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With a View to the Digital Future

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Welcome, ladies and gentlemen, to this celebration of Tilburg University's 90th anniversary. A special welcome to my colleagues, the rectors and governors of the other universities in the Netherlands. In this speech, I will address you in particular, because I consider it a special privilege to work together with you in leading the Dutch university system. After my two years in office as a rector, I am convinced that there are ways in which we can reinforce each other, and that is what I would like to speak about today.

Tilburg University is 90 years young and is thus one of the more recently established universities in the Netherlands. But not one of the younger universities worldwide. In the last few decades, many new universities have been established, especially in Asia, and they are developing rapidly. Ever since their emergence, the identity, role, and relevance of universities have been subjects of debate. Two key thoughts, dating from the 19th century and rooted in the Age of Enlightenment, are often expressed in this context. The first was formulated by Cardinal John Henry Newman, who argued that the academic education of students should be central in a university. The second is the educational theory of *Bildung*, put forward by the Prussian Minister of Education Wilhelm von Humboldt, who stressed the importance of the connection between education and scientific research. Let us hold these thoughts for a minute and look at what is going on more recently.
In the past few decades, the discussion around universities has intensified in terms of the following three questions.

First, we need to ask ourselves whether universities have put too much emphasis on the importance of scientific research. The question is whether universities should be perceived as knowledge factories where publishing knowledge seems to be the all-important activity. Academic careers are built around tenure track constructions. From the academic's point of view, everything that he or she undertakes is geared towards meeting the fierce scientific career requirement… it is up or out! This creates a risk of stimulating autonomous behavior among researchers, who primarily focus on their careers and lose sight of the objectives of the university as an organization. On the other hand, academia is challenged to produce results that are significantly original with

high scientific impact. Hence research has become a complex power game in which transparency should be beyond dispute and conflicting interests must be prevented.

The second question is about the funding of universities. As a result of the explosive growth in the number of students without a similar increase in funding, universities have to be operated ever more efficiently. In addition to public funding, there is the urge for generating income from private funding for both education and research. Universities are ran as enterprises. At the same time, universities increasingly regard each other as competitors operating in a tight market as regards resources and students. That is not a positive development and I would like to progress towards a different form of funding in which these incentives are mitigated.

The third question that arises is whether society's expectations are realistic as regards to the ability of universities to stimulate the regional and national economies. Politicians and captains of industry are becoming increasingly involved in the universities' agendas. Sector plans, top sectors, and innovation contracts are designed to ensure that the universities take over from companies that are no longer able or willing to pay the cost of their own innovation. Universities are required to demonstrate their economic impact. We undermine the role of the universities if they are mainly perceived as the drivers of technological innovation, even though they provide a significant contribution in this respect.

Haven't we made things too complicated for ourselves, ladies and gentlemen? Haven't we overrated the role of the universities? Wouldn't it be better if the higher education sector was offered scope for vision and input? Wouldn't it be better if we started to acknowledge and reward achievements of scientist, both in research and in education, the way they deserve? Hadn't we better phase out the emphasis on individual research careers and, instead, facilitate projects in which our researchers collaborate in teams? Let us stop competing and instead start working together in developing talented people for the Dutch university system as a whole?

Tilburg University was established 90 years ago to train young people who would be able to address the societal problems of the future. The period in which Tilburg University was established was characterized by sweeping changes. The Netherlands started building the Afsluitdijk, a major causeway damming off what is now the IJsselmeer; for the first time, people were able to tune in to programs worldwide with their Philips short-wave radio; electric networks were installed in cities; Charles Lindbergh completed the first solo transatlantic flight; Schrödinger published his quantum equation; Klee, Kandinsky, and Van Doesburg modernized painting; and composers Gershwin, Ravel, and Stravinsky innovated music.

Now, 90 years later, we are again witnessing exciting times. The extremely rapid developments in digitalization have opened a new world perspective: global computer networks have become so powerful that they enable us, at any moment, at any place, to connect with each other and access information. The world is generating unbelievable amounts of data, which can be processed using data analysis techniques and smart algorithms to discover new facts and insights. Data provide insight into processes and behavior and, as a result, we know more about ourselves and the world around us than ever before. Nothing is secret anymore!

Artificial intelligence uses algorithms for machine-learning which enable computers to learn without being explicitly programmed… and result are astonishing. We are nearing the moment that computers will be more intelligent than we are. In his much-quoted book *Homo Deus*, Yuval Noah Harari describes a breath-taking development of humanity in which Homo sapiens loses control over the world and Homo Deus takes over. This Homo Deus is humankind in a digital world in which three processes determine everything.

1. Science is an overarching dogma, in the sense that organisms are algorithms and life is data processing.
2. Intelligence is disconnected from consciousness, and
3. Super-intelligent algorithms know us better than we know ourselves.

If these processes determine the future, what will happen with society, politics, the economy, and life as we know it? Will algorithms and data processing really be all there is … and will intelligence really become more important than consciousness?

It could be quite a while before that happens, but there is no turning back: technology is developing at tremendous speed… and society is digitalizing at a unprecedented pace. More than ever, there is a need to interpret data, on the one hand, and a need to gain insight into the effect it has on human behavior, on the other. And these are exactly the areas of research that Tilburg University wants to excel in. They will enable us to address the meaning and impact of the new digital technologies in ways that promote rather than hinder social values such as freedom, equality, and transparency. Our sense of responsibility towards society gives us the opportunity to keep our society involved in everything that affects it. That is a unique position for a university! However, it does require that we understand what technology is about. And that is where we need the other universities. This demonstrates that we are inextricably linked to each other.

Ladies and gentlemen, we would like to offer you as a gift two essays that are published on the occasion of our 90th anniversary. In the first essay, Tilburg University's vision on education is

described. We educate students based on the concepts of Knowledge, Skills, and Character: mature academic professionals who act in the spirit of important values such as solidarity, empathy, and responsibility. This social aspect of education is now an integral part of our teaching. In our vision on research, entitled *Advancing Society in a Digital Era*, we argue that modern researchers need to combine specialist social and technological knowledge with an innovative mindset for which collaboration and co-creation are central. This requires research with a passion, or "Science with a Soul".

I hope that the two essays will inspire you as they have inspired us and have given direction to our strategic plan for the coming years, entitled "Connecting to Advance Society". With this strategy, Tilburg University wants to contribute to the development of the academic system in the Netherlands and it is my hope and expectation, dear rectors and university governors that we can work together in this context.

I began my speech with a reference to the – analogue – origins of academic education and *Bildung*. Now, having arrived in the digital society of 2017, it is still true that knowledge is realized by connecting education and research – increasingly assisted by algorithms. Let us add to this: our connection with each other, as universities, but also with stakeholders in this digital collaboration. And may I invite you to join me in developing the following three lines?

- Let us together shape and realize the research program for the Digital Society by bundling the research efforts in the framework of the Dutch National Research Agenda and take ownership of the various program lines of the Digital Society Agenda.
- Let us work in partnership to realize the program of the Digital Society with the active participation of citizens, organizations, businesses, the government, and other stakeholders and thus make the Netherlands a model for other countries as a testing ground for the digital society.
- Let us also use the Digital Society program to innovate our education in itself, enabling our students to play meaningful roles in that digital society.

Let's unite in this unique opportunity and make the digital future work; we can do it!
This is what I wanted to say. Thank you for your attention.