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Knowledge Society— or Contemporary Capitalism’s Fanciest Dress

Abstract: Scholars of social science have increasingly been describing advanced capitalist societies as knowledge societies, based on a series of key assumptions about ‘post-industrialism’. My contribution challenges this new ‘conventional wisdom’ (John K. Galbraith) on several points. I first argue that it veils the ‘dark sides’ of capitalism, i.e. worker alienation, class relationships and class struggle. I then show how knowledge society experts all too often contribute to the individualization of social problems. Further on, I challenge the assumption according to which contemporary human resources management creates a new kind of work relationship based on mutual respect, objectivity and justice. Finally, I try to understand the very success of the new ‘conventional wisdom’. The relative autonomy of science and education might be the most important reason why so many social science scholars as well as ordinary people today believe they are living in a knowledge society.

0. Introduction

Since the late 1980s scholars of social science, politics and mass media have increasingly been describing advanced capitalist societies as knowledge societies. Despite the variety of theoretical concepts and approaches used in this debate, most authors agree on a series of key assumptions. These assumptions constitute the core of a new ‘conventional wisdom’—a term used by economist John Kenneth Galbraith ([1958]1998) in order to describe ideas accepted as true by the public and experts, although they are largely unexamined and may be re-evaluated upon further examination.

These assumptions may be summarized as follows. The economy has become more and more virtual (or immaterial) over time and the traditional factors of production (capital, labour, and natural resources) have lost their previous importance. These factors have been displaced by a new crucial one, namely knowledge. As a result of this shift, industrial work is withering away and is being replaced, for a majority of the working population, by knowledge work. This kind of work is far more interesting and exciting, and bears less health risks and alienation than traditional industrial work. Most of all, in sharp difference with former regimes of control inspired by Taylorism, knowledge work requires management to deal more respectfully with employees. As regards social mobi-

lity, knowledge society offers new opportunities to everyone, because access to knowledge, i.e. investment in human capital by the individual has become far more important than belonging to a specific social class. Even political power is shaken by the growing influence of knowledge as more and more people are able to challenge those in power and to articulate their own perspective on political problems.

But do such assumptions give us an accurate description of contemporary societies and social realities? The answer to this question depends very much on whom and what this new point of view is supposed to be useful for. For persons committed to critically analyzing social reality and fighting social inequality and the domination of a minority over the majority, all the assumptions mentioned above seem too good to be true. This contribution challenges and deconstructs this new conventional wisdom on several points. After the introduction (*section 0*), I first argue that this way of looking at society veils the ‘dark sides’ of capitalism, i.e. worker alienation, class relationships and class struggle, as well as the ongoing waste of natural resources and environmental destruction. Social scientists have long tried to get rid of these ‘ghosts of the past’ by inventing new concepts aimed at (un)naming capitalist societal formations (*section 1*). Further on, I show how knowledge society experts contribute to the individualization of social problems by claiming that individuals now considered as ‘human capitalists’ must always be held responsible for their own situation. According to this view, state interventions must be limited to setting up equal starting conditions for all and ‘activating’ entrepreneurial spirit among those who are lacking it (*section 2*). I then discuss the assumption according to which contemporary human resources management creates a new kind of work relationship based on mutual respect, objectivity and justice with regard to individual performance. This part uses the results of an inquiry of working conditions at *Novartis*, a leading Swiss pharmaceutical corporation (*section 3*). Finally I argue that the relative autonomy of science and education in capitalist societies might be an important factor in order to understand the success of the new conventional wisdom. In other words, we must try to identify the reasons why so many social science scholars as well as ordinary people believe they are living in a knowledge society. Any such explanation must take into account existing societal structures as well as the class relations that shape the everyday life experience of these persons (*section 4*).

1. Always Look on the Bright Side of Life

Debates about knowledge work and knowledge society are nothing new. Half a century ago management guru Peter F. Drucker (1959) already argued that unionized industrial workers were being displaced by a growing number of knowledge workers, while economist Fritz Machlup (1962) attempted to give some empirical ground to these assumptions by analyzing US workforce statistics. Only two years later, Gary S. Becker (1964) started the debate about human capital, a concept that gave birth to a new academic discipline: education economics. In

continental Europe, several scholars coined similar terms to describe what they believed to be an epochal shift. Jacques Ellul (1954) wrote about the technological society. Helmut Schelsky (1965) argued that class relationships and their ensuing conflictuality were losing their former importance in a new, and emerging, scientific civilization. In France, the debate about the new working class (Mallet 1963) opened the way to the discovery of a post-industrial society (Touraine 1969). Daniel Bell's (1973) *The Coming of Post-industrial Society* summed up this first period of the debate and enabled a wide-spread diffusion of the new concepts.

The authors mentioned above did not limit themselves to describing technological change or the evolution of educational systems. Rather they fashioned a series of assumptions about radical and far-reaching change in the structure and in the functioning of contemporary Western societies. These new concepts were supposed to displace older ones which these authors considered out-dated, because the society to which they referred did no longer exist. Most of all, they did not want to talk about capitalism any more, or even about industrial society. According to them, such concepts belonged to the past and would not permit to grasp the new social realities that were emerging in the wake of World War II. It is true that the term industrial society already marked a departure from classical sociological theories about modern capitalism which had been articulated by Max Weber ([1904]2006), Werner Sombart ([1902]1987) and others. Theodor W. Adorno (1979) has questioned this departure in an opening speech held at the annual meeting of German sociologists in 1968. But for the partisans of the new conventional wisdom, talking about industrial society instead of capitalism did not go far enough, because this concept remained strongly linked to a series of phenomena belonging to the early development of Western European and North American capitalism, namely the central position of industrial workers and unions; Taylorism and worker alienation; dangers for the health of workers; pauperism; and environmental destruction.

Besides the authors mentioned above, many other economists and social scientists have argued for the emergence of a new society since World War II. In the second half of the 20th century, a kind of 'post syndrome' has spread among the social sciences (Gemperle/Streckeisen 2007, 14–23). Most scholars claim that things have changed, that we are living in a society that differs sharply from the past. Hence the inflationary use of the prefix 'post'. Post-Industrialism, which often refers (tacitly or explicitly) to post-capitalism, sums up the basic assumptions of the new conventional wisdom. In the first period of the debate, most authors predicted a rather bright future. Life conditions would get better, life would be more interesting for most people, conflicts and dangers of the past would wither away. Since the 1980s, a more sceptical view has begun to complement this optimistic outlook. Several authors stress the dangers and risks linked to the use of ever more sophisticated technologies and to the uncontrolled spread of information and knowledge. Ulrich Beck's (1986) *Risk Society* is paradigmatic for this way of saying good-bye to the past while predicting an uncertain future. Together with Anthony Giddens, Beck has articulated the idea that reflexivi-

ty has become the main characteristic of contemporary society, thus humanity enters second modernity (Beck/Giddens/Lash 1996).

The theory of reflexive modernity bears a striking resemblance to Peter F. Drucker's (1993) ideas about the post-capitalist society. According to this 'founding father' of contemporary management, there have been three revolutions in the modern history of humanity based on radical changes in the application of knowledge. During the "industrial revolution", knowledge was applied to natural resources and to machines, thus early industry developed. Later on, at the beginning of the 20th century, the "productivity revolution" was based on the application of knowledge to factory work. Frederick W. Taylor was the mastermind of this second revolution, which according to Drucker has defeated Marxism and integrated workers into a bourgeois way of life. After World War II came the "management revolution" featuring Drucker himself both as a pioneer and protagonist. This third revolution is based on the application of knowledge to knowledge. Managers deploy their own knowledge in order to develop peaceful cooperation with employees, or rather, with knowledge workers. The "management revolution" ushers a post-capitalist society, as capitalist factors of production (capital, labour, and natural resources) progressively lose their previous importance. On the shop floor, hierarchical command structures, power relationships, and struggles about working conditions are displaced by a new interdependence between "associates". If Drucker represents an optimistic stance about these changes, whereas Giddens and Beck develop a rather sceptical point of view, all three share the argument of reflexivity (that is, knowledge applied to knowledge), which is central to the new conventional wisdom.

Of course, there is nothing wrong with trying to understand what is new and what has changed in society. Philosophers, sociologists and economists have consistently done so and will have to do so in the future. Societal formations are neither fixed for eternity, nor stable for a long time. Social realities are always changing and we have to account for these changes in order to understand the structure and functioning of society. Nor is there any doubt that radical changes in production and communication technologies as well as important shifts in educational systems have taken place since World War II. Yet what is at stake in the debate about knowledge society is how we interpret these changes in order to chart the outlines of a new society. We must find ways to convincingly articulate the old and the new. Karl Marx and Friedrich Engels ([1848]1969, 465) gave us a useful hint when they observed that in a capitalist society means of production are permanently revolutionized and existing social relations are continuously shattered and unsettled. If this is true, radical change in many areas can be seen as both reproducing a pre-existing social order as well as announcing a new society.

Let me illustrate this problem with an example. In his impressive study about the information age, Manuel Castells (1996–8) develops a critical stance towards the complex dynamics of an increasingly global capitalism. At the same time, he endorses part of the new conventional wisdom by opposing "informationalism" and "industrialism". In his view, the information age emerges as a result of the transition from the former age of industrialism. But what if the industrialization

of information and knowledge was one of the most important characteristics of contemporary capitalism? Castells' post-industrialist assumptions prevent him from exploring this potentially fruitful hypothesis. In this context, we must not understand the term 'industry' in a narrow and commonplace sense, that is, only in the sense of mass production of physically tangible things (Hack 1994). Following Karl Marx ([1867]1968, 391ff.), we can use this term as a concept with a far broader meaning, i.e. as capitalist production on a large scale, organized by big corporations, inducing not only formal, but real submission of the workforce and permanent rationalization of the production process. After all, finance or mass media are two of the most important industries in contemporary economies, and the way these industries are operating does not indicate any departure from capitalism at all. Concerning this matter, it is useful to remember what Max Horkheimer and Theodor Adorno (1969) wrote about *Kulturindustrie*. Today industrial companies encompass huge research & development departments, where 'knowledge work' is being subjected to capitalist rationalization in order to maximize profits. Instead of blindly accepting post-industrialism, it might prove more useful for social scientists to analyze such dynamics of capitalist production and appropriation of knowledge.

From a sociological point of view, we can identify a second key limit of the concept of the knowledge society. Concepts aimed at describing society as a whole should be used carefully and sparingly, in order to seize the very nature of social relations in this societal formation. Thus, even if Karl Marx himself hardly used the word 'capitalism' in his writings, we can talk of capitalist society in reference to his understanding of capital as a social relationship, as a process and as a fetish dominating not only economic production but social life more generally (Marx [1867]1968). Likewise we can use the concept of modern capitalism as developed by Werner Sombart ([1902]1987) or Max Weber ([1904]2006): a society penetrated by a particular 'spirit' that makes people think about wage labour not as a means to safeguard their subsistence, but as an end in itself. But there is not much sociological benefit resulting from the use of the term knowledge to describe contemporary society. Knowledge has played an important role in every society and continues to do so. But we must analyze the social relations and the processes determining the production, the distribution and the appropriation of knowledge before we can say something about its meaning in a given society. Otherwise, why not talk of the car society, or the waste society, or the divorce society, or something else instead of the knowledge society? There have never been so many cars, so much industrial waste and so many divorces as nowadays. But as long as we do not seize the qualitative nature of social relations in contemporary society, concepts to describe society as a whole are not useful and can be highly misleading.

To conclude this first section, I would like to emphasize that such concepts, describing society as a whole, cannot be proven right or wrong. We can only assess the usefulness of a concept by asking whether its application helps us to understand the functioning of society or not. If we use one concept rather than another, we simultaneously decide to look at certain aspects of social reality instead of others. This means that from a political standpoint such concepts are

neither neutral nor innocent. I criticize here the new conventional wisdom because it overestimates the impact and the meaning of the spread of knowledge by consistently veiling capitalist production processes and power relations knowledge most often remains caught in. The following section of this article will further discuss this issue with regard to education and unemployment, where the new conventional wisdom endangers key sociological findings about the functioning of contemporary societies.

2. Help Yourself and God May Help You along the Way

The debate about the knowledge society is not purely academic or theoretical. Governments often use this term in order to explain and justify political programs such as the Lisbon Strategy (LS), set out by the European Council in March 2000. The LS was and still is supposed to guide the politics of the European Union during the early 21st century. In Lisbon, heads of state claimed to make Europe into “the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010”. In order to achieve these lofty targets, the LS focuses on three points. First of all, governments are urged to strengthen research, innovation, and the knowledge-based sectors of the economy. Second, they should further advance the liberalization of services and ‘reform’ their welfare state. Third, governments should promote labour market flexibility as well as entrepreneurial spirit and life-long learning among the working population (Gemperle/Streckeisen 2007, 30–38).

Behind this grandiose rhetoric we can discern a two-pronged strategy which is highly relevant for the debate about knowledge society. On the one hand, the LS aims to initiate or strengthen political developments towards a further industrialization, that is, capitalist rationalization of services, educational systems, information and knowledge. Public services are supposed to be privatized, or at least to adopt private sector management practices. The production of knowledge and information is aimed ever more towards economic competitiveness. On the other hand, the LS defines social problems as resulting from deficient knowledge, education and (occupational) training. In doing so, the LS stresses one of the key assumptions of the new conventional wisdom, that is, that individuals’ situations depend in last resort on how successfully he (or she) has invested in his (or her) human capital. Social problems like unemployment or poverty are seen to result from individual misconduct. Thus, in order to limit unemployment, governments should not create jobs by implementing macro-economic policies. Rather they should provide incentives and sanctions so that the jobless either engage in further training to improve their ‘employability’, or accept jobs they might have turned down before.

Therefore, the LS strongly promotes so-called active or activating labour market policies, a term that echoes the ‘workfare’ policies developed in the US since the 1980s. The aim of these programs is to bring jobless people back to work as rapidly as possible and almost at any price, which often results in employment

with degraded working and pay conditions. If the unemployed are pushed to do further training, it rarely gives them a chance to get a better job than before; rather they are told that, in the knowledge society, more knowledge is required in order to preserve their employability. As sociologist Kurt Wyss (2007) shows, there are three types of workfare policies which can be delineated as neo-liberal, neo-conservative and New Labour. The affinity between workfare policy and knowledge society theory is striking in the case of governments with social-democratic roots. For example, British Premier Tony Blair (1997–2007) and German Chancellor Gerhard Schröder (1998–2005) were enthusiastic promoters of active labour market policies. Not incidentally, second modernity sociologists Anthony Giddens and Ulrich Beck both served as advisers for the British and German governments at the time.

Workfare policies assume that the unemployed are too passive to find a new job unless they are activated. Instead of investing actively in their human capital, they expect to receive help from the state which keeps them in a vicious circle of durable unemployment and social exclusion. According to Wyss (2007, 76ff.), neo-conservatism, neo-liberalism, and New Labour choose different focal points for the implementation of workfare policy. Whereas neo-conservatism highlights the necessity to reduce public assistance benefits in order to keep the unemployed out of a so-called “poverty trap” (Murray 1984), neo-liberalism stresses the individual duty to take any job available. New Labour seems to be more humane when its partisans emphasize the prominence of education and further job training. But in practice the New Labour approach simply compels the unemployed to adapt themselves to the realities and requirements of the labour market. The obligation to apply for jobs even if there are no appropriate ones, to engage in further training even though it is not requested, and to attend supported employment programs although these contribute insidiously to the stigmatization of the unemployed enhances some kind of *Halbbildung* (Adorno 1979) of the jobless, that is, adaptation under pressure, rather than real education and (occupational) training. To sum up, New labour workfare policies require the unemployed to adapt to a flexible labour market by downgrading their own hopes and expectations.

As Wyss (2007, 62ff.) has convincingly pointed out, this is very much in line with the theory of reflexive modernization articulated by Beck and Giddens. The unemployed still have to learn the lessons of reflexivity in order to keep in touch with the market. New Labour politics do not rely on social class any more but stress the responsibility of the individual and the necessity of lifestyle change for all those people who have not yet entered successfully the brave new world of second modernity. This perspective contributes to the individualization of social problems, a key assumption of the new conventional wisdom. In a groundbreaking article Ulrich Beck (1983) held that sociological concepts like social class and estate (*Stand*) had lost their previous importance as social inequality was getting individualized. In the age of the *Risk society* (Beck 1986) a series of egalitarian mechanisms expose every single person regardless of social class to the effects of climate change, genetic engineering or traffic accidents. In a way,

reflexive modernization opens the door to a classless society, there is no need of class struggle to get there!

If the theory of the second modernity fits New Labour politics particularly well, all workfare policy relies primarily upon human capital theory. Gary S. Becker's (1964) *opus magnum* on this topic has strongly influenced theoretical debate in economics and social science until today. Becker opened a new theoretical field by arguing that every aspect of social life could be seen and dealt with as a problem of economics. From that time on, economics began to become the master science which could be applied to all fields of investigation (Foucault 2004, 305ff.). For this achievement Gary S. Becker received the Nobel Prize in 1992. Thanks to him and his followers, not only education, but also culture, leisure, public health, sexuality or family, i.e. phenomena which rather belonged to sociology and/or to humanities before, have entered the field of economics. In the meantime, the concept of human capital has entered sociological debate and is often deployed by sociologists without questioning its basic theoretical and political assumptions. For instance, most of them are not aware that Gary S. Becker was among the founding fathers of American neo-liberalism and a member of the Mont Pélerin Society. His theoretical works are closely linked to a political programme. By using Becker's concepts without being aware of that many sociologists unwittingly participate in the contemporary colonization of sociology by neo-classical economics.

Both the theory of reflexive modernization and human capital theory concur with the new conventional wisdom of knowledge society experts and contribute to the individualization of social problems. The growing influence of these concepts on social scientists endangers one of the most fruitful findings of critical sociology about the functioning of capitalist societies. Since the early 1960s French sociologist Pierre Bourdieu and his colleagues have revealed how social inequality is reproduced by the functioning of a formally egalitarian education system, guided by principles of individual liberty and equal rights and duties for all (Bourdieu 1964; Bourdieu/Passeron 1970). This theory of reproduction still gives powerful insights into how in a 'democratic society' different sorts of capital and power are handed over from one generation to the next in a way that reproduces class relations and social inequality. If Bourdieu and his colleagues are correct, social origin and class are still the most important factors determining access to knowledge and culture in contemporary society, and this process of reproduction mainly relies upon the hidden transmission of cultural capital. The partisans of the new conventional wisdom simply eliminate this problem of reproduction or even turn it upside down, claiming that social position depends on knowledge, that is, on investment in human capital by the individual. In this way they contribute to the legitimization of power and social inequality by invoking a principle of equal opportunities that Bourdieu and others have so convincingly deconstructed.

3. The Brave New World of Human Resources Management

We have seen that there is a theoretical affinity or even a political complicity between knowledge society experts and workfare policies. In this section I will argue that, as regards the description of wage labour in contemporary societies, partisans of the new conventional wisdom all too often echo representations produced by multinational companies without seriously challenging them. Unsurprisingly, companies picture interesting workplaces and enjoyable work relations for both staff management and public relations purposes. Yet social scientists should not mistake these images for reality. By critically investigating workplace realities of the 21st century they could find much empirical evidence that won’t match these shiny images. Social scientists must be attentive to the jobholders who never appear in the spotlight cast by the new conventional wisdom. These ‘forgotten’ jobholders are not a small minority, but rather the majority of the workforce, as fieldwork undertaken at *Novartis*, a leading Swiss pharmaceutical company (Streckeisen 2008a), exemplarily shows.

Let me dwell on this a little bit more in detail. *Novartis* emerged in 1996 from a merger between chemical companies *Sandoz* and *Ciba-Geigy* in Basel. The name of the new multinational company was derived from the Latin *novae artis*, which means ‘new arts’ or ‘new science’. The merger was not only based on a new concept of industrial production, but also stressed a new rhetoric and imagery. *Novartis* was not supposed to represent ‘old chemistry’ but incarnate a leading ‘life sciences company’. Business units that did not fit this concept were either sourced out or sold to other companies. Today only pharmaceuticals and a handful of closely related business segments remain in the mother company. With some 100’000 employees, out of which approximately 10 percent are working in or around Basel, *Novartis* figures among the top ten global pharmaceutical companies. Of course, the company focus on pharmaceuticals was motivated by the fact that this division generated the highest profit rates.

Novartis headquarters are located at the St. Johann industrial site in Basel, where *Sandoz* had its *Stammhaus* since the end of 19th century. In 1996 St. Johann was composed of old and new office buildings, laboratories, and factories. This patchwork resulting from a long industrial history did not fit very well with *Novartis*’ new rhetoric and imagery. Therefore the company leadership decided to build a new ‘Campus of Knowledge and Innovation’ on the same spot. Renowned architect Vittoria M. Lampugnani from the Zurich Federal Institute of Technology (ETHZ) was mandated to draw a master plan of the campus. Two dozen new buildings are currently in construction on the St. Johann site, each of them drawn by an internationally renowned architecture office. Not a single production plant will remain on the new campus. It will consist only of labs and office buildings, surrounded by restaurants, shops, and green spaces, the ensemble forming an enjoyable work environment for ‘knowledge workers’. The new buildings will have open space offices and labs, glass fronts, and transparent walls. The architecture of the site supposedly embodies the new quality of work

relations: transparency, communication and interdependence of all employees instead of hierarchical relations, control regimes and worker alienation.

On the *Novartis* website we can find a rubric entitled *Novartis People*. This page lists portraits of company employees. Most of them smile, all of them look happy, and they tell us how exciting it is to work for this multinational company. Most of them are either leading managers or scientists. But where are the others? Where are the clerks, the lab technicians, or the factory workers? In the imagery of *Novartis*, they do not exist any more. And all too often knowledge society experts proceed more or less the same way. If factories are removed from the campus they are out of sight for the apologues of the new conventional wisdom. They do not ask where the displaced production processes are located now. In the case of *Novartis*, factories are relocated at the Schweizerhalle compound on Basel outskirts, and at other regional sites. Factories and workers do not simply disappear. But social scientists must look for them in order to find them, because companies do not place them in our direct line of view. The same issue arises with regard to research and development (R&D). If we consider that the majority of the workforce in new lab buildings does not consist of scientists, then what does the daily routine of a lab technician behind the glass fronts look like? Does it bear any similarity to the exciting imagery of the knowledge society?

My findings from an explorative inquiry of R&D working conditions at *Novartis* Basel present quite a different picture: today the factory literally enters the labs (Streckeisen 2008b). Transformations of R&D during the last two decades are reminiscent of former transformations in direct industrial production. Automation has rapidly gained ground and now strongly affects the daily work life of most lab technicians. Formerly existing centralized research departments for basic research have completely disappeared. Nowadays every research activity is directly aimed at potentially profitable market opportunities. Accordingly employees are confronted with very tight time constraints. They do not have any time left in order to explore something on their own or to fiddle about something anymore. Most labs are strongly specialized, so lab technicians carry out the same type of mostly automated tests all the time. Routine jobs and narrow job profiles figure prominently. In pharmaceutical development labs, where the data necessary for market access is produced, employees must obey tightly defined work prescriptions, known as standard operating procedures (SOP). Data storage and data control are very important in this field. These processes become increasingly automated, with software programs monitoring each step done by lab technicians.

Meanwhile thirty kilometres away, at *Novartis*' biggest European pharmaceutical production site where 1'500 persons are employed, management implements a new paradigm of personal organization called Lean POO (*lean production; process oriented organization*) (Streckeisen 2008a, 193ff.). Until then, workers had been subjected to narrow work prescriptions and control by supervisors. Now, they are supposed to assume responsibility for the production process, to fix technical disruptions themselves and to find solutions to problems as they come. The former seven hierarchical grades between ordinary workers and management have been displaced by one single grade whose holders are not even supposed to

behave as foremen vis-à-vis the other workers. Formerly designated as a ‘team leader’ this grade is now called ‘coordinator’. But the very tight system of work prescriptions remains in place, and work is still done almost exclusively by unskilled workers. Management sees no reason to change this configuration. The ‘responsible workers’ enjoy neither compensation upgrades nor do they get any comprehensive further training. As the leading project manager explained to me, what counts is not so much education but the proper attitude. Moreover, the new personal organization is aimed above all at producing an increase in productivity. Workers are strongly pressed for time as all production processes must now be run just-in-time.

These present-day situations of lab technicians and factory workers at *Novartis* have a lot in common. In both cases daily working activities are not directly controlled by any supervisor. In the language of human resources management, employees and workers are supposed to work independently and to be ‘empowered’, i.e. able to find a solution to any problem that comes along the way and to develop and communicate their own ideas about improving working processes, and so on. In the case of lab technicians, this demand for independence is not new; in the case of the workers it is. But in labs as well as in the production plant, the conditions framing the working process are so restricting and powerfully weighing on every single work activity that this independence can’t be seriously considered as ‘freedom’. Almost the same can be said regarding ‘job variation’ or the possibility for employees to be ‘creative’ or to shape their own working conditions and processes. They are formally ‘independent’ and ‘autonomous’ in the language of human resources management; but in reality they act in a corset defined by work prescriptions, just-in-time arrangements, rigorous time constraints, automated processes and sophisticated control software.

This brief description underscores that we can’t rely on images produced by human resources managers and multinational companies in order to grasp changing workplace realities. As Harald Wolf (1999) shows, the language of human resources management always oscillates between emphasizing technical efficiency and independence or ‘empowerment’ of employees. This oscillation can be explained by the very nature of work under capitalist conditions, which is both autonomous and heteronomous. The first historic layout of the ‘Scientific Organization of Work’ was formulated by Frederick W. Taylor. It was unilaterally aimed at the improvement of the technical efficiency of production. But already in the 1930s Harvard Business School professor Elton Mayo and his collabourators stressed the importance of social relations and communication for the improvement of work processes. After World War II the efficiency-orientation experienced a new heyday, but since the 1990s human resources management has again turned to a language of independence and empowerment (Boltanski/Chiapello 2003).

This is not so say that such inflections are only pure rhetoric. They have always expressed management attempts to change something in the work process. But we need empirical investigation in order to grasp what really changes. Any serious inquiry may challenge the assumption that formally autonomous work always bears less alienation than supervised work. After all, alienation results

from the compelled subjugation of human faculties, needs, and biographies to the requirements of capital consuming abstract labour, because human beings in capitalist societies are caught in an overall societal framework they cannot escape from. On the one hand, the more jobholders are ‘independent’, the more capital aims at the subjugation of their personality as a whole, and the more employees may think about themselves as a human capital. On the other hand, even when work processes seem to be completely controlled and supervised there is still autonomous activity, because workers develop resistance in order to ‘stay alive’ (physically and mentally), and all production would break down if jobholders did nothing else than execute orders.

Instead of debating about ‘the end of Taylorism’, it might therefore be more fruitful for social scientists to stress historical continuities and mutations in the ‘Scientific Organization of Labour’. Just as Frederick W. Taylor at the beginning of 20th century, contemporary human resources management aims to give scientific foundations to capitalist work relations, that is, to depoliticize them and give them an appearance of objectivity and neutrality. It is easy to see that the new conventional wisdom of the knowledge society provides management with many concepts and ideas that can serve this purpose. In the end, we see that the whole argument goes in circles. Knowledge society experts produce the theoretical concepts human resources managers work with, and multinational companies produce workplace representations echoed by social scientists who mistake them for reality in order to validate their own theory.

4. Private Appropriation of Knowledge and the Racism of Intelligence

It is not enough to criticize fashionable concepts like that one of the knowledge society. We must try to understand the success of trendy ideas, i.e. why so many social science scholars and even ordinary people endorse and disseminate them. If the production of ideas is the “language of real life” (Marx/Engels 1978, 26) we must think about the societal conditions that favour the divulgation of certain ideas rather than others. In this last section I will argue that the relative autonomy of science and education in modern capitalist societies might be an important factor in understanding the success of the new conventional wisdom. It gives ordinary people and social scientists alike many reasons in their everyday life experience to think that it is knowledge that holds social relations together, makes the economy work and determines whether people are successful or not in social and economic life. Yet a critical analysis is able to demonstrate that these assumptions consistently mask the real functioning of social production and the reproduction of social inequality.

In capitalist societies education and science have become fields of their own, i.e. social areas with specific rules and functionality. Scientists have gradually emancipated from religious and political power in the course of centuries. From the 19th century onwards the scientific division of labour dramatically advanced and gave birth to a multitude of relatively autonomous fields in humanities,

natural sciences, and social sciences. Meanwhile, nation states developed mandatory and universal public education systems. For centuries legitimate education and culture were supposed to be limited to the members of the ruling classes and their cultural servants. Now all citizens are to be educated, so that they are able to participate in the political community and to contribute to the economic performance of the country. So the question arises whether education and science currently dominate the functioning of society. Have they displaced the domination of social production and everyday life by capitalism? That's not what happened. Owing to their relative autonomy, science and education effectively supply capitalist production processes with 'dead knowledge', i.e. production and communication technology, and 'living knowledge', i.e. manpower (working capacity), and contribute to the reproduction of an overall social order, i.e. the system of capitalist class relations.

Karl Marx ([1867]1968, 391ff.) has already described the tremendous technological change induced by the transformation of the means of production in capital. That is, when former handicraft production is revolutionized in order to become capitalist production. In the big industry the small and independent tools of the craftsmen are gradually displaced by systems of automated machinery. The author of *Capital* held that science was to become the single most important force of production in capitalist society, and that capitalist production more and more relied on scientific findings and proceedings. As long as the evolution of tools and machines remained embedded in (handicraft) production technological change remained far more limited and did not proceed with great leaps forward and with the pace characteristic of later 'scientific revolutions' in relatively autonomous fields. This does not mean that science now evolves independently from the domain of social production. On the contrary, the history of modern science shows that ever more academic disciplines, from chemistry to engineering or economics and management, have become crucial forces of production for capital. Scientific work is very often aimed towards application in the economic realm. David F. Noble (1986) gives an instructive example of this kind of interdependence with his inquiry on the genesis and industrial application of numerical control technology in the US.

So if science needs a certain degree of liberty in order to create findings and proceedings that are fruitful and operant for capitalist production, this autonomy always remains limited. We must think of it as 'relative autonomy' (Bourdieu 1993a). This is not only true of the R&D departments of multinational corporations, but also of public or semi-public research. Today in the age of corporate-led globalization even public research is under increasing political pressure to be directly aimed at improving the 'competitiveness of the economy'. In order to be fully exploitable for capitalist production, scientific findings and proceedings are privatized, that is, transformed into 'intellectual property'. Governments have negotiated a multilateral agreement on intellectual property rights at the World Trade Organization in order to protect the monopolistic use of 'dead knowledge' by multinational companies all around the world. For instance, Indian and Brazilian pharmaceutical companies are not permitted to produce patent-protected

drugs even if the tenant of the patent does not produce them for the Indian and the Brazilian markets.

Therefore the private appropriation of knowledge inhibits the free circulation and public use of scientific findings at the very moment when—thanks to new communication technologies and the internet—open and universal access to information and knowledge are easier to realize than ever before. Even access to the treasures of the public libraries might end up to be privatized as *Google* makes them accessible online following a deal with the international associations of authors and editors that still has to be accepted by US tribunals. As Robert Darnton (2009), director of Harvard Library, puts it, this deal is good news as massive digitalization potentially allows universal access to these cultural riches. But the bad news is that access will depend on a private firm that might decide which books are digitalized and under which price and technological conditions they are available. Unfortunately, state authorities have not developed a public program in order to digitalize these documents of immense cultural value before *Google* came.

But the system of capitalist production does not consume only ‘dead knowledge’; it cannot operate without the use of ‘living knowledge’, that is, the exploitation of the capacities and the skills of numberless jobholders. The rise of modern science from the 19th century onwards also gave birth to what Michel Foucault (2004) has called biopolitics. Academic disciplines like medical science, psychology, educational science or sociology were used by governments in order to make people able and willing to work in capitalist production. Biopolitics favours the development of individual subjectivity in line with a prevailing style of government, be it at the level of a whole state, a business company or another social institution (prison, school, clinic, and so on). National public education systems were and still are of paramount importance for capitalist government. Schools and universities are under pressure to supply the economy with the skills needed at the moment. This demand can never fully be met because skills requirements change all the time, and pupils and students can impossibly learn in the classroom everything they need to know on the shop floor or in the office (Alaluf 1986). Above all, this permanent demand to match skills requirements serves as a mechanism to limit the relative autonomy of the education system vis-à-vis capitalist production.

Education systems are also a centrepiece of cultural and political stability in contemporary capitalist societies. Maintaining an existing social order, that is, to reproduce social inequality and class relations, is as crucial for the functioning of capitalism as the provision of ‘living knowledge’ to the economy. In modern societies supposedly based on liberty, equality, and democracy, the transmission of power and wealth between generations is consistently veiled by meritocratic imagery and rhetoric which appears plausible to both members of the ruling classes and ordinary people. No other social institution embodies so effectively the illusion of equal opportunities as public education. The formally equal treatment of all pupils regardless of social origin and class masks the hidden transmission of cultural capital (Bourdieu 1964; Bourdieu/Passeron 1970). The educational expansion of the last decades did not fundamentally change these mechanisms of

reproduction; rather it has shifted its basic parameters up the ladder and contributed to the seemingly paradoxical situation of growing unemployment among persons with university degrees. Nevertheless current reproduction strategies of ruling class families rely to a great extent upon prestigious diploma, as Bourdieu (2004) has argued for the case of France.

Given the paramount importance of the commodification of ‘dead knowledge’ for the process of capitalist production and of the educational meritocracy for the reproduction of capitalist class relations it comes as no surprise that knowledge seems to be the supporting pillar of the whole social fabric of contemporary societies. Most of all, persons vested with more cultural than economic capital, for instance teachers, journalists, artists or social science scholars, are prone to believe in the illusion of equal opportunities. Quite often they are convinced to be more successful than members of dominated classes thanks to learning and intelligence; at the same time they tend to disapprove of persons with more economic than cultural capital, like managers, business consultants or entrepreneurs, who seem to be in a more influential social position in spite of deficient culture and knowledge. Probably the new conventional wisdom of the knowledge society has its main bastions among these champions of cultural capital who plainly endorse what Pierre Bourdieu (1993b) has called the “racism of intelligence”, a theory about social life that explains social inequality by intelligence. In this way they contribute to and legitimize the social depreciation of dominated and alternative forms of culture without intending to do so. Dazzled by the lofty rhetoric of meritocracy, they all too often mistake this very depreciation itself for proof of the widespread lack of culture and intelligence among the dominated classes.

5. Epilogue

I have challenged the overoptimistic outlook of contemporary societies charted by authors who claim the advent of a knowledge society. My argument should not be understood as expressing disdain or neglect with regard to the paramount importance of education and knowledge for the functioning of contemporary and future society. A society in which ideas circulate freely, and where a convincing argument counts more than profit and power might be possible. But claiming that we are already ‘living in the best of all possible worlds’ is not helpful in order to strive for this beautiful goal. As critical thinkers and scholars we should rather dedicate our work to a double mission. First of all, we can try to show that the assertion according to which ideas and knowledge, not power and capital, command contemporary society results from a widespread illusion among intellectuals about themselves and about their role in society. Second, and not less important, we ought to take part in the political struggles against the industrialization and the commodification of science and culture. If we do so, whatever really looks like a knowledge society might come closer to our eyes than ever before.

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