

Presentation of the eHealth Center Sala Europa

European Commission Local Office, Barcelona

Minister,
Director-General,
Vice President,
Development Director,
Dean of the Faculty,
Dignitaries,
Friends,

This is a great day, not least because the UOC is embarking on a new experience opening novel ways for our University to interact with the public.

In 1995 the UOC married technology with education and its founding fathers were successful because they did not ask the misguided question some others are still asking:

How can technology let me do what I was doing faster and more efficiently? This is a doomed way of thinking.

A much better question is: *How can technology let me change what I was doing and do other things, more things, things I couldn't do before?*

And so the business model – if I can call it that – changes.



This is the UOC's business model. It's a paradigm shift. It's moving from teaching to learning; from a teacher leading the class to students who learn through activities. It's student-centred learning. And the UOC hopes to do the same with the eHealth Center, to put citizens at the centre, giving them autonomy to manage their health.

Of course, just as our educational model sees students connect with resources and mentoring, in this case citizens must necessarily interact with healthcare professionals – ie doctors, nurses, psychologists, nutritionists, fitness trainers, etc –, with health

institutions – ie social security, insurance providers, gyms, education centres, etc –, and with technology – ie apps, different networks, blogs, etc.

As such the citizen becomes a node – learning, seeking information, communicating and passing information on. The eHealth Center is based on this idea.

We understand that health is much, much more than simply an absence of illness. Health is quality of life, it's happiness, it's living in spite of an illness. It's something each patient must manage for themselves.

Going back to why I said it's a great day for the UOC, what is relevant and important here is that the eHealth Center ends up interacting with **the widest possible public** – that is if we are as ambitious as I know the Vice President and the Development Director are. And as the director-general said, the widest possible public means everyone; not just Catalonia or Spain, but everyone. And that is the eHealth Center's great ambition.

And now, if I may, I'd like to widen my perspective a little, to speak from the heart, and think a bit about this initiative's scope. In 1996 when professor Manuel Castells published his *The Information Age* trilogy, he said that industry brought a mutation towards the industrial society, and that this industrial society was much more than just industry itself; not just ships and planes but a radical, sociological change. The change was such that universities went from teaching philosophy, science and medicine to teaching engineering, economics, business administration and all the other weird and wonderful subjects we now offer.

According to Dr Castells, something similar is happening with information, leading us into the informational society. But of course, the informational society is already upon us.

We are building it without hardly even realizing. The fourth industrial revolution is almost just a detail.

Robotics and 3D printing are certainly more than finer points, but the change is much greater than manufacturing moving to 3D. Look at the importance of mobile phones to our daily lives. Look at what the internet has done to the photo industry – where are Polaroid and Kodak? Or look at what has happened to the cinema and to music – the other day I visited FNAC (a large retailer of cultural and electronic products) and there were hardly any CDs. The change is immense.

And what's happening to the press? Do we read print newspapers now? What's around the corner for transport, when we've already got driverless cars? And now that you can tap into someone's psychology by looking at their Facebook likes, what will happen to headhunters?

It's a tsunami that's changing our society. I've mentioned some of the things being swept away, but we'll also have to look out for what rises up.

This new technology has also brought us things such as **complexity theory**, so we can now use computers to tackle complex problems (complexity is related to chaos theory – a butterfly flapping its wings in Brazil leading to a tornado in Texas).

But complexity theory is a whole lot more than that. It explains that understanding a flock of starlings doesn't require studying the genomes of starlings. It's a phenomenon that is much more complex and must be analysed differently. You need to think about data science, as mentioned before (although you have to think about which data, because you can count the hairs on spiders' legs, but may not be the data you want), and especially machine learning, that is artificial intelligence and how it is changing science (enabling for example reverse engineering of the regenerative processes of flatworms or guiding stem cell production).



*This technology lets us model and obtain complex patterns in both **natural** and **social** sciences. And this makes it increasingly possible to have a **holistic view** towards the reductionist ideas to which we have been accustomed in science.*

I wouldn't say that Descartes is in danger of being forgotten, but since Antonio Damásio's book *Descartes' Error* came out, we are realizing that a reductionist approach has more and more limitations.

Someone cleverer than who you see here before you might think that scientific perspectives will experience a similar change to what happened with Newton and Einstein: Einstein's approach didn't remove Newton's, rather it expanded it. Someone is going to expand the Cartesian reductionist approach using the technologies currently being developed.

*This means we are opening new doors to our **understanding of reality** and to the complexity of science.*

New light is being shed on complex biological interactions, on systems biology, on the causes of diseases and on the origins of life... And this comes about via networks and this informational society mentioned already.

Like a friend of mine says, when I die I'd like just a small window to be opened for me once every hundred years, to look in, see what people are doing and say "Wow, it's all going so well, I'd love to be there with you!"

We will also have to use artificial intelligence, big data and so on to get a better understanding of the complexity of diseases, of multimorbidity. But that's a second layer.

First up is the scientific layer. Then comes the diseases layer, looking at how they are linked and interrelated. And lastly there's a third layer made up of citizen networks, social networks, patient networks, networks of opinion leaders and of technologists. And we will be able to make them interact and work all together.

To conclude, I can tell you we are in the process of building various interrelating networks, and thus we are building the informational society Dr Castells envisaged.

And now let me end with three different comments that may stray from normal protocol but which, for me, are very serious and define what we do at the UOC.

At the UOC we feel proud of what we do at the eHealth Center firstly because it's *awesome* and we like doing *awesome* things.

Secondly, because it inspires us and makes us happy; in the end, the best thing is to enjoy your work, and at the eHealth Center we do!

And thirdly, last of all, because it ultimately means we fulfil our deepest ambition – one we don't talk about too much despite it being very important – that is to change our world.

Thank you very much.

Josep A. Planell