Inaugural Lecture 2017/2018

The University in the Information Age

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Professor of Sociology at the UOC

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Universitat Oberta
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Introduction

The university (or the institution of the university, if referring to the system and not just a given organization) is the key institution in the Information Age: a historical period characterized by economic and communicative globalization, by the emergence of the network society as a specific social structure in a global domain and by a multidimensional technological revolution that makes information and knowledge, more than ever, the source of power and wealth for nations.

The university, as the principal knowledge-generating organization around the world, plays a leading role in scientific discovery, and in technological and organizational innovation. However, it is also key in training workers, which is vital in societies' ability to develop, in the democratization of knowledge, and in equal opportunities, to the degree that opportunities depend on education. It is also essential in the generation of a culture that is linked to the social and national identities of each country. In short, the university is (or should be) a testing ground for new

techniques in pedagogy and collaboration aided by digital communication.

Nevertheless, the university is frequently also a bureaucratic and corporate institution, ill-adapted to the new society and the new technological setting, stymied by professorial privilege, unable to fully respond to the needs of society, and at times prioritizing care of faculty over care of students. Given my passion for the university over the fifty years I have spent as a professor in France, the US, Spain and Catalonia, I look with sadness on its being out of step with the Knowledge Society. And I fear that without an overhaul from within that involves the whole of the university community, it may end up being taken apart by the market and by the attempts to commercialize higher education, and losing the legitimacy it requires for the state to defend it on behalf of its citizens. This project to overhaul the university requires a commitment from the whole of the university community in defence of the values it has held for centuries. And it also requires prior study of the transformation of the university from a historical perspective based on the analysis of its functions. Only then can we accurately and specifically refer to these functions in the context of the Information Age.

U1

The functions of the university: from theology to technology. The university institution gradually formed during history through a series of models which, though appearing at different times, were in practical terms linked, despite emphasizing different aspects in different contexts. In each of these models, one function stood out that would remain but become subordinate to others that emerged with greater strength from the demands of society.

The origin of modern universities in the Western world can be found in theological schools (such as Bologna, Salamanca, Cambridge, Oxford, Sorbonne, Coimbra, Padua, La Sapienza, Leuven, Barcelona, Alcalá, Heidelberg, Munich, Prague, Krakow, St Andrews, Uppsala, Santiago, Valencia, or, later, the first Latin American universities, such as Universidad de San Marcos and Universidad de Córdoba). These universities, although covering the science and thought of their times, favoured the production of values and the social legitimization of the existing political and religious order. Something which, in lay terms, underlies much of the practice seen at universities throughout time.

The second function of the university was, from very early on, to select the elites and train the core groups of leaders. This is the case for great universities such as Cambridge or Oxford, the Ivy League universities, led by Harvard, the Grandes Écoles in France, UNAM in Mexico or Sao Paulo in Brazil – though in Latin America there has been a move to train their elites at US universities such as Chicago, Harvard, or Stanford.

The third function of the university is to train professionals and consolidate professions, in

particular medicine, law, engineering and, subsequently, business administration.

The fourth function, towards the end of the 19th century, led to the rise of the scientific university which aimed to make universities centres for research and productive capacity, as in the case of the German model – the first being Berlin's Humboldt which was inspired by Scandinavian and Dutch universities. In the US, Johns Hopkins University was the first to adopt such a model; it was later followed by MIT, Caltech and, to a degree, by land-grant universities such as Michigan, Wisconsin and the University of California, Berkeley, which combined scientific production with the legitimization of the Manifest Destiny in the West.

A fifth model appeared with the university for the masses, a generalist university– a model that was predominant in Europe after the Second World War. This model's fundamental aim was to improve society's level of education as a whole, opening up education to all social levels and using qualifications for social mobility. French, Italian, Spanish and, obviously, Latin American universities generally speaking continue to use this model, though without leaving aside, in the best cases, the other functions we have mentioned. In countries such as France or England, there is a class division between the scientific and elite universities, and the democratized universities, which are open to all sectors of the population, but have much less potential for research.

Finally, in sixth place, recently a new type of entrepreneurial university has emerged. The aim of this project is to support science and education, alongside technology, innovation and business. MIT, Stanford and Cambridge are the examples

that are most often imitated internationally. But many technological institutions and polytechnic universities in a number of countries have become sources of technological and corporate dynamism in their respective economies.

The university system as a whole takes on these different functions with varying levels of specialization, depending on the institutions. The quality of the system is based on guaranteeing both its diversity and the existence of gateways between the paths started at each institution in order to reduce duplication and increase synergies for students, professors and researchers through their interaction in the university system as a whole.

We will now look at how these different functions of the university are changing in the current context of the Information Age.

U2

The transformation of the university in the new global knowledge economy. Knowledge production, and technological and organizational innovation, which have always been essential, are now even more decisive for economic growth, social welfare and environmental sustainability. This heightens the role of the university. The attitude of countries and governments with respect to universities is dictating their future. Those countries that strongly commit to university scientific development and that look to stimulate entrepreneurship from universities are setting out on the road to progress. While in contexts such as the European, where austerity policies to overcome the crisis have led to budget cuts at universities, our societies are condemned to an inevitable decline. Investment in universities is a vital factor, but on its

own not enough for development in the knowledge economy. Intelligent policy is required that stresses both the productivity and creativity of the institution. University policy is more effective when it is more flexible and diversified, when it looks to specialize and find niches for excellence, while guaranteeing a basic, interdisciplinary education in all fields. The idea of "one size fits all" is synonymous with mediocre results overall. Healthy competition among universities is an essential factor in the system's dynamics.

The function of training in the Information Age has to adapt to the requirements brought on by the accelerating technological and organizational changes. As I have shown in my empirical research, the new workforce must be self-programming, able to establish its own objectives and the means to achieve them, rather than just executing routines. What is essential to this system is learning to learn. Specialized training in specific techniques leads to obsolescence of knowledge in the short term. All information can be found on the web. Knowledge, in turn, is based on the cognitive capacity to combine this information creatively and adequately with the tasks that need to be developed in each work process. What is essential in teaching is not transmitting knowledge, but creating the capacity to continually innovate and adapt to organizational and technological change. This requires flexible training early in one's education and continual updating throughout one's professional life.

Today's universities function in global networks of exchange. No university is self-sufficient, the quality of each depends on the quality of its links to the global network of information and knowledge. What is required is access to this network. And to achieve this, the entrance ticket depends on

the specific capacities it has that are of value to the network. Universities do not need to know everything, just that which is sufficient to access the value creation networks in the global processes of exchange.

U3

The feminization of the university. At this time in history, we have reached a point where the majority of university students are women – except on engineering courses and at business schools, where gender discrimination is still present. However, there is still strong gender stratification within the system, and in scientific faculties in particular. In other words, surgeons are men; primary care physicians are women. Men still dominate in the positions of full professor, except in the humanities. In this context, it is vital that we take into account the transformation in gender relations in society and develop the corresponding policy for the selection of faculty members and students. We have to break down stigmas and taboos with an active policy to eradicate the implicit sexism at the highest levels of faculty and open up a wide range of opportunities to all humankind. This is where we can find a supply of talent that we have yet to make the most of.

U4

Universities not only shape people's abilities, but also their personalities. With this in mind, they can contribute to the development of the new personalities needed for such a fast-moving process of cultural and social change as the one we are living through. In other words, we need an

active pedagogy that can help develop personalities that are flexible and adaptable throughout life. Likewise, for this constant flexibility not to lead to the risk of the individual's disintegration, we need a university that, in accordance with the institution's historical tradition, stresses the production and internalizing of basic values of human behaviour. These are few values, but they are strong and rooted, and anchor people's inner strength so that they do not disintegrate due to the constant change. The ethical, not ideological, component is now a vital part of university training. For example, business schools need to understand that corporate social responsibility, which is so essential in the financial sector in particular, starts with training responsible graduates, in terms of a reference group where being honest is as important as being efficient. Dishonesty was at the heart of the recent financial crisis. In a world of accelerated technological and cultural change, the university once again taking on the role of producing values, though now updated values, is a necessary counterpart to its producing science and technology.

U5

Interdisciplinarity is an essential attribute in new university training. Scientific change is breaking down the barriers between traditional disciplines to the degree that future professional practice will require the ability to interact constantly with other epistemic configurations. Historically, disciplines were constituted as peace treaties in the academic wars for control of the fields of research and education. But these borders are being overcome by new discoveries. The most advanced universities are structured in terms of communities of knowledge which then lead to different specializations that

open out into other areas of knowledge and build bridges between different fields. Examples of this necessary interdisciplinarity can be found in key areas such as bioinformatics, robotics, biomedicine, communications, urbanism or business. Indeed, interdisciplinarity is the mother of innovation precisely because rigidly defined disciplines tend to limit the universe of the possible to within one single field.

U6

Adaptation of the different functions analysed to the context of the Information Age requires a particular type of university institution. Specifically, **for universities to be able to constantly adapt to the social, cultural and scientific needs of their time, they have to be autonomous in their ability to make decisions**, starting with autonomy with regard to their budget. Control by the competent bodies should come later, depending on the results obtained, not beforehand and based on administrative criteria from outside the university. The most advanced university system, the US system, is not overseen by any government department. Autonomy of universities also requires autonomy of the academic units within universities, and participation of the university community in its management. However, it also requires determined decision-making and initiative from the university's senior leadership, including a certain centralization of strategic decisions to avoid the paralysis resulting from endless debate and the carving up of strategy based on sectoral interests. Student participation is essential, but it must avoid demagogy and focus on defending the interests of students within the framework of the university. It must be remembered that students come and go, while the university

remains over generations. And the university is not the place to start the revolution, though, obviously, it must always be committed to the ethical and democratic values that are defended at all levels of the institution. It is vital that the unique space for tolerance and dialogue to be found at universities be preserved. It is essential heritage that needs to be treated with infinite delicacy because it is the only place that we have in society to safeguard civility in our debates.

U7

Public universities are essential; indeed, they represent the immense majority of universities in the European system. But they need to have less bureaucracy and more flexibility in their management, as in the case of private universities. Guaranteeing employment of faculty members, once the quality of the teaching is assured, both at public and private universities, is imperative in safeguarding intellectual and scientific independence from governments and the market. However, universities must have their own systems for control, evaluation, and differential rewards for promotion, without which professors can let themselves fall into a sterile complacency. We scholars have the extraordinary privilege of being free to think and to define our own activity. But this privilege has to be won on a daily basis by maintaining our own standards for academic quality, working as hard as anyone, and recognizing our debt to our students. We need to go back to the origins and medieval professors being paid by their students for their services and give up on the sinecures established subsequently by state bureaucracies. The re-legitimization of the university community by the university community

itself is the guarantee that can preserve our independence and our job security.

U8

With this in mind, **the autonomy of universities is inseparable from the systematic evaluation of universities, and internal and external professors, with consequences for the budget and their professional career**. However, evaluation systems in many cases tend to become bureaucratic routines that fail to understand the reality of teaching and research, and fall back on formal or automatic criteria (such as the number of publications, without taking into account the level of quality of their contents; or the courses taught, without taking into account student assessment; or the number of graduates without analysis of their professional careers). External, confidential evaluation by peers should be a systematic practice assured by the universities themselves.

U9

Universities and information and communication technologies. Universities are undergoing profound transformations due to the adoption and creative use of digital information and communication technologies. And Catalan universities are a good example of this dynamic transformation.
We need to start by stating that there are now no purely on-site universities. All the what we could call "on-site universities" are, in fact, hybrids. In other words, they involve interaction between professors and students, and between the students themselves, that is for the most part digitally mediated. Researchers form part of digital

collaboration networks. Students spend more time on the internet than they do in classrooms. And contact with professors is generally via social networks, email or WhatsApp, rather than face-to-face meetings in their offices. But this practice has developed spontaneously without any organizational or pedagogical adaption of the teaching system. For the technological transformation to be more productive, efforts are required to recognize that we are now dealing with a hybrid university and, thus, that we need to formalize our response in terms of the procedures, pedagogy and continuous assessment systems. In particular, some professors, especially those of a certain age, are out of step with their students. It is a question that will be overcome through survival of the fittest but which, given the long life expectancy of us seniors at the moment, will require collaboration between students and professors to bring us up to speed.

This leads us to an important subject: **online universities** – universities that teach exclusively online. They are spreading rapidly around the world. As we know, Catalonia has a pioneering university in this sector because the Universitat Oberta de Catalunya (UOC) was founded in 1995, the first year in which the World Wide Web spread and was commercialized. Online universities, in order to be universities, need to clearly differentiate themselves from the online training provided by professional schools or for companies. In particular, the best online universities, including the UOC, have a research component and maintain a level of quality in their faculty, accredited by their holding doctoral degrees and their productivity in terms of the usual academic criteria. Online universities have a poor reputation in many countries because

for-profit universities saw the sector as a priority for expansion, but these efforts were often of poor quality. This is not intrinsic to online teaching, however, but to the marketing of these universities. There are many examples, from the UK's Open University or the Netherlands' Open Universiteit, to the UOC or Spain's UNED, that show how quality teaching can be assured with online methods. The essential difference between online and hybrid universities is that they are aimed, in general terms, at different groups of people. Indeed, one of the most important demands of the Information Society is the constant refreshing of the workforce and updating of the knowledge of people already embroiled in their professional and family lives. In these conditions, the possibility to study, or to return to studies, at any point in one's life cycle comes thanks to online education, and teaching and assessment systems that can guarantee a level of quality that is comparable to that of the hybrid universities. And, in fact, they do so in many cases with a more intense level of personalized monitoring that ensures professional development. Obviously, the young between the ages of 18 and 24 need a social context for personal relations where physical presence is vital. But this is not the case for 30 or 40-year-old professionals whose higher education is essential for both them and their companies. These students are much more disciplined than their younger counterparts and, in some ways, more motivated because if they are taking up their studies again or if they are starting a university education, it is because they have made a decision linked to their life projects. Thus, online universities complement hybrid universities and provide a vital social function in the Information Society. To increase their levels of quality, they must develop constantly evolving, multimodal

technology, and they must reinvent the pedagogy of teaching so that they can act as constant catalysts for educational innovation.

The university system in the Information Age is a multimodal system in which different pedagogical processes and technologies come into play and complement each other in order to provide a service to a society and an economy undergoing constant transformation.

Conclusions

The quality of universities depends on the quality of their professors and students, and thus, ultimately, on the quality of the whole educational system, and the importance it is given. In other words, it depends on the value placed on educators by society, expressed in terms of social prestige, professional respect and working conditions that reflect this respect. Studies carried out in two contexts as different as Cuba and Finland, highly educated societies in terms of their levels of development, show that the value placed on primary schools and primary school teachers by civil society and the governments is reflected in the quality of education at all levels.

To guarantee this quality, recruitment of university faculty has to do away with the bureaucratic and endogamic procedures of the past and be guided by the evaluation of the merits of a nationally and internationally proven professional career. Now well into the 21st century, we should be brave enough to banish the ghosts of the infamous *oposiciones* (civil service exams, now known as functionary selection processes) and replace them with open-ended employment contracts that provide job security in line with the criteria set at each university. This was a demand made by university professors during Spain's transition to democracy forty years ago and which the leaders of those movements went back on once they reached power. There will be no true autonomy at universities if the universities cannot freely choose who they want to employ as professors. Paradoxically, endogamy cannot be overcome with external interference in recruitment, but by allowing universities to hire who they want,

except their own doctoral students, in line with the criteria in place at each university.

Links to business are vital for universities to be able to contribute to economic growth, technological innovation and employment. But this is only possible if, as is the case in the world's leading university systems, thanks to the autonomy at universities, they are able to establish links to the business world, both in terms of research and training, in line with their own criteria and not subject to the short-term profitability of companies. In fact, what is most beneficial to companies is long-term investment coming from universities, which can guarantee the quality of their services.

In short, what defines the excellence of a university today can be summarized in three main principles:

• The overriding criterion is pedagogical and scientific quality. This, which seems self-evident, is often overlooked when considering the different aspects of a university. In reference to an important personal experience that can illustrate this, I remember when in 2005 the European Commission created the European Research Council (ERC) to fund basic research throughout Europe. The decision of the founding members of the Scientific Council, of which I was one, was to simplify all the evaluation criteria for programmes and to leave just one: the scientific excellence of the projects reflected in just one person – the principal investigator. And so it was. Today, the general opinion of the scientific community is that the ERC has led to a qualitative change in European research. I believe that this success is thanks, precisely, to the decision to make scientific quality the only criterion for evaluation.

• Secondly, universities must always be at the service of the society that pays for and maintains them, whether public or private. But I would place this second and not first because without pedagogical and scientific quality then we would not have a university at all, but simply a bureaucracy issuing administrative qualifications.

• And thirdly, it is vital that we safeguard the university as a place for deliberative autonomy and reflection that is free from all kinds of pressure. Indeed, it is the only truly free place, and even then with its limitations, that we have in society. But this privilege of freedom can only be sustained by universities if we have internal control and evaluation systems that ensure that we use this freedom for the common good and not for our own personal or corporate interests.

The university in the Information Age has inherited and will sustain this centuries-old institution which let us know our world and freely communicate this knowledge. This founding practice remains unchanged; indeed, it forms the basis of our hope for a better future beyond the uncertainty of our turbulent present.

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