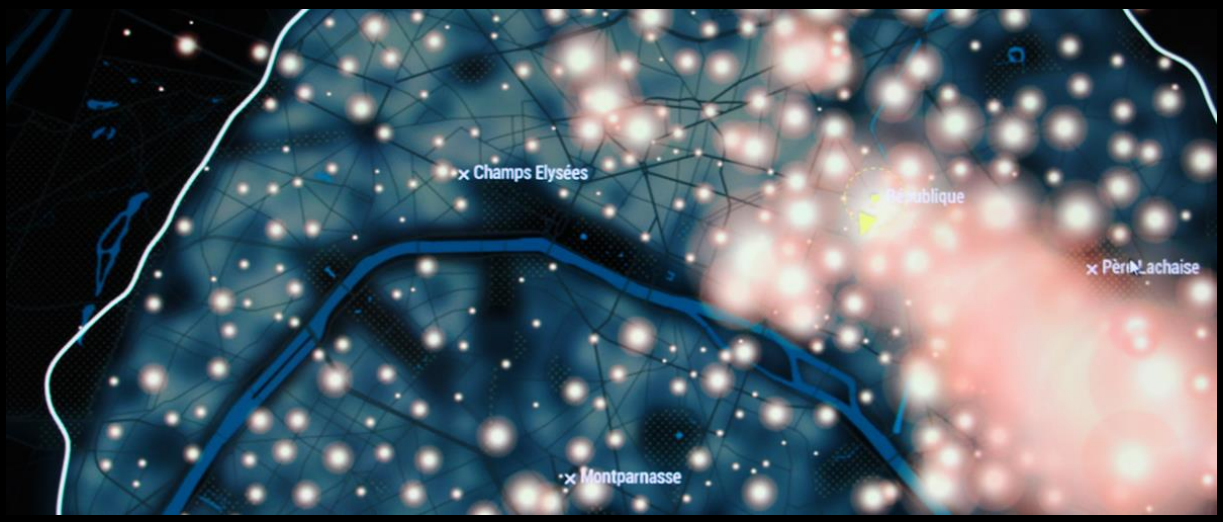
Data for sustainable agriculture

But what do you do with all the zootechnical data that is collected? How can it be exploited, that is made intelligible and useful, by farmers? In Lannion and Sophia Antipolis, the two teams of researchers have developed visualization tools – tables, dynamic graphics, etc. – in order to “translate” the raw data into legible information for the pig farmers. In addition, statistical algorithms give them information about the conditions that improve their production. Researchers have been working on data with an impact on the consumption index. This is an essential indicator for pig farmers because it measures the efficiency of the conversion of food into production.
“Today, one of the major problems producers have is that only get to know the livestock performance indicators once they are in the slaughterhouse,” explains Yvan Picaud. The final component of the Pig Data Solution is therefore to enable farmers to track the consumption index as closely as possible and allow them to access the information further upstream than is currently the case, and so quickly identify any fall in productivity – or even anticipate it and be proactive.

The challenge? More controlled and reasonable agriculture. “Data analysis provides a far more global view and, thereby makes it possible to improve processes,” he adds. Yvan Picaud is thinking for example about the use of inputs “since behind precision agriculture is the idea that you bring in only what is strictly necessary”. Still at the prototype stage, the Pig Data Solution has enabled the engineers at Lannion and Sophia Antipolis to demonstrate in a very practical way how experiments carried out in Orange laboratories can help farmers. A prizewinner at Space 2016, the International Exhibition for Animal Production held annually in Rennes, the solution could be extended to other areas.

https://hellofuture.orange.com/en/re-humanizing-urban-data-design/

"Re-humanizing urban data through design"



Tuesday 29th of November 2016 - Updated on Wednesday 22nd of June 2022

Central to the city of the future, for many of us data is a mysterious notion that arouses anxiety. But it can nevertheless be made to tell some great stories, explains Catherine Ramus, engineer and designer in the Human and Social Sciences Lab at Orange Labs. Data is produced and incarnated by people; it prompts exchanges and creates links between people.

Orange is partnering the exhibition "*Mutations Urbaines***", open until 5 March 2017 at the** *Cité des Sciences et de l'Industrie***. How do you approach the issue of the "city of the future"?**

What characterizes the city of the future is its power to produce data. Cities generate data, so our entry key is data. But for the general public, data is a mysterious notion that arouses anxiety. We don't know who produces it, who processes it, what use is made of it. In fact, we don't really know what it is. This exhibition gives us the opportunity to "re-humanize" data by making it tangible, sensorial, understandable and even, in a way, friendly. Clearly this is a data design process, falling somewhere between science, gaming, and poetry.

How do you transform urban data into a sensorial experience?

We present the research carried out in two projects: “movement footprint” and “SonaR”. The first is concerned with the movement of people in the public space, gathering the longitude and latitude data produced by their smartphones over a period of a few weeks. The individual geolocation data makes it possible to produce three-dimensional maps, which we call movement footprints. The footprint contour reveals the time spent by a person in a particular locality: the places frequented appear in the form of prominences of varying sizes – the areas rarely or never explored are detectable by the absence of contours.

How do people react when they see their own “footprint”?

We tracked the movements of some seventy people and presented them with their own footprints. What may seem incredible is that they quickly recognized themselves. In addition, they talked a lot between themselves – as was the case in the second experiment, “SonaR”. The aim here was to present the activity of mobile antennas using sound, either in real time or over a given period of time. The design gives events passing through the antennas a sound-based reality: texts sent and received, calls made and received, web data consumed. Thus, we can “hear” the city and raise awareness about the activity of an entire urban community, its ongoing exchanges, by inviting everyone to see themselves as stakeholders – living stakeholders – in this community.

Ultimately is the idea to de-dramatize the notion of the city of the future?

By choosing a narrative approach, by delivering landscapes of individual and collective presence, we want to show that the data that is accumulated and stored is produced by people, incarnated by people, prompts exchanges and creates links between people. “Mutations Urbaines”, the exhibition
Demographic growth, an aging population, widespread use of data… cities are changing rapidly and present major challenges for the 21st century. With the support of Ademe, Orange and Suez, the exhibition “Mutations Urbaines. La ville est à nous!” at the Cité des Sciences et de l’Industrie until 5 March 2017, offers an urban walk that has three main sections – cities under pressure, urban land, and urban futures – which address the technological, human and symbolic aspects of the changes in cities.

http://www.cite-sciences.fr/en/explore/temporary-exhibitions/urban-mutations-the-city-is-ours/the-exhibition/

https://hellofuture.orange.com/en/406/

Track yourself

Tuesday 29th of November 2016 - Updated on Monday 17th of December 2018

Interview with Anne-Sylvie Pharabod to talk about quantified self practices – personal data gathering.

People who self track have a rather benign view of themselves. Above all the numbers boost self-esteem.

Quantified self (QS), which consists of collecting, analyzing and sometimes sharing data by means of connected objects or applications, is becoming more widespread – not only in sporting contexts but also among the general public. But this self-quantification raises a number of questions. How does the quantified-self movement redefine sport, well-being and health, and what does it reveal about us? Does it generate new dictates? Does it present risks from a societal point of view (appropriation of personal data, the cult of performance, etc.)? We put some of these questions to Anne-Sylvie Pharabod, a sociologist at Orange Labs' SENSE laboratory and co-author of a study on quantified self practices.

In a 2013 study, you noted three rationales underpinning self-quantification: medical supervision, routinization, and measuring sporting performance. Are you looking further into these three uses in your current work?

Yes, and in particular, we found it interesting to concentrate on quantifying the ordinary activities of everyday life: the number of steps, how often you water the

plants, the time spent on household tasks, etc. These uses – which are called quantification uses focusing on routinization and aimed at adopting new practices and / or giving up bad habits – are the most disruptive in comparison with the types of quantification that were already present before the self tracking tools became widespread. Medical surveillance has always existed (for example diabetes diaries) and there have always been performance measurement tools in sports clubs.

What are your main lines of research?

With routinization, the idea is to get moving and regularly do something, a commonplace task, by following a personal goal that you have set yourself. I have in mind the example of a PhD student who sets herself the goal of writing a page a day. But self tracking tools often carry pre-set objectives, and it is questionable whether this objective is truly personal.

Our role as a social sciences laboratory that focuses on emerging uses from a futurist point of view is also to study the social stakes involved in digital tools above and beyond individual uses. In this case, the question raised by the QS tools is: do they result in new standards in terms of lifestyle? Do they result in emulation or in a form of social control through the eyes of other Internet users?

We therefore looked at how the health objectives are defined. In this respect, the example of pedometers is revealing. 10,000 steps per day is the default goal adopted by most manufacturers. It is not a WHO recommendation but a simplified translation of the number of hours of physical activity per week recommended by the WHO into a number of steps per day. What is interesting is seeing that pedometers have “invented” the standard of 10,000 steps a day, and that in this sense they have an impact on the public’s view of a healthy lifestyle. Does it mean that all users actually do take 10,000 steps per day? Absolutely not. People don’t question the standard, but on the other hand, they do interpret it in their own way. Standardization does not necessarily lead to standardized practices.

What issues does quantified self raise in terms of privacy? Are we likely to see companies (insurance companies, for example) taking over our personal data?

This is an important issue. What is certain is that any interpretation of this data from an external viewpoint is problematic. Self-tracking tools are not medical tools: personal measurements do not respect a common and reliable protocol, and the resulting data is absolutely not comparable between individuals. Once again, the case of the pedometer is quite interesting. Users each calculate their data (the number of steps) in their own way. There are those who will convert each of their sports activities in to steps – their session on their bike, their morning jog and, of course, their daily walk. Then there are those who use the pedometer as an

incentive to do more walking and turn it on only when they start walking. There are others who put it on as soon as they get up in the morning and remove it at night when they go to sleep because they want to have a picture of their physical activity, whatever it may be, throughout the day. These three ways of measuring physical activity reflect different realities. Personal measurement is not neutral at all, and it is not exhaustive. The absence of a precise measurement protocol distinguishes it from the medical measurements or sports tests.

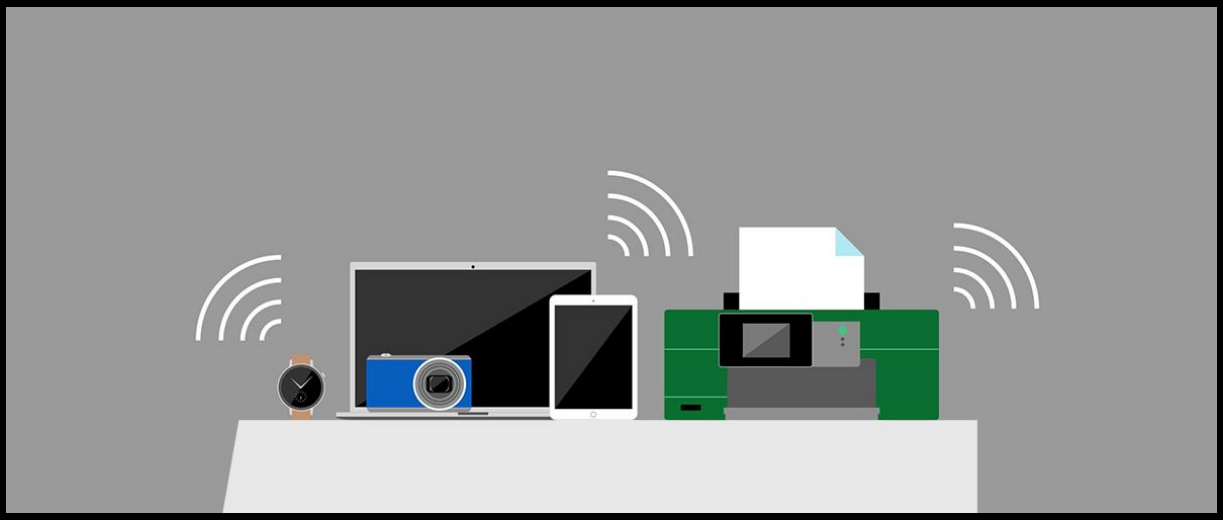
Are we not moving into a rationale of seeking permanent performance?

As part of my research, I found people much more “measured” (laughs). People who self track have a rather benign view of themselves. Above all the numbers mainly boost self-esteem. Performance measurement tools tend to be adopted by beginners who will use them while they are making progress. As soon as they reach a certain level, either they drop self tracking, or they change discipline so that once again they can watch their progress. This is fairly typical.

I have also noticed that the use of QS tools sometimes gives users a sense of community even though they are practicing an individual sport, a feeling of being part of a club or an institutional framework, even though they are not.

https://hellofuture.orange.com/en/mobiles-ready-move-fifth/

Mobiles: ready to move on to the fifth?



Tuesday 29th of November 2016 - Updated on Monday 5th of February 2018

From the first mobile phone using analog networks to the future 5G, the evolution in mobile telephony standards is the story of epic innovations. Back to the future.

"One day we will probably see through the eyes of the players."

Nowadays, leaving for a weekend in the countryside deliberately forgetting your smartphone is almost a personal challenge, a desire to find your limit of apnea. But about 20 years ago, it was the reverse. It was the era of 2G, which soon followed the very first mobiles. They used analog technology – in France, it was Radiocom 2000 – and few of us had them. Then 2G arrived with the success that we all know about, along with a miniaturized mobile used to… phone and send text messages.

As yet the mobiles of the 90s had no Internet access. The “www” had just appeared on desktop computers. The first GSM (Global System for Mobile communications) standards had bit rates of 9.6 kb / s. Very slow! Then the GPRS (General Packet Radio System) standard rapidly increased bit rates until the EDGE (Enhanced Data Rates for Global Evolution) standard reached as much as 150 kb / s.

Cars, hospitals, home automation, stadiums…

In 2001 3G came with the UMTS (Universal Mobile Telecommunications System) format which reached up to 384 kb / s. Then it was the 3G + and the era of bit rates

in Mb / s. Steve Jobs, the emblematic Apple boss, was able to rub his hands together in developing the iPhone, which surfed this explosion of transmission capacity. Closer to home, 4G, along with the LTE (Long Term Evolution) standard, multiplied the mobile bit rates by ten compared to 3G + to reach speeds of several tens of mb / s.

And soon there will be 5G, announced for 2020. The speed of connection will be multiplied by 30 compared to the current 4G standard. At least 100 times more, predict the most optimistic people. But does this speed make sense? Will it really be useful?

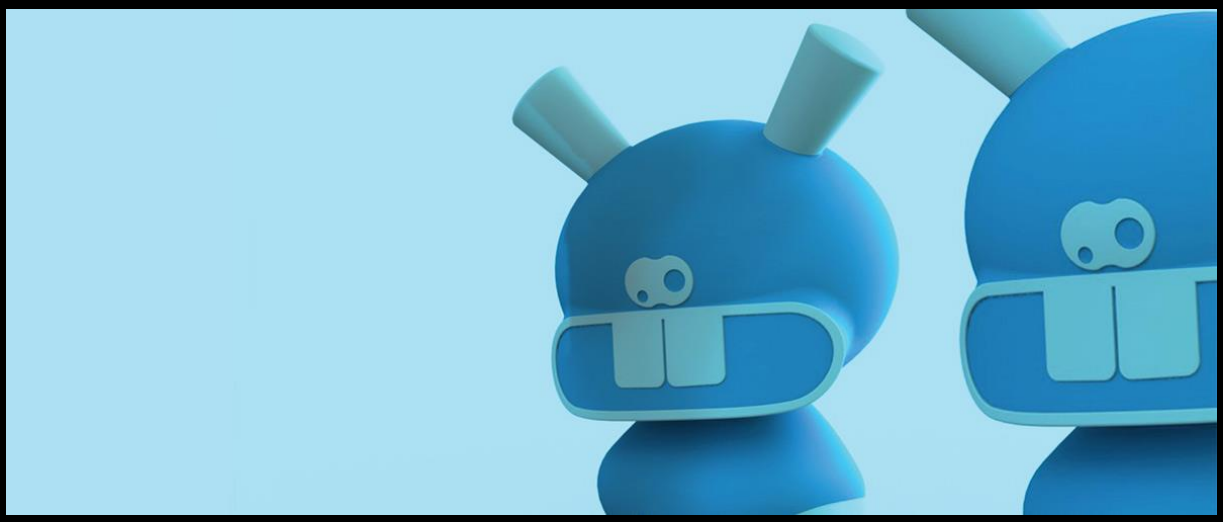
“That’s a very good question,” says Eric Hardouin, director of connectivity research at Orange. “If you take all the successive generations of mobiles, every time people wondered what we were going to do with all the speed. But experience has shown us that, whatever the technology, there are always applications that will use the available bit rates in order to offer new services. We already have some services that will benefit from higher bit rates, including high-resolution video, 4K and 8K. On a smartphone screen, at the moment these are useless. However, with a virtual reality headset and augmented reality, the case for use is more interesting.”

In practice 5G will make it possible to download movies in just a few seconds. It will connect sensors of all kinds, for health, smart cities or agriculture, will enable autonomous cars to communicate with each other and optimize road traffic, revolutionize video games and virtual reality, and transform the spectator experience in stadiums and concert halls. “*One day we will probably see through the eyes of the players*,” imagines Éric Hardouin.

The digital revolution, so dependent on connection speeds, has only just begun.

https://hellofuture.orange.com/en/mwoo-robot-rabbit-people-autism/

Mwoo, the robot-rabbit for people with autism



Friday 2nd of December 2016 - Updated on Wednesday 22nd of June 2022

Looking like a simple toy, Mwoo is the first sensory robot for people with severe autism or learning disabilities. An imaginary meeting with a new kind of society ambassador, which demonstrates that technological innovation can be of practical assistance to people.

Hello Mwoo. Will you introduce yourself, please?

Although I look a bit like a cartoon-like rabbit and come in several colors, I'm really a connected robot about the size of a baby invented by the company Stimul'Activ. I'm the first sensory robot designed to stimulate communication in people with autism (in particular those unable to speak or use a tablet) or that have learning disabilities, who are often isolated because of their disability. For me, it's the opposite: I'm a security blanket that can be held, taken everywhere and with whom you can share your emotions.

How do you interact with people?

My sensory receptors help me to interact with people with autism or learning disabilities. If they touch me, I react: I can purr like a cat, vibrate when I am left alone for too long, tell stories, project photos, say when it is time to eat. That's how I

communicate. Of course, I adapt to my owner and the day's schedule, because everyone is different and doesn't need the same amount of attention! I sort of multitask.

And do you do it on your own?

Of course not! I'm just a robot, after all! But from what I've been told I'm the first robot to help people with autism and learning disabilities. In short, all my tasks can be configured remotely by caregivers directly from their tablets.

Have you ever been used in practice?

Yes, I am currently being tested in the Cassepierre Disability Care Home (FAM) and Specialised Care Home (MAS), but I'm not the first robot there. There are twenty-one other Mwoos with me who also act as security blankets, and these two establishments are already equipped with numerous tablets and educational applications. Our role is to complement them. Together we try to facilitate learning for people with severe forms of autism or learning disabilities, as well as their relationships with their families and loved ones and so offer the best possible support.

Good to know:

Through the Orange Foundation, the Group is committed to the cause of autism. We support digital projects (including this experiment) that help people with autism.

https://www.dailymotion.com/video/x4fnws0

https://hellofuture.orange.com/en/585/

Digital skills, a new form of literacy

Friday 2nd of December 2016 - Updated on Friday 24th of February 2017

"Learning to code and coding to learn", or digital acculturation as a new aspect of contemporary education. From Scratch to #SuperCoders, Orange makes children aware of the digital culture through computer programming.

Giving children an insight into the possibilities offered by the digital world and showing them that it's accessible.

Digital acculturation is everywhere. From its entry into the "common core of knowledge and skills" in teaching to code clubs, computer language is becoming more and more accessible. An introduction to computer programming will ultimately lead to a better understanding of the digital tools we use on a daily basis, and in a way open these black boxes. In addition, it is a question of training current generations in preparation for the new highly sought after digital technology jobs.

But the best time to learn is at an early age. And that's what the #SuperCoders workshops are all about. As part of this international operation organized by Orange , children and young teenagers, girls and boys aged 9 to 14, are invited to participate in introductory free and fun computer coding workshops. Led by Orange volunteer coaches and partner associations, these workshops take place throughout the year in different countries. Since October 2014, nearly 7,000 children around the world have benefited from the #SuperCoders program.

The underside of digital
Grégoire Khatchadourian, head of external development at Orange and one of the very first coaches, says that for him, it was originally more about offering new opportunities to disadvantaged groups: "*Thierry Souche, who is the boss of Orange Labs Products and Services (OLPS), one day asked the development teams to organize events to teach coding to the most deprived children. At the time, two years ago, we had created the "Budding Developers" initiative launched with OLPS volunteers. We were joined by lots of people and the event was widely copied. This initiative was swiftly encouraged and distinguished by the Orange Social Responsibility (CSR) teams. It has become a real global operation, reaching as many children as employees. And from there #SuperCoders was born.*"

By showing children the rudiments of coding, in a very concrete way #SuperCodeurs reveals the underside of the digital world to them. The program places them in the role of actors, and not just users, of digital products and services, getting them to experiment with working methods and modes of co-creation and engagement specific to the 2.0 culture. The goal is not to make them computer whizz-kids, but to give them an overview of the possibilities offered by the digital world, showing them that this universe is accessible to them and that it isn't just for geeks.

Learning to code and coding to learn
During group workshops, children design small programs with the help of Scratch software. Developed by the Lifelong Kindergarten Group in the MIT Media Lab. Scratch is a free programming language, especially designed for children aged 8 to 16. Using a fun approach, it invites them to design projects – games, interactive stories, short animations, musical compositions, etc. – by assembling blocks. Scratch also has a very active online community where children can share their creations and help each other. As part of the #Supercoder activities, children also learn robotic programming with Thymio robots from the EPFL (*École polytechnique fédérale de Lausanne*) laboratories. Robotics means putting your algorithms to the test of reality because the robot is in a real environment and when it falls, it can break!
"*Learning to code and coding to learn*" is the philosophy of the creators of Scratch, who believe that the knowledge assimilated when using the software can be useful in any context. Scratch allows children to acquire key concepts in order to master programming and become familiar with computer thinking, develop a certain type of logic, learn to work collaboratively, solve problems, carry out projects, and communicate ideas…

Volunteers
And children are not the only ones learning. #SuperCoders is underpinned by the people at Orange, hundreds of volunteer coaches, who are trained to supervise children in the workshops. Some write their first lines of code thanks to #SuperCoders. "*What is interesting for Orange's volunteer employees is that it offers*

an excellent start to adapting to the coding culture. They develop skills that can be useful to them both in their professional and personal lives," concludes Grégoire Khatchadourian.

https://hellofuture.orange.com/en/age-researchers/

Age researchers

Friday 2nd of December 2016 - Updated on Thursday 25th of October 2018

An Orange Labs team won an international visual recognition challenge with a computer program that was developed to estimate the apparent age of individuals from images.

A computer program that can identify the apparent age of anonymous individuals from images.

Automatically recognize the actors in a movie or the sportspeople in a televised competition, establish the age of a viewer in front of a screen – for example for better parental control – or even identify customers via a selfie as tested by the HSBC bank… everyday practical visual recognition applications are on their way. But the research is taking great leaps forward and Orange, which has been working on it for a decade, is now at the forefront.

Last spring, a team of researchers based in the Cesson-Sévigné Orange Labs, near Rennes, won the ChaLearn challenge organized as part of the annual Conference on CVPR (Computer Vision and Pattern Recognition). The challenge? Using deep learning technologies, ask a computer program to identify the apparent age of anonymous individuals from images.

VP Data & Knowledge Research at Orange, Henri Sanson explains: “A dozen human testers first annotated the faces in a collection of photos, giving their perceptions of

their ages. The algorithms then have to predict the apparent age closest to the average age given by the panel of testers.” However, the difficulties in this visual recognition are proportional to the age of the person in the photo. “Some people may be fifty and look forty!” adds Henri Sanson.

But even before precisely analyzing the characteristics, eyes, mouth, nose, to come up with an age, the computer program must first successfully… detect that there is a face in the image. “Finding faces in images may seem really simple because we all have it on our smartphones,” notes Henri Sanson, but in reality it is no small matter. The work of researchers and technological innovation mean that detecting a face on an image is now more reliable. “Technology has made great strides in the last two years,” says Orange Data & Knowledge Research VP. An acceleration linked to the progress made in artificial intelligence and in particular convolutional neural networks – which Orange was among the first to work on and which represent the gold standard in terms of visual recognition.

https://hellofuture.orange.com/en/lora-network-dedicated-iot-open-users/

LoRa, a network dedicated to IoT for sustainable development

Friday 2nd of December 2016 - Updated on Tuesday 4th of April 2023

● Following the commitment by Orange in 2015 to deploy networks dedicated to the Internet of Things in France, the LoRa network now covers more than 30,000 communes, covering 95% of the population.
● This low-bandwidth technology offers interoperability between connected objects, allowing users to deploy various things that they want to integrate into the network.
● LoRaWAN® has more than 180 operators worldwide, notably in the fields of CSR such as energy and water management, or in other applications such as geolocation.

LoRa offers interoperability between connected things, allowing users to deploy the various objects they want to integrate into the network.

"*There are now virtually no sensors that are incompatible with the LoRaWAN® protocol*," explains Laurent Chivot, Innovation Project Manager at Orange. Providing low-bandwidth, low-consumption technology, the LoRa network is now a reference in France for the Internet of Things (IoT). This open standard offers interoperability between connected objects without requiring complex local installation, allowing operators to deploy different connected objects and integrate them into the network. These "*smart*" objects are equipped with a battery and are wirelessly connected to the network. They transmit a relatively low data flow (between 0.3 and 50 kb/s) through secure two-way communication.

"*This technology can now rely on a strong and available ecosystem, making it sustainable."* For the specialist, the dynamic around this protocol is very positive: "*We are exceeding double-digit growth, mainly because the competitive landscape has become simpler."* This clarifies the options for operators using this network. Regarding use, the challenges of vehicle connectivity and safety have boosted BtoBtoC integrations. "*LoRaWAN® is being used by companies operating car theft deterrent boxes that were previously connected via GPRS. We are also seeing a growth in usage due to the explosion of new mobility, for example, bicycle trackers."*

These sensors can also be used in football stadiums to measure humidity and indicate when to water the pitch.

Technology at the service of ecology

The uses of the low-bandwidth network are increasingly driven by the need to address social and environmental responsibility (CSR) issues. "*In France, we consider that nearly 15% of the volume of water is lost in public networks, which has a double impact: we lose resources and have to use energy to pump additional water. Today, sensors allow operators to detect these leaks by listening to the networks at the quietest times."* One of the most widespread uses of LoRaWAN® sensors is to measure the energy efficiency of buildings, which in turn provides new ways of controlling electricity, water and gas. "*The tertiary decree, which requires an energy audit to be carried out, will make the use of these technologies more widespread*," notes Laurent Chivot. This text stipulates that the reduction in the final energy consumption of these buildings must reach at least 40% by 2030, then 50% and 60% by 2040 and 2050, respectively. LoRa is also being targeted in the agricultural sector, where farms are increasingly supervised through the use of weather sensors, which can predict when there is a risk of frost or give a very accurate idea of rainfall, among other things. "*These sensors can also be used by football stadium operators to measure humidity levels and indicate exactly when to water the pitches, instead of automatically watering them at set times."*

Smarter cities

For the uses of the city of tomorrow, which require better control of energy resources, LoRaWAN® is a relevant, sustainable and secure solution, for example, to control public lighting networks. "*Companies have come up with the idea of controlling the lighting networks of large cities, based on data on the number of people visiting certain places. With respect for privacy, they can measure the flow of people from the presence of mobile phones connected to the Orange network."* For the expert, LoRa will continue to develop in infrastructure to meet the growing need for operational efficiency. "*At SNCF, LoRaWAN® sensors provide information on the presence of water in technical installations such as escalators in stations, or on the state of fatigue of ventilation systems in car parks."* Combined with artificial intelligence algorithms, this data allows agents to perform predictive maintenance. This is a way of ensuring the comfort of users and the durability of equipment.

LoRa Alliance

This non-profit association was founded in 2015 and brings together stakeholders who promote and foster the LoRaWAN® standard as the leading global standard for connected objects.

A culture of innovation and technology

https://hellofuture.orange.com/en/digital-world-offers-unrivalled-opportunities-us/

“The digital world offers unrivalled opportunities to all of us”

Thursday 22nd of December 2016 - Updated on Wednesday 22nd of June 2022

Could the digital culture be a place of reconciliation between individual and collective needs? According to Stéphanie Cabale, Vice President of Digital Marketing at Orange, who describes herself as an “enhance woman”, it is.

The digital world makes things extraneous: it allows everyone to lean more on others, to delegate and to empower.

Is it possible to live a full and well-rounded digital life for someone who is not a “digital native”?

We have to stop seeing the digital world as a place reserved for digital natives or geeks. On the contrary, it is an unrivalled opportunity for democratisation. I would describe myself as an “enhanced women”. I am 45 years old, so I was born prior to the Internet, but I nevertheless use the digital culture to my advantage to help develop my abilities, both in my professional and personal life. The digital world

offers unrivalled opportunities for all of us, no matter their background, status or needs.

Provided we learn how to use the tools…

To see the full potential of the digital world, we must stop thinking of it as a forced and compulsive set of tools, and see it as a culture instead. It's important to remain in control when faced with the abundance of areas and flux on offer. A tool can be controlled and configured. If we indiscriminately rush onto every social network, it could easily turn us schizophrenic. We need to wait and get to know them, learn to understand what suits us best, to refocus on our real needs and select these tools based on our way of life, our priorities, our rhythms. This is an excellent stepping stone to put to focus on ourselves again. For example, I appreciate images, so I have a tendency to favour Instagram and Pinterest. I like to stay on top of facts and trends, so I have a Twitter account. And as I prefer to take a little time to analyse things, I am more of a "follower" than a "tweeter".

How would you define the "enhanced person"?

As the social figure of the permanent and harmonic link between the individual and the collective who embodies the digital culture.

What does that mean?

As the digital world is based on an economic audience model, it represents broader communities, but at the same time, it also offers a wonderful playing field for individual curiosity and intellectual ambitions though the permanent possibility to establish a link. The digital world puts the focus for personal and professional environments back on learning. It stands for empowerment. The enhanced person draws on the community, learns alongside others, collaborates with others, and creates with others. This person is essentially "in the world" and "with the world". And lastly, this ecosystem has a very humanistic dimension. The digital world makes things extraneous: it allows everyone to lean more on others, to delegate and to empower.

https://hellofuture.orange.com/en/domesticate-technology-bring-lives/

Domesticate technology and bring it into our lives

Tuesday 29th of November 2016 - Updated on Thursday 17th of September 2020

Nicolas Nova is an interface design researcher. He teaches at the Geneva School of Art and Design and also co-founded the Near Future Laboratory - the innovation and foresight agency.

"Smartphones are a hybridization of humankind and technology and are an indication of a new relationship with machines that fluidifies communication."

Fascinated by our relationship with the many technological objects that have erupted into our daily lives, he launched a team research program called "Curious Rituals", where he lists and analyses these strange new gestural patterns. He explains what such behaviors say about our relationship with digital technology, but also with our physical environment and other people.

What was your goal in studying our day to day relationship with digital interfaces? Why rituals?

The goal was to understand how digital uses and practices fit with users' bodies, users' gestures, and the way they talk about them. A computer, a smartphone, a robot, sensors: even if the general logic of these objects is understood, it is still a little strange for the general public, it works much like black boxes. We therefore saw that habits have been created, almost rituals in the anthropological sense of the term – that is to say a collective action repeatedly performed that also has a symbolic dimension. Beyond that, we found that technology can serve as a way of projecting meanings that are far from the actual function of these devices.

What form do these "Curious Rituals" take?

In concrete terms, they are seen in the form of people shaking their phones when they aren't working, blowing into their USB connector, raising their arms because they imagine they will capture their smartphone network better, etc. But these rituals can also be seen in the gestures such as caressing your laptop, giving it a name, turning your mobile over in your hands to de-stress as you would with a pack of cigarettes. Basically, I see it as a way of domesticating technology to make it part of our lives.

What are the most common digital-related gestures?

Holding a smartphone as if it were a kind of appendage, an extension of the body, with a somewhat nervous compulsion to check emails or scroll down, it's quite remarkable. Selfies (picture of oneself taken with a mobile phone), too, are quite remarkable – as is swiping which is the gesture for Tinder (mobile dating app), as well as for moving very quickly from one image to another or from one lot of content to another. You also see people articulating sentences in a somewhat mechanical way for Siri (virtual assistant with voice command on mobiles) – certainly not a gesture, but a significant behavior nonetheless.

To what extent has digital technology changed people's lives? What does it reconfigure in our way of being, in our relationship with other people?

For many users, their smartphone is a very advanced form of hybridization of humankind and technology. It is not just a means of making communication more fluid – the smartphone's obvious contribution. It is also a way of guiding our everyday behaviors. For example, quantified self apps (self-measurement tools, for example measuring the number of steps taken in a day) give us information about ourselves, but also manage us, give us suggestions. This leads to us reconfiguring our private lives, asking ourselves about the behaviors we would like to adopt, or – another issue – about what we want or don't want to share with other people. Together this upsets the barriers relating to sociability, which until now were compartmentalized differently, and consequently leads us to redefining the barriers

between our public life, private life and this intermediate space that has emerged along with digital technology.

Does digital also include the issue of temporality?

It is true that in studies of the uses of technologies, users mention a feeling of acceleration. But when we dig into it in more detail, comparing, for example, interviews and observations, we see that it is more a question of attention than of temporality. Historically, attention is related to something profound: being free of distraction for a long time to watch a movie, read a book or contemplate a landscape. With the advent of the very frequent use of digital technology (a computer that can launch several applications simultaneously, smartphones, notifications, instant messaging), another form of attention appears that is split. It feels like you can't see a whole movie any more. At the same time, as soon as we hear something interesting, when we can't remember a name for example, we go straight to Wikipedia. It is a change that cannot be merely reduced to being a loss of attention. And splitting our attention does give some people a feeling of acceleration, linked to a form of information bulimia.

We often hear about the "disadvantages" of digital technology in our everyday lives. But what are the benefits?

Digital technologies make things visible that were not visible before. They make it possible to refine our knowledge of places, people, contents and events for example. They facilitate contact between people whose interests are similar to ours, whether professional, friendship based, or even intimate. Finally, and this is the promise of Big Data, accumulating data over time gives a better understanding of phenomena, health issues and organizational optimization. But, despite the potential benefit of these different contributions, we do realize that there are also risks involved.

That being said, thanks to all these changes, thanks to digital technology a deeper relationship to others, and to our environment is being created. And not only by typing on keyboards, since all kinds of interfaces (vocal, gestural, etc.) allow us to extend our bodies and our intellects. And that is perhaps the main benefit. As anthropology has clearly shown, human beings create technical objects, and these in turn change them. This coevolution is absolutely fascinating.