

CHAPTER 20

BILDUNG and Innovation — a *contradictio in adjecto* for today's university education in a globalized world?

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TWO PERSPECTIVES ON THE THEME

I do think that the terms *Bildung* and innovation can be contradictory, at least they express the inner conflict felt by a person, who is responsible for change in an institution — the university — and therefore for innovation and, at the same time, knows how frequently and in what manner this task has been deliberated in the history of the philosophy of education.

To begin with, we must be clear about the three terms that were given to me and which are mentioned in the title of my talk: Globalization, Innovation and *Bildung*.

CLARIFICATION OF TERMS

Globalization

Globalization refers to the interaction of four macrostructural developments, the effects of which have increased exponentially since the 1980s¹.

1 These notes on globalization are closely based on our presentation in the 2008 year book of the Action Committee for Education (Aktionsrat Bildung): vbw — Vereinigung der Bayerischen Wirtschaft e.V. (Ed.): Blossfeld, H.-P., Bos, W., Lenzen, D. (Chair), Müller-Böling, D., Prenzel, M., Wößmann, L.: Bildungsrisiken und -chancen im Globalisierungsprozess. (Wiesbaden 2008.)

- The increasing internationalization of the financial, product and labour markets. This development leads to new forms of division of labour across country boundaries with related employee requirements.
- The internationalization of markets implies stronger competition between countries, all competing to be the most favoured locations. This competitive development leads to extended forms of liberalization, privatization and deregulation, the educational sectors included. For an individual, this development implies above all stronger competitive pressures. Competitors in the labour market are no longer people with the same qualification in the same country, but all equally qualified citizens in all countries of the world.
- The globalization of markets is facilitated and indeed in some cases made possible by the erratic progress in new information and communication technology. The resulting opportunities imply, at the same time, the requirement that individuals are able to cope with and exploit these new technologies.
- The globalization of markets also implies a higher economic instability and vulnerability for the countries where businesses are located. The most extreme expression of this can be found in the current financial crisis, the worldwide effects of which are not yet predictable. Nevertheless, in terms of structure, the likely results are an increase in aggression and social adversity and an accelerated loss of values.

These four developments have had empirically observable consequences in the international comparison of educational systems. This phenomenon is referred to as “mass education” (cf. Meyer, Ramirez & Soysal 1992). The rapidly emerging commonalities between educational systems are remarkable, for instance: state educational administration, professional training of teaching staff and quality control procedures. High cost educational programs in the university sector, such as “Erasmus” for the international exchange of students and teaching staff, “Leonardo da Vinci” for connecting universities and businesses, or “Tempus” for supporting and peripheral measures in the European higher education systems, have led to an accelerated standardization, at least inside Europe, which has culminated in the Bologna Process.

In the light of globalization, the challenges for the development of individuals are to be found in the requirement for certain qualifications and behaviours, for which the university sector is not currently prepared, especially not after the Bologna reforms. These requirements are, *inter alia*, that:

- Young people must learn to replace their heuristic behaviour, that is acting spontaneously according to whatever pops into their head, with rational, strategic action.

- Young people must learn to deal with ambiguities, i.e. both to develop a kind of perceptive filter for apparent uncertainty and to be able to deal with incertitude.
- Young people must learn to think about the future, even when it seems unpredictable.
- Young people must learn to cope with the feeling of not having sufficient information themselves, which results from the plethora of information around them.
- Young people must learn that blind trust in opinions expressed in public spaces, such as experts' opinions, Wikipedia and political promises, should be called into question.
- Young people must find a reasonable balance between keeping options open in the face of growing uncertainties and making sustainable personal decisions, both in the private space of social relationships and in relation to training and occupation.

Universities, therefore, have the task of transforming the tendency to volatility of individual behaviour, and thus the tendency to generate further individual uncertainties, into an ability to exploit uncertainty within the globalization process, as an opportunity to develop an individual biography (or career). This depends on young people learning:

- To act rationally despite uncertainties, i.e. to calculate uncertainty, to weigh up personal actions, to rely on intuition only when it is based on experience, to develop an ability to make personal judgments and to be prepared to make individual decisions.
- Young people need a “stable awareness of instability”. Young people must be aware of all these uncertainties and still attempt to make judgments, to check information themselves, to collate new information and to be prepared to make conscious decisions and to correct them latterly, where necessary.
- The pre-condition for all this is — more than ever before — that young people in the university learn to act and to judge from a firm knowledge base. They need a solid knowledge of circumstances, knowledge of serious sources of information and of advisory institutions, knowledge of how decisions are made in other cultures and knowledge of appropriate strategies for taking decisions.
- Besides knowledge, young people in a university need training to avoid thinking linearly, but instead to act according to objectives and training in how to structure these objectives. They need to be able to analyse their own situation, should be prepared to evaluate their own behaviour continually and to step over their own shame-threshold, which prevents them from discussing their uncertainties and insecurities.

Innovation

I belong to the advisory board of an organization, the German Innovation Indicator, which is run by the Deutsche Telekom Trust and the Federation of German Industries (BDI). (See: www.innovationsindikator.de and www.telekom-stiftung.de/innovationsindikator) The German Institute for Economic Research (DIW Berlin) uses a basis of 180 indicators to calculate annually for us the innovation performance of Germany in comparison with other countries. These are weighted and integrated to produce a complex model. A look at the individual indicators shows that different sub-systems of society must be considered in order to describe the innovative performance of each country: besides the economic system (with components such as funding, market demand, transformation of ideas into products, networks etc.), there is the political system (with components such as regulation and competition), the communication sub-system (with the main components of societal innovation climate, including for instance the innovation-friendly demands of consumers), and above all the education system (with the components research, development and training).

Do we now know what innovation is? When I look at the colourful brochures of innovation propagandists, I see pictures of Google, wind farms and digital cameras. Certainly, these are gigantic drivers of consumption, but what is innovative about them? Windmills existed in antiquity, the search for information can be answered through good old library catalogues and classic cameras such as Hasselblad still cannot be beaten by digital cameras.

No, I see innovation as something quite different, as something often referred to as “thinking outside the box”. Thus the Pythagoras Theorem was an innovation, the concept of Zero, the number Pi, the Theory of Relativity and the discovery of DNA. In the area of the social sciences, the “contrat social” of Rousseau, Adam Smith’s *The Wealth of Nations*, the invention of paper money, the introduction of double entry bookkeeping by Luca Pacioli or the concept of shares developed by the “Oostindische Companie”. Not all, but some of these innovations were developed in universities and there could possibly have been more, if more freedom of thought had been allowed for from the start.

The people who can achieve such things are talented; they discover something before others, conceive of new combinations of old concepts and develop patterns, through which and in which others see nothing, people who are obsessed by their search, according to the formula: 95% perspiration, 5% inspiration.

It is noticeable that when we talk about innovation, we are speaking about only one section of the up and coming university generation, whose requirements we have described in the context of the clarification of the term globalization. The young people, who really will develop these innovations, i.e. scientific breakthroughs, are people with unique intelligence, curiosity and

interest, broad knowledge, optimism and perseverance and the luck to be in a social environment where innovation is appreciated and promoted. It is not easy to describe how such talents can be promoted and supported, as most determinants remain unknown. As well as knowledge, intelligence and perseverance, something else is required, which our universities after Bologna can barely offer, that is: the time to play, the time for day-dreaming and fantasy, the possibility of searching for solutions, the preparedness of the university to respect unusual ideas and not to ridicule them, the determination not to accept authority without question (and a number of further “dos and don’ts”).

Bildung

The tasks of the university as set out in the context of the clarification of the terms “globalization” and “innovation” did not sound as though they could be implemented by a “teaching engineer”. However, that is exactly the misunderstanding of university teaching and learning, which lies at the heart of the Bologna Process and many other tertiary education reforms across the world. It is assumed that the demands of innovation and globalization are categorically new and that they therefore require totally new forms of teaching and learning. We have arrived at the clarification of the term *Bildung*.

The assumption that reality today is fundamentally different from the time when universities were first conceived is false. That is not to say that the same framework of conditions exists now and that everything can carry on as it did at the time of Humboldt.

In 1963 the German sociologist Helmut Schelsky argued, in his famous book *Einsamkeit und Freiheit* (“Solitude and Freedom”), that the obligation of the university was to educate for world citizenship, which was not commonly accepted 45 years ago. He wrote:

Real cosmopolitan citizenship means that an individual in our contemporary situation must connect his personal, spiritual and cultural striving for perfection with the economic, technical, social, political and cultural development of those societies and cultures, which will come together in a unified civilization on the world's horizon. The eradication of cultures, which is connected with this, will not spare our own culture, and to preserve it would mean to stifle future development. Only when we take the word “world” seriously in a totally realistic sense, can we express our educational assignment with the words of Wilhelm von Humboldt, who wrote to his wife on 9th October 1804: Whoever, when he dies, can say: I grasped as much of the world as I could and transformed it into my humanity, has fulfilled his task... In the higher sense of the word, he has lived — and it would be folly to undermine life with a ulterior purpose. (Loose translation from Schelsky, 1963, p. 294.)

With this reference to the classic ideal of the German university, Schelsky reminds his readers — that was already taking place — that the university offers

a chance to deal with the challenge of — what we now call — globalization, even for those who plan to follow a non-scientific career. This is connected to an attitude, to scientific scholarship, which is close to the concept mentioned above, “thinking outside the box”. It is more than the education of talented people, who have innovative abilities — they must also have the attitude of scientific scholarship, dedication and devotion to the object of analysis, cool-headed analysis, the quest for alternative solutions, self-criticism and much more, which leads to the development of key qualifications for coping with life under the conditions of globalization and the expectations of innovation.

Is this expectation at all justified? Has the concept of scientific, university education been proven to be the best form of general education? Was it not scientists, who were trained in top universities — as we would say today — who carried out human experiments on concentration camps victims? Was it not this type of scientist, who invented the atom bomb and mustard gas? And was it not scientists, who, just as today’s economists and business leaders have done, developed optimizing formulae for capital maximization without reflecting losses — this, by the way, as early as in the second half of the 19th century.

These doubts are justified. They are, however, directed not towards the ideal of the classic university, but rather towards how it is implemented. A more careful look at the misuse of scientific knowledge, which occurs daily, shows that it is nothing more than the use of knowledge not *for* a better life, but *against* it. What made this possible was the fact that science was already conceived of as being free from values and judgments in the fundamental texts on the idea of the German university, such as those by Schelling on the absolute definition of science (Schelling, 1956, p. 9). In this definition, which comes from one of the founding texts for the Berlin University from 1803, Schelling attempts to separate knowledge from action, when he criticizes knowledge — and the generation of knowledge in the university — as a medium for action, and action as the unique purpose of knowledge and learning. This attitude played a significant role in the history of the German university. Non-judgmental science opened the way to the use of science for the battles in Verdun and the gas chambers in Auschwitz. However, that did not necessarily have to be the case. One of the most important fathers of the German university, who often stood in the shadows of the name Humboldt, was Fichte, and he saw it quite differently:

One does not study in order to eternally express what has been learnt to the examiner, but to apply it to similar cases in real life in order to transform it into actions. It is not simply to repeat, but to create something other from and with it; thus the final purpose is not knowledge, but rather the art of utilizing knowledge. This act of utilizing scientific knowledge in life requires another component, which is foreign to academia, namely an insight into life and the exercising of judgment in the application of science to life... (Loose translation from Fichte, 1910, p. 6f.)

In 1807, no lesser person than Fichte himself argued — as would educational-psychologists later — that only that which is learnt through doing and with a “clear and free conscience” is well learnt. He required the university to train a competency, which at the end of the 20th and start of the 21st century has often been prized as a new discovery: attention should be drawn not primarily to discrete knowledge, but to the development of the capacity to learn (*ibid*, p. 7), i.e. learning how to learn. Fichte called this competency “understanding” and derived from that the purpose of a university; that is as “a school for the art of the scientific use of understanding” (*ibid*, p. 8). Scientific learning, therefore, had a significant role in the university, because Fichte trusted the university to develop understanding.

But that is not sufficient. Wilhelm von Humboldt goes one step further when he relies on science not only to educate for understanding, but also for humanity, in other words not to use understanding in just any way, but in one that will achieve the higher development of the whole of humankind. It is not just any science that can achieve that, according to Humboldt, but only one that is connected with studies in classical philology. Humboldt was influenced by the concept that the idea of a humanitarian society, as propagated by Greek philosophy, was inseparably linked to the study of the Greek language. Thus on the basis of his specific linguistic theory, he saw the relationship in language between *ergon* and *energia* as influencing both mentality and behaviour. If young people, therefore, were to learn Greek in the Gymnasium, then they would also be learning humanity. In this sense, the university is not only an organization for the development of understanding, but also one in which, in the humanitarian sense of the term, reason is developed and represented.

These complicated idealistic constructions are based on a theological source. This is the concept that, by God’s creative act, all men and women are intrinsically good and it is the task of education to bring out and develop this intrinsic goodness of humanity. The process is referred to in the educational, philosophical and daily German language as *Bildung*. The term contains the idea that the image of God, the “*imago dei*”, is reflected in mankind in such a way that it is possible for him or her to act according to God’s example. To educate someone through *Bildung* is, therefore, to orientate him or her towards God’s image and example. (The German term *Bildung* stems from the German word for image, which is *Bild*.)

Two further elements belong to this educational philosophy. Firstly, the idea that the education of an individual leads to a positive development of humanity in general, i.e. that this type of “higher” education is possible. This means that the possibility of the development of humanity is dependent on the university. The second element consists of the understanding that *Bildung* is not a process that can be implemented by teachers; in other words it is not possible to impose education in the sense of *Bildung* on someone. Rather

Bildung is self-reflective. This agrees with an idea that has also been proven empirically, which says that the “learning consciousness” — as we would formulate it in neurological and constructivist terms — constructs its own reality. The understanding, which is developed according to God’s image, is therefore able to educate people towards their self-development and in this way leads to the development of humanity.

For the university, this means, briefly summarized, that the student develops an understanding through inquisitive learning (thus the necessary unity research and teaching), which provides him or her with knowledge that can be applied, on one hand and on the other, a humanitarian competency for judgment, which in turn means that the individual becomes humanitarian in the emphatic sense of the word. The university has, therefore, the greatest possible task: it is responsible for the further development of a humanitarian world through the acquisition of knowledge and humanitarian behaviour through inquisitive, research-driven learning.

The fathers of the classic German university, who found so many followers across the whole world, were not above describing universities in all their detail, including the behaviour expected of professors, in order for a university to fulfil all its tasks. Those who read it today are surprised at the high level of observation and the breadth of knowledge and thoughts of the great philosophers of 200 years ago, whose ideas are only just beginning to be empirically verified. On the basis of this description, a methodological arsenal and a curriculum were developed for the university, which should be considered under the term “research-driven learning”, which often sounds hollow these days, but continues to be required of the university and rightly so. This inquisitive learning should be carried out in “solitude and freedom”, two further conditions for a functioning university. Freedom means freedom from the state, which the Prussian government actually granted to the newly founded universities, and “solitude”, which, for Humboldt, did not refer to the situation of the student or the teacher, who researches, in fact, without communicating with others. For him, by contrast it referred to a learned society of students and teachers, for whom solitude lies in the individual encounter with the truth. The solitude therefore describes something of a superior nature. The individual stands before truth in its totality, in the immense unknown, and in this situation he or she develops his or her individuality.

THE LIMITS OF THE CLASSICAL UNIVERSITY IDEAL

After this interim conclusion, which followed a clarification of the terms globalization, innovation and *Bildung*, we now have a brief idea of the classic university, which, since it was implemented in enlightened Prussia, made science so great in Germany and elsewhere. When we reflect on these deliberations,

we should remember that an ignorant shaking of heads over such complex and demanding ideas was more frequent than the cry of “Eureka” followed by the statement: “That is exactly what we must do.”

We must ask ourselves why this idea of the university is no longer considered relevant after 200 years, and how, as a result, an E.U.-bureaucratic reform such as the Bologna Process could be put in place and be deemed necessary. There are a number of causes that led to this outcome, which I hesitate to call a disaster:

- The freedom granted to academics and students alike was so exhaustive that it was misused as a reason for doing nothing, for plagiarism, fraud and indeed for corruption.
- The solitude has often been generously misunderstood to mean that the academic and his or her students do not have to deal with reality and that science is often practised like the glass-bead game from Hesse. The effects of this are seen not only in Auschwitz.
- The number of people with an intellectual capacity large enough for real self-development through scientific Bildung was always small.
- Both academics and students have a tendency towards social isolation by “holding the stirrups” for a new social class, which has taken the place of the aristocracy and now looks down on the rest of society in disgust, which — however — earns the money that is spent in the universities.
- The methodological development of science tends towards the emergence of a particular logic whereby the next scientific step is orientated not towards societal needs, but towards the next interesting scientific question, even when this question is quite absurd.
- At the end of the 19th century a new direction emerged within German philosophy, called Geisteswissenschaften — Humanities — which was very powerful and defined its relationship to reality in such a way that it is the task of science, not to explain reality or to change it, but only to understand it. This so-called hermeneutic relationship to reality can be seen as the main reason for the failure of the German university in the face of epochal crimes against humanity.

The postulation of an empirical non-judgmental research was not an appropriate means of confronting this development, since value-free insights can always be seen as meaning that no account has to be taken of the consequences of one’s own ideas. It was not until the 1960s and 70s that this empirical-analytical understanding of science began to be heavily criticized and it is only in the last two decades that science has recovered without returning to the previous errors. One can already predict that following the current financial crisis, rational choice theories will find it hard to survive without normative criteria.

Nevertheless, no one is interested in substituting this rationality with a mix of animosity towards religion, technology and innovation and a misunderstood conception of *Bildung*; a concept that satisfies itself with demanding that universities make people into good citizens, Muslims, CO²-avoiders or Greenpeace-donors. This should be rejected not because it is reprehensible, but because it does not work. We know empirically that it is impossible to educate someone in such a way that they take on certain values and act accordingly. Thank God, we should say, thoughts are free, as is the will to follow them. These thoughts do not realize the ideas of the ruling class, when they are impressed against the will of the learners.

Bologna and the future of *Bildung*

One has the impression that the biggest reform initiative for the tertiary sector in wider Europe, the so-called Bologna Process, is making exactly this mistake. I will not bother to analyse the content of all the declarations from Lisbon to Leuven. The result would be too awful. There are few texts in the history of universities worldwide that are as sketchy and empty as that which the politicians have agreed upon for the future of European universities.

They did, however, start out from a correct analysis. The observation that European universities stretching between the Arctic Circle and Gibraltar differ massively in the quality of their provision was correct. The observation that national higher education systems with different study forms and final qualifications make a consolidation of Europe's tertiary sector difficult was correct. The analysis that many universities no longer seem to be interested in carrying out research and teaching for the current needs of an up and coming generation was also correct. And the assumption that the university would not have been able to create a European compatibility all on its own was yet again correct.

If the patient — the European University — was seriously ill, then it needed decisive action. However, every village doctor knows that you can only treat a patient against his will as long as he is unconscious. When he awakes, even the best therapy will not work without his cooperation. The patient must consult the doctor and not the other way around. It would have been correct (and sufficient) — to remain with this metaphor — to have revived the European University from being unconscious. Instead of this, the European politicians have caged the universities in a barred hospital. On the entrance it reads “BA-MA-Ph.D”. I don't want to be misunderstood: there is nothing against harmonizing academic processes worldwide and there is nothing wrong with basing these reforms on American qualifications, based on which 20 of the 4,800 American universities are internationally respected as successful. The problem, rather, is the detailed regulation of university pro-

cesses. Simply to use the word “workload” in connection with learning and the reduction of the weekly learning “burden” to 40 hours, in order to then allocate the successful completion of these “working hours” as a monthly wage in the form of credits, is such a perversion of the idea of the university that it is no surprise when professors and students act like miners, who — in their world justifiably — fight and strike against every hour of extra work and for every extra cent of higher wages.

The idea that it is possible to determine in Brussels the relationship between occupations and university study programs is both stupid and ignorant. When one sees what individual universities have done using this prescription, one applauds the slyness of reasoning, which allows such codswallop to be undermined.

In many universities special curricula, which teach teamwork, presentation techniques, equality for women and Mandarin for beginners, have been developed alongside subject-focused courses. With the exception of the language courses, such initiatives are completely nonsensical if they are separated from the subject studies and are orientated towards a reality about which neither professors nor students have any clue. Presentation techniques are learnt, in fact, through making presentations, teamwork, through working together on scientific problems — Humboldt knew that better — and whoever treats women badly deserves a clip around the ear and not a curriculum.

If we can assume that both those who act in the political sphere and bureaucrats are not entirely stupid and wicked, but do honestly want to reduce study duration, minimize the costs of tertiary education and teach a solid, school-like curriculum, then without a doubt they have achieved what they set out to do. *Causa finita.*

In fact, they have led to the emergence of a new type of university, at least in Central Europe, which has little to do with the classic university. In this type of university, one can train chemists, lawyers, doctors and translators. These people will do their job and be well-behaved and — to return to our three terms — will find their place in the globalized world. They will take part in the competitive labour market and will find a job between the North Cape and Cape Town. They will invent new windmills and energy-saving lights and make colourful boxes for pills and they will prohibit investment banking. They will do what is expected of them and have no crazy ideas. They will not create new worlds or paradigms, will not make quantum leaps and will not contribute to the enlightenment of humanity. In brief: they will not be *learned*.

And where will that other place be, where research is learnt in solitude and freedom? In the university, where else? To make this possible, we will have to take institutional decisions. We have the following alternatives:

We can create a new type of university, worthy of its name, and leave the current “universities” to become vocational schools.

We can differentiate the institution using the name “university” internally, so that academic-vocational training is offered in a separate department to the one for higher academic *Bildung*.

We can argue — because we know better — that courses in a university, including those for vets and nursery nurses, should always contain a minimum of academic scholarship, a space to search and be inquisitive with at least the appearance of solitude and freedom, even when we know that only very seldom does a precious orchid grow in this tropical forest. However: we know that these orchids require shade, which is provided by the forest, so that they do not get burnt in the sun of the practical demands of daily life.

If we so desire — and I think we should — the real Bologna Reform is still before us. It will be a reform in the attitude of students, but particularly of teachers, who are driven by the insight that being a scientist is not just any job, but usually a badly paid but privileged job, in which one is able to decide what to research and to teach and where one can be independent of the political steering of research contracts. If this is what we want, we must expect bitter battles, in which scientific revolutionaries are set against politicians who claim to represent the will of the people, those they normally ignore until the next election and for whom the details of science are irrelevant. But only until science is finally recognized as being dedicated to mankind and the idea of a better life, only when evaluations are orientated towards the interests of those who continue to provide the university with the privileges which it has enjoyed, in different forms, for over 1,000 years.

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