

Knowledge Society in the 21st Century

Keynote speech by

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checks to delivery

Mr President, dear friend René van der Linden,
Mr Dean, Professor Naudé,
Ladies and Gentlemen,
Dear Students,

I.

It is a great honour for me to be here at the Maastricht School of Management as Honorary Professor for Education und Innovation, as member of this dignified institution. Why is education and innovation so important for the MSM?

The Maastricht School of Management is not only one of the oldest Management School in the Netherlands. The MSM is also an institution with professors and students from all continents around the world.

The Maastricht School of Management has its roots in Europe and is open for the world. Therefore it is a great honour for me to be an Honorary Professor of this impressing institution for the future.

Today, I will speak about “The Knowledge Society in the 21st Century”, one of the great transformations in our time of many changes.

II. Industrial Revolution

Economy before the nineteenth century was characterised by individual craftsmanship and agriculture. The industrial revolution and its implications caused these characteristics to gradually fall behind - it gave rise to a new society.

Symbols of this new era were the mechanical weaving loom, the steam engine and the railway.

In Germany, it took only some 40 years for 48 major cities to come into being¹.

It is the industrial society that defines the nineteenth and the first half of the twentieth century.

III. Knowledge Society

Almost 20 years ago, when I was Federal Minister of Education, Science Research and Technology in the government of Chancellor Helmut Kohl, my top priority was to reform higher education and to set up the information society in Germany.

Back then we started

to provide schools with computers,

to integrate German industry so as to form networks and cross-links,

to include and integrate our universities in a global information system.

My intention was for Germany and Europe not to fall behind but rather join the information era and get thoroughly connected.

What you have to take a closer look at is the dynamic speed which the revolution of information and communication technologies has developed.

According to Moore's Law, the packing density of transistors over the area of a chip - in short, the performance of computers - roughly doubles every 18 months.

The knowledge worldwide doubles every 5 to 7 years.

Every day more than 20,000 scientific publications are issued.

Of all scientists who have lived in the last 2,000 years, almost 90 % are actually living today.²

Knowledge is more than just information.

Information consists of collected facts and passed-down knowledge. Not until it has been acquired and processed will information become knowledge. Hence, information has to be perceived as building blocks of knowledge - but not knowledge itself.

Knowledge depends on an individual's intellectual capacity and processing ability. Information is merely a means to transport and exploit knowledge.

Some 20 years ago, we used to speak of the "information society". And with the term "information society" we were referring to the technical side of change. However, this term is not far reaching enough. Therefore I introduced the term "knowledge society" in Germany.³ It is the people who actually turn information into knowledge.

"Knowledge is power" the English philosopher Francis Bacon said and to this very day he is right.

Knowledge and the ensuing sciences became possible only in our modern world.

Today, more and more people get the opportunity to acquire knowledge. Never before have there been so many schools and universities. The increased "extra" knowledge created the need for permanent reform and for the willingness to open-mindedly try something new, to face new challenges - be it in science, economics or politics.

In terms of economy, this means to develop new products and services and to win new markets.

In terms of politics, this means to reform, strengthen and further develop public and civil institutions.

As for science and the educational system, this means to enter new ways of thinking and to pass down the proven and, in particular, the valuable.

Only an open society retains its ability to act.

The attitude of open-mindedness is the central idea of enlightenment and

it is "man's emergence from his self-incurred immaturity", as taught by Immanuel Kant. What he wants to say is that "man's intellectual capacity subjects all things to itself".⁴

The explosive increase in knowledge and the resulting innovation has given rise to numerous new problems.



A first task:

While we were living in an industrial society, three production factors were known:

Land, capital and labour.

Knowledge is becoming more and more a new production factor.

Knowledge as a production factor has already become the new vital source for economic success. Only those companies shall succeed in international competition that are capable of optimizing its processes, structures and services through knowledge-based innovation, thus keeping its production up to date.

I believe that this is also one of the reasons for the enormous global economic crisis that still keeps us in suspense. Instead of focussing on knowledge and growth in production and service, people still believe in the ideology of the "shareholder value".

Let me tell you a short story.

After I had become Minister President of North Rhine-Westphalia in 2005, I made a first visit to the countries of Great Britain.

In discussions with British entrepreneurs, I announced that my government planned to strengthen the industrial basis of our country.

My dialogue partners then looked at me compassionately. I was told that it was old-school policy to support the industries of a highly developed country and that "today, you earn money with money".

This philosophy is wrong, I think, and it triggered the most serious economic crash of the last seventy years. Growth-based capitalism has rather turned into a crisis-driven capitalism.



A second issue:

The knowledge society requires of people to make considerable changes and ever increasing adjustments.

In the 19th century, people used to live in a clearly defined and comprehensive setting which they called "Heimat", which means "home". Only very few travelled to get to know the world.

In the 20th century, due to the two world wars, displacements, immigration and many local and regional conflicts, millions of people were forced to leave their homes and make a new start in another place somewhere else.

In the second half of the 20th century, millions of people had the opportunity to spend their holidays in other countries and continents. National borders could be easily crossed, they became penetrable - and yes - in Europe they were even removed.

Global knowledge society has brought us incredible, technical progress and an unprecedented personal mobility. Yet, with all these new possibilities people were now confronted with an ever growing number of risks and insecurities.

Today, many people are strained to their limits and cannot cope with technology in their daily life and working environment. Globalisation is experienced as threatening and the one who is afraid will, in fact, refuse everything new.

Therefore, industry, science and politics not only have the obligation to serve as a catalyst, a promoter for innovation. They also must serve as a "katechon", that is a "restrainer". But not in terms of preventing innovation. They must promote innovation, but they must also make sure that all members of society can share in innovation.

Whoever wishes to start reforms has to give people the possibility to change.

And that is why the social ties between people are of such importance - they serve to compensate for all the uncertainties people have to bear.

That is the reason, why it is important to have an excellent education system.

The same is true for our social security systems which are not only a cost factor but also a prerequisite for flexibility and adaptability.

Let me give you an example: I was in a supermarket in France when I happened to see an older couple, visiting their daughter and grandchildren. They wanted to buy some fruit and to this purpose had to put in on a scale. But the touch-screen of the scale was too complicated for them - they needed help.

How do we want to deal with the imminent demographic change in Europe, the United States, in Russia, China and India as more old people are caught in a vicious circle of poverty, old age, isolation and solitude?

So now it is all about the synchronization of technical and human progress.

Albert Einstein has once commented the following: "The unleashed power of the atom has changed everything save our modes of thinking."

The physicist Robert Oppenheimer illustrated the dilemma at hand, saying that "it is not the scientist's fault that at present brilliant ideas always turn into bombs" and he added: "For as long as this is reality, we may be enthusiastic about a matter as a scientist and at the same time deeply terrified as a person."

And true enough - there are 24-year-old university graduates who have just completed their business economics studies and shall provide advisory services to companies. They will have no qualms to suggest massive dismissals while keeping their own career in mind.

And let me add: For as long as this is reality, we may be enthusiastic about "lean management" and "process optimisation" as economists and at the same time really scared as persons.

What we need is not only more knowledge but also more judging capacity. It is not only more knowledge that provides for more options for action but also more mutual understanding and solidarity.



A third issue:

We must start earlier to reflect the consequences of new techniques and technologies - perceived as well as unperceived consequences. The annual growth in human population has become increasingly faster in the last 40 years.

In 1960, 3 billion people lived on our planet.

In 1999, when our son Thomas was born the world's population amounted to 6 billion already.

In the decades to come we will strain our biosphere to its very limits.

In the past, we used to implement technical innovations following the principle of "trial and error". In 1987, when I was elected to the German Federal Parliament, the Bundestag, the established parties had already been discussing for many years the introduction of a procedure on the assessment of technological implications. I was fortunate enough to solve this problem when I chaired the respective study commission.

Nevertheless, even today we continue to dispute about new technologies.

- This applies, for example, to the use of nuclear energy for power generation. Many countries are not willing to refrain from using it although there is no place in the world where a procedure for the final disposal of nuclear waste has been implemented.

- The revelations of Edward Snowden, the whistleblower, are another shocking and alarming example. In this context, there is a fundamental question to answer: Who can save our freedom of human kind, the rule of law and democracy?

Under various programmes of which "Prism" is the best-known, and with German assistance, the American National Security Agency NSA, had access to millions of data records. The "X Keyscore" programme provides for more than to merely register connection data. "At least in part" it is possible to also register communication data.⁵

These gigantic mechanisms for monitoring and keeping files protected by constitutional law, raises many questions that need to be answered still.

Our human and civil rights make it necessary as much as the future of our democracy.

One thing, however, is already clear:

If only enough links are gathered, the transparent citizen comes into being. The American historian of science and technology George Dyson says: "Through data collection NSA and the IT-industry can by now even reconstruct what people think".⁶

In the scientific journal 'Science', Gary King, a political scientist at Harvard University, presents data records that are accessible in social networks today, which can be filtered from 100 million daily posts in an automated process. According to King, the following data sources can be used already: "Party donations, petitions and lists of signatures, credit card payments, acquisitions of land, RFID labels, internet purchases, electronic health records and medical records of hospitals, measured data of a new device generation of motion detectors and tracking control devices, devices to monitor heart rates, electrical conductivity of human skin and body temperature,

and moreover online games, business journals on employee behaviour, ..."7

In view of these facts, the writer Evgeny Morozov, visiting scholar at Stanford University states: "The once powerful myth that there exists a separate, virtual space where one can have more privacy and independence from social and political institutions is dead."⁸

And the philosopher Boris Groys adds: "Global access to internet data is, however, merely another term for the web's capacity of total self monitoring".⁹

In the year 1996, I was the first politician to introduce and pass legal provisions regulating the internet in Germany and when I did, I was severely attacked by people from many countries around the world. My major interest was to achieve a public ban on child pornography and racism. At that time, we were technically not yet able to nationally trace the server by which such offers were put on the internet. But nevertheless this law was appropriate and correct.¹⁰ It is my conviction that a democratic state, committed to human values cannot simply ignore such despicable crimes. Today, as you certainly know, it is possible to identify and punish both the originator and the user.

I was criticized back then - and even accused from abroad - of restricting the freedom of the internet.

Today we are all well aware that there is no such thing as an unrestricted freedom of the internet. Like any other infrastructure, the internet needs clearly defined rules. Human rights have to be respected also in the internet. Freedom is only possible within a framework of responsibility. It is thus necessary to protect the individual's right to informational self-determination against total control through intelligence services and quasi-monopolies like NSA, Google, Facebook and the like.

What I honestly want is that our Western democracies set up a joint initiative here. Not even fighting a war on terrorism justifies the countless violations of human rights.



And now my final point of issue: Technology does not only imply man's liberation from the troubles and hardship of every-day life. Technology can also make people dependent. Just think of our young people and how they are shifting the greater part of their communication to social networks.

Those who do not have devices and brands are excluded from the public mind.

Those who are not online are soon out of reach.

If you do not have certain brand devices, you are no longer part of the game.

Also, technology does always entail side-effects which remain hidden, that means unidentified, until we stop ignoring their momentary implicit existence and bring them to the light of day. This results in an "almost Orwellian paradox: Technology liberates man by subjecting man to its regimen. Man himself becomes an appendage to his own invention."¹¹

We have not yet given enough thought to the unperceived "consequences of technology for our human existence, the *conditio humana*.

This issue must be addressed by the humanities so that the knowledge society's potential of freedom does not turn into an accidental unintended lack of freedom.

Hubert Markl, former President of the Max Planck Society, once said: "Moving from media society to knowledge society correlates with moving from information to relevant meaning, from perception to judgment. Knowledge provides man with the capability of acting ... But it is only the adequate judgment - the judgment which takes account of the meaning - that brings it to life."¹²

IV.

On the Future of Western Democracy

In 1989/1990, when the Berlin wall came down, when Germany and Europe were reunified and it seemed that freedom had finally overcome the lack of freedom - it seemed that, after all, a new era was born.

And today, not even 25 years later, the atmosphere has changed. The international financial crisis, the war on terror, the violence in the Middle East, the unemployment of young people in Europe and Big Data - all this has caused new fears of the future.

More and more US-American voices are heard which describe the "decline of the West" as follows:

"Anyway, there seems to be no doubt that the Western world is suffering a relative decline which it has not experienced in half a millennium. "That is what Niall Ferguson¹³, a British historian and professor at Harvard, writes and he marks his claim by referring to the economic, social and political difficulties that are based upon the degeneration of the "Western institutions that once used to control the world".

Recently, the two Harvard professors Daron Acemoglu and James A. Robinson have studied the issue of the origins of power, prosperity and poverty.¹⁴

They answer the question at issue - Why Nations Fail? - with a surprisingly "simple theory". The focus of it lies on the connection between inclusive economic institutions and political decisions. It is not centred, as we might expect, on geography, cultural factors, values, habits and practices. And it also ignores an enlightened or unenlightened leading political elite.¹⁵

According to Acemoglu and Robinson, inclusive economic institutions provide for the protection of property rights, fair competition and innovations. Inclusive economic institutions have a pluralistic way of distributing power. The authors' comment on the situation in Europe is optimistic: "The challenge Europe faces is not a result of fundamental structural deficiencies or the inclusivity of its institutions. It is rather a result of the financial crisis and the subsequent deep recession."¹⁶

I firmly believe that Europe and the Western nations have a future. What we need, however, is the courage to

- enhance and further develop our democratic systems. In Europe, too, corruptive elites are at work. And we have a problem of governance, which means we have too many prevention rights and too few enabling rights.
- What we want is a new inter-generation contract which does not burden Europe's young people with outsized national debts.
- We need to regain the freedom that debtors have left to the financial markets through improved economic competitiveness.
- We must overcome the split in our society.

- We must establish a knowledge society with man at the centre, with his abilities and skills, his dreams and wishes.

Indeed, there are problems.

And yes, problems are part of our human existence.

But they can be solved.

If we really want it, Europe's and our best days are yet to come.

And the Maastricht School of Management can give its expertise to find solutions for the future.

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