

# The Rise of the Entrepreneurial University: A Heritage of the Enlightenment?

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## The Coming into Being of an Entrepreneurial University

In 1961, a third Technical University, the University of Twente (UT) was established on a country estate on the eastern side of the Netherlands. The estate made it possible, for the first time, that a Dutch university was modeled on the Anglo-Saxon example of the campus university. Students and teachers could live and work in pleasant isolation on the campus so as to create a study community. The mission of the university, the academic education of students, was supposed to flourish under these conditions. The founders did not want complete isolation from society and started therefore a double-core study program. Students had to study society-orientated subjects as well as technological subjects. Nevertheless, the hubbub of society was kept at a distance: cars and buses were prohibited on the campus (vehicles didn't fit in with the ideal of an independent science community). The material

environment was also used to stress the autonomy of science.

After a period of barely twenty years, Twente has started a transformation into a new university: an *entrepreneurial university* (which is also the official slogan of Twente). The 'dynamic environment' is now greeted with open arms: business people, buses and cars frequently visit the campus, and a science park is settled close by. The university states that it wants "to bring forth graduates who have the skill to acquire know-how, who can be deployed rapidly and flexibly wherever the need arises, and who feel home in a tempestuous society." (UT, 1995: 6.) Most students and teachers now live outside the campus. The administration of the University follows no longer the ideal of an autonomous scientific community. Fund raising and partnerships with industry are important points in the policy. Academic education now occupies a more modest place in the university. Students are expected to see their study as an invest-

ment – the UT states that it guarantees students a degree and a good job. And it has also started the use of marketing and management techniques together with a corporate style of running.

Even if the UT was the only Dutch university that had opted consciously for the strategy and slogan of *the entrepreneurial university*, the transformation of the UT is not an isolated instance. Many Dutch universities have made a shift toward an entrepreneurial university. Every university has strengthened its contacts with business. Marketing techniques are used for the enrollment of new students, which resulted in large publicity campaigns. Administration also developed an entrepreneurial style of management. Since the academic year 1997-1998, universities are governed by a new law (MUB), which has been developed according to a business model; decision-making should take place on the same way as in commerce. (RuG, 1997.) A few universities have already reorganized their management like that of a concern.

But also elsewhere in the world the entrepreneurial university has become a normal phenomenon. Universities have lost their misgivings about a commercial orientation; they have discovered that knowledge is a product or intellectual property which you can capitalize on in the market. Researchers, professors and administrators are increasingly involved in the capitalization of science (Etzkowitz & Webster, 1995). Knowledge and technology are replacing capital and labor as the key factors of economic growth. In terms of Etzkowitz (1990, 1996) we can typify the developments in Twente as part of a second academic revolution, a revolution in

which the entrepreneurial university has come into existence. The first revolution occurred in the United States in the mid to late nineteenth century when teaching institutions such as Harvard and Columbia turned into research institutions and new research institutions were founded. According to Etzkowitz, the second revolution was caused by economic pressures; industry and government believed that economic growth and employment were at stake.

We see not only a number of connected changes occurring in the academic world, but also a number of processes which are taking place outside the university which show similarity with developments in Twente. By which I mean a series of new phenomena which have been occurring since the eighties, such as the sponsorship of schools, sports, and art exhibitions, the commercial broadcast, and the alteration of the name 'school head' to 'education manager'. In this period, innumerable non-profit organizations tried to copy the management of firms. For instance, the municipality of Tilburg, a city of 165,000 inhabitants in the south of the Netherlands, developed a new style of administration based on the management of a concern. The municipal executive has an enormous admiration for the management of big firms which are supposed to be efficient and effective. Many working methods widely used in the private sector are considered suitable for a municipality. In the eighties, the Dutch government started to talk about a 'no-nonsense' style of governing, which was supposedly free from political fads and fancies. All such phenomena I want to characterize with the term *economization*.<sup>1</sup> If there is a revolution at all, as Etzkowitz

assumed, its scope is far broader than only the academic world. I would like to regard the entrepreneurial university, therefore, as an example of economization.

### *Economization*

What is economization? In order to develop a clear interpretation, we can best start with establishing what economization is not. Recent developments in the Netherlands are fairly often portrayed in the media as the advance of money or the market. The authors mostly disapprove of the current trend in which everything revolves around money or the market. We are all supposed to fall under the spell of money. Nobody is willing to act without a financial reward. Paul Bordewijk (1992: 3), a Dutch public administration scientist, describes the passion for money as follows: "Nowadays, people are doing things not because the society wants it, not because people themselves think they are obligated to do them, but because they can earn money by doing them." The same complaints one can find in the media about the market: "the market manages to steal in everywhere". The entrepreneurial university is also blamed for the glorification of money and the market system.

My paper is not about the imperialism of money or the market which argues that the university has developed to a commercial enterprise in which everything is expressed in terms of credits and output. I do not claim that Twente greeted industry with open arms and started fund-raising in order to solve their (financial) problems. These descriptions of the developments in our

society – and in Twente – imply a reduction to a single (economic) factor. Slogans as "the university should become market oriented" or "should work like an enterprise" are indeed used, yet the university is still not a company like Shell or Philips.

Terms like 'market' or 'concern' are therefore metaphors to achieve something which we should not always interpret literally. Even if the UT does try to develop a concern model this does not mean that the state no longer needs to give financial support. Besides, output cannot only be measured in terms of money – the number of publications, for instance. It is true that masters of arithmetic with a financial background gain influence at the university, but they represent rather a profession which initiates and guides processes of quantification than people with a preference for money. They also stand for a specific way of controlling in which a specific form of knowledge claims a central place. Money or economic capital (the medium of exchange *par excellence* of the market) are not the only sources of power. Foucault (1979, 1988) showed how in the modern world knowledge has become a key factor for organizing our social world. It can be true that management by means of knowledge is nowadays prevalent, especially economic knowledge. In order to highlight this broader cultural embeddedness involving the rise of the entrepreneurial university, I shall define economization as the advance of economic discourse.

I shall expound more extensively on the meaning of economization as the advance of economic discourse. This discourse has displaced political discourse which experienced its heyday in

the late sixties and seventies. Foucault's theory of rationalization and power will be used for the analysis of the character of economic discourse. After this I go back to the case study of Twente to further outline its relevant characteristics. With the aid of the case study and insights from STS, I will analyze further the extent to which the entrepreneurial university is a new phenomenon. Finally, I will present some ideas about the role STS could play in thinking about the future of the university.

### **The Advance of Economic Discourse**

#### *Disciplinary Power*

A discourse is conceived here as a coherent whole of heterogeneous elements such as metaphors, speech, official documents, models, and also customs and objects with a symbolic meaning. A material object that part is of an economic discourse is, for example, the time clock at the entrance that reminds you every morning to start on time – laziness is not permitted.

A discourse perspective has a specific vision about the way society is organized. This happens not only by means of violence, prohibitions, or money, but also through knowledge. Knowing how to act is not only a cognitive matter, but it has also a normative effect; it guides our way of doing. Because of the central role of knowledge in our life, we can typify our society as a knowledge society (Stehr, 1994). Michel Foucault (1979, 1988) paid thorough attention in his work to the question of how knowing, as a subtle form of power, has gained a more and more central place in our lives during the last centuries. Foucault de-

scribes the genesis of the modern society in terms of the replacement of old instruments of power, which often make use of violence, by a new one, namely disciplinary power. We can find this new form of power in numerous institutions like the hospital, the factory, the barracks, and the school. His most to-the-point description of the development of new relations of power regards the prison system. (Foucault, 1979.) The ancient chains and fetters are exchanged for watchtowers and visible cells; the beatings by cane and the burnings with sulfur are replaced by labor therapy and psychiatrist reports. The modern prisoner is no longer kept under control by physical violence but by mental control.

Where the ancient regime made use of instruments of triumphant power (gigantic theaters of torture), the workings of a modern (disciplinary) regime are far more subtle and modest. Disciplining modern humans is not characterized by the use of crushing and majestic means of power. Discipline is "a modest, suspicious power, which functions as a calculated, but permanent economy." (Foucault, 1979: 170.) It also makes a stronger appeal to the co-operation of the disciplined. They are made aware of their own behavior or of someone who is (probably) keeping an eye on them. The idea of the gaze of the guard is usually enough to hold the prisoner inside the walls, or better still, inside the TV enclosure. Through the mechanism of permanent examination the prisoner is taught to internalize the gaze of the guard; he keeps himself under control and forces himself to behave normally.

This new form, disciplinary power, derives its success from instruments such as normalizing judgment and ex-

amination. Normalizing judgment introduces a new way of punishment in which penalties are based not on laws but on norms. The norm functions as a standard of measurement; it differentiates between individuals in terms of the gap between their results and the optimum towards which they must strive for. The other instrument, examination or surveillance, is used to make individuals more visible, to make of each individual a 'case': "a case which at one and the same time constitutes an object for a branch of knowledge and a hold for a branch of power." (Foucault, 1979: 191.) This means that human behavior has become a problem to be analyzed and resolved, and at the same time is bound up with mechanisms of power. This results in a disciplinary system whose chief function is to 'train', rather than to 'forbid' and 'punish'. Translated into the university system, this entails that if, for instance, universities want to strengthen their administration it then should not issue more regulations but give their personnel the opportunity to improve themselves with all sorts of courses such as 'management', 'the executive as coach', 'customer-friendliness' or 'career management'.

Whereas the old form of power was formulated in negative terms – it aimed to restrain people from doing the forbidden – the new form was formulated in more positive terms – its aim was to train or exercise people in doing the desirable. Nowadays, "the relations of power are, above all, productive." (Foucault, 1988: 118.) It creates something instead of destroying something. Disciplinary power produces reality; it produces people who can be marked as individuals and who can be known and judged according to a

norm. This power is thus intermingled with the modern project of rationalization.

The working of the gaze of the guard is based on action at a distance; the body of the convict is no longer manipulated in a direct way. This action at a distance derives its effect from the intermingling of knowledge and power. Disciplinary power, the knowledge of how to behave normally, cannot operate without a system of writing, learning and training. The prisoner and his body are therefore brought into the field of knowledge through observation and examination. Knowledge, especially of numbers, is an instrument which works at a distance. (Latour 1987.) Frequently, economic discourse is overloaded with numbers – it has a preference for a quantitative style. Latour (1987) and Porter (1995) show that quantification is not only a characteristic of economic thinking, but has occurred in almost all domains of science and public life. Nevertheless, the embrace of numbers seems stronger in economic discourses than in political or cultural discourses. The organization of the economic system according to numbers (for instance, money, units of production, or working hours) hints at the importance of numbers in economic discourse.

In their extensive studies of quantification, Latour and Porter are especially fascinated by the relationship between standardization and aggregation. According to them, the need for uniform knowledge stemmed from the wish to increase the possibilities of ordering and controlling. Latour describes how we can act at a distance on events, places and people by somehow bringing them 'home'. This can be achieved by making

them mobile, stable and combinable. Numbers are indispensable in solving these logistical problems. Quantification (with the aid of standards) increases the scale, while it makes steps of aggregation more easy. The accumulation of many phenomena in a center through numbers (with nth order forms) requires that the phenomena are combinable. Different events and people need a quantitative instrument, therefore, translated into an uniform measure.

Porter emphasizes a more social-psychological dimension of standardization: trust. According to Porter (cf. 1995: 24, 200), standardization was promoted because of distrust of personal judgment. In the pre-industrial world distrust was tamed with a regime of discretion and negotiation. With the expansion of capitalism and the rise of the state this regime was replaced by a regime of standardization. "Standard measures and uniform classifications were at least as useful for centralized governmental activity as for large-scale commerce and manufactures." (Porter, 1995: 25) The use of quantitative standards was a strategy for avoiding negotiation about measurement and for generating an impression of objective and uniform knowledge.

Through their focus on the use of standardization for 'totalizing' policies both Latour and Porter ignore the individualizing aspects of quantitative forms of knowledge. In *Discipline and Punish*, Foucault analyses the individualizing power of number systems, such as time tables and ranking systems. Elsewhere, Foucault (1982) has criticized the view of the state as a kind of political power which ignores individuals, looking only at the interests of the totality, or of a class or group. The state has an individualiz-

ing form of power too. This form stems from an old power technique which originated in Christian institutions, which Foucault calls pastoral power. Pastorship is derived from the metaphor of the shepherd who watches over each and every sheep. "He pays attention to them all and scans each one of them." (Foucault 1988: 62.) Christian pastorship is not possible without a peculiar type of knowledge between the pastor and each of his sheep, namely individual knowledge.

During the seventeenth and eighteenth century the modern state developed into a very sophisticated structure in which individuals could be integrated into the ambitions of the state. This was possible through the development of a 'pastoral technology' for the management of men, which made use of instruments as self-examination and the guidance of conscience in order to create individual knowledge. Not only the state but all kinds of organizations have made use of this technology, for instance, contemporary Dutch universities try to gather knowledge about individual scientists with the aid of publication lists and periodical evaluations. Individual examination connected with a whole apparatus of writing opened up two correlative possibilities: on the one hand, the constitution of the individual as a describable, analyzable object, and on the other hand, the constitution of a comparative system that made possible the calculation of individual difference and the description of collective phenomena.

In short, Foucault analyzed these pastoral technologies in terms of rationalization and power. Foucault (1988: 71) writes on this topic "our civilization has

developed the most complex system of knowledge, the most sophisticated structures of power." This vast spread of disciplinary power, by means of knowledge, implies that any research into contemporary power relations cannot ignore a discourse analysis.

### *Conflicting Discourses*

I assume that there are different (sub)discourses such as religious, juridical, political and economic in our society which are not similar *qua* status and power. The importance of different discourses can fluctuate in the course of time. Economic discourse is experiencing its heyday in contemporary society. Political discourse, which experienced its golden age at the end of the sixties and the seventies, had to give up its dominance in favor of economic discourse in the eighties.

The recognition that there are several discourses raises the question: what is the scope of each discourse and what is their mutual relationship? It is tempting to see a coincidence between political discourse and the state, and between economic discourse and the economy or the market. This would be in accordance with the sociological theory of functional differentiation, which assumes that it is rational to divide the social world in autonomous subsystems or clusters of social action. In terms of discourses this means that every discourse has its own rationality or stimulates its own process of rationalization. Political rationalization implies a trust in the *raison d'Etat* whereas economic rationality means a trust in the reason of the market. Both discourses have their own vehicles (state or market) for realizing progress in soci-

ety; they believe that society is in some way 'makable', not in the sense of solving all societal problems, but as the best route to human progress – it is a promise, not a panacea.

Even if such a connection between discourse and social institution makes sense, it is still problematic – as the case study of Twente demonstrates: an entrepreneurial university is not the same as a firm like Philips or IBM. The advance of economic discourse means, therefore, not so much that the domain of the market is expanding, but rather the spread of the dominant (i.e. economic) discourse into different domains – even into the domain of the economy. An example of economization of the economy is that many engineers have lost their prominent position in production firms to managers and business economists.

The fact that discourses overlap different fields means that the idea of a strict functional differentiation is hardly tenable. The idea of differentiation also implies for society the loss of its center. (Stehr, 1994.) With the aid of the concept 'discourse' I want to stress that our society has not yet lost an integratingsystem. To recognize this we need to supplement the classical thesis of social sciences, namely the spatial organization of social life according to domains or social institutions, with a perspective which started from a semiotic organization of our world. The changing dominance of discourse emphasizes that a division on the basis of discourse needs to be historical rather than spatial. The temporal character of the popularity of specific discourses should warn us not to conceive of discourses as completely autonomous systems. There is a reciprocal relationship between discourses and social prac-

tices and institutions: discourses not only have an effect on social practices, they can also be affected by social practices.

What is then characteristic for a particular discourse? A discourse is a mix of collective elements such as world view, portrayal of man, and values. The dominant discourse can therefore be interpreted as a sort of style of thought, a spirit of the times with which (social) problems can be solved. Even though discourses have no monolithic structure and contain diverse elements, it still makes sense to try to distinguish some key characteristics. In order to get a better impression of what is characteristic for a discourse I will now mention some differences between economic and political discourse. If they exclude each other, then competition between them is hard to avoid – competition both for status or authority and truth. The attractiveness of economic discourse can then be interpreted as a reaction to a crisis of political discourse. The differences, however, are not so sharp that they could never support each other, or, partly at least, be translated into one another.

A first example of difference is that they are linked with different ethical priorities. Solidarity is an important principle for supporters of western political discourse, because for them everybody is equal and therefore have a right to far-reaching benefits. The care for people's needs is not restricted to food or health, but deals also with the development of one's talents and personality. On the other hand, one of the fundamental theses of economic discourse is that people's abilities and efforts are not equal. According to the users of economic discourse it is unfair not to reward difference in results if everyone has

started with the same opportunities. Society is best served when we use the variety of talents as efficiently as possible. The fulfillment of one's needs is for that reason in the first place one's own responsibility. Normally individuals can do that better without too much interference from the state.

Another distinction between the two discourses lies in the field of decision-making. Whereas political discourse prefers universalistic decisions from which the realization is the result of the participation of, in principle, every person concerned, economic discourse prefers a more restricted process of decision-making because a few people (experts or professionals) are better in making good decisions. Economic discourse feels some sympathy with an elitist world view. To guarantee that all relevant considerations and information are discussed, political discourse stimulates critical public debates, while economic discourse expects more from a competitive style of individual professionals: people who do not mince their words. Closely related with this is the difference between both discourses in their view on knowledge. According to political discourse, knowledge is part of the community, a 'public good'. Therefore the government has a responsibility to produce knowledge and to offer it openly to the public. For economic discourse, conversely, a great deal of knowledge is necessarily restricted because of the production costs and the economic value of knowledge. Knowledge then is portrayed as a 'private investment'.

#### *Knowledge: Freedom or Serfdom*

Foucault has been criticized for, what



some regard as, his pessimistic account of rationalization. Stehr (1994) places Foucault, with his interpretation of the 1791 Bentham panopticon as a control device, among those authors who overestimate the possibilities to rationalize control. These authors, according to Stehr, fear that workers and citizens are increasingly disciplined through more and more successful surveillance by the state and corporations which profit from new information-communication technologies. Stehr is more optimistic about the liberating and emancipatory possibilities of knowledge. He sees especially new opportunities for individuals who can more easily gather knowledge nowadays than in the past.

As actors acquire more and more skills in reappropriating knowledge, they also require a greater capacity to act. Setting specific pressures and interests further heightens the possibilities of critically 'deconstructing' and reassembling knowledge claims. The social distribution of knowledge is not a zero-sum game. The extension of aggregate knowledge actually may lead, in comparative terms, to an explosion in the capacity of individuals and groups to reappropriate knowledge for their ends, and therefore represent a movement from a situation in which a *few* control circumstances of action to a condition in which *many* exercise some influence. (Stehr, 1994: 259.)

Stehr also disputes the idea of a monolithic knowledge system which decreases variation. Knowledge is a component of the politics of powerful institutions like the state, but can also be used by organizations who try to counterbalance the power of these institutions.

I would like to introduce a less extremely polarised point of view. Knowledge offers us room for new possibilities

and at the same time restricts our possibilities. Is Foucault's reproduction of the panopticon not an example of the double character of rationalization? The panopticon is in some sense liberating, it throws off the chains of the prisoners, and is disciplining, it submits prisoners to a permanent and meticulous observation so they never escape from the gaze of guards. The panopticon both sweetens and curtails the life of the 'inhabitants'. With this Janus-faced concept of rationalization at the back of my mind, I shall examine the case study of the entrepreneurial university.

### **Case Study: The Entrepreneurial University**

The case study of the University of Twente, '*the entrepreneurial university*', is intended to give an example of the advance of economic discourse and to further analyze the particularities of this discourse. The presentation of the case is therefore organized in terms of this perspective. I will now describe six characteristics of Twente, which are also characteristics of economic discourse.

1. *Productivity as norm.* The Annual Report 1969-1970 of the UT differs remarkably from a report of 1994. A quick look is enough to see the increase in the number of pictures, figures and tables. Closer investigation brings to light that there is also a difference in the style of the text. The report of twenty-five years ago has a political style: it mentions important decisions and speeches, it describes subject of meetings, and it discusses at length the task and composition of newly set up committees. Moreover, democratization is a hot item in the report. The Annual Report 1994, on the

other hand, uses a more economic style: it gives a representation of the achieved activities or the not yet attained goals. Recent reports are so organized that they give the impression of a hard-working and productive university. Twente shows an increasing orientation towards results (output).

The University, whether in adapted form or not, has copied the cultural values and adopted the instruments which are typical of a producing firm, such as strategic plans, client-orientation, cost-profit centers, doability (efficient and effective study paths), market-oriented management, and output budgeting. The developments are examples of processes of economic normalization. These processes form an important feature of economic discourse: it draws a boundary between productive and unproductive, or between efficient and inefficient. The concept 'productive' functions as a norm for what is normal or wanted; non-productive implies that the activity is abnormal or not a meaningful contribution.

2. *Market-oriented.* The orientation of the University on the environment has strikingly altered. "In the course of the past decade, the University of Twente has developed from a centrally steered, government-oriented organization into a market-oriented service provider." (UT, 1995: 27.) This turnabout is used to tap new sources of financing, especially contract research. The turnover work for third parties as percentage of the total budget increased from less than five percent in 1980 to more than twenty percent in 1994. Twente motivated this increase by pointing out the cut-backs in government spending. The new orientation does not restrict itself to only the '

market' in the strict sense (the place for private financial transactions), but it gives also attention to the students market, the government grants market, the knowledge market, or, in brief, a world full of competition and scarcity. The market becomes a metaphor for (almost) all situations where people meet each other. Students, for instance, are considered to be clients. The University canvasses aspirant students with the slogan 'studying at UT is a sound investment'.

Even the image of knowledge has changed from a public service to a private good. In 1981, the idea of knowledge as a public service led to the foundation of a science shop with the aim to offer, without payment, scientific information to 'underprivileged' groups in society. Nowadays, the shop must see to its own survival. In a letter to the Dutch Minister of Education, Culture and Science, dated 9 May 1996, all the science shops in the Netherlands asked the Minister to use his contacts with the universities to stop the danger of closing. (Mulder & Ree *et al.*, 1996: 66-67) Ironically, the universities seems now more interested in playing a real shopkeeper: to sell knowledge and technology for a profitable price. This means that nowadays social service is also translated in terms of the market. The Annual Report 1994 says about this:

One of the main objectives of the UT is to provide services to society... An important feature is to encourage contacts with potential customers interested in the UT's 'products', in view of the intensification of education and research activities for third parties (so-called contract education and research). Furthermore, the UT promotes the establishment of business/institu-

tions on or near the campus... (UT, 1995: 23).

3. *Entrepreneurial attitude.* An entrepreneurial university requires other types of students, researchers and teachers than a 'critical university' of the seventies. The *homo academicus* of the critical university was an actor with a socially conscious attitude, who believed in the progress and emancipation of society through a better distribution of (social relevant) knowledge, and who saw the production of knowledge as a social activity. Conversely, a contemporary *homo academicus* disposes of an entrepreneurial attitude, believes in the progress of groups and individuals through a better settlement of knowledge transfer, and regards the production of knowledge as a professional activity. Entrepreneurship reflects the belief in economic 'makability', that individuals or organizations themselves can better guarantee their interests without too much interference by third parties (the state). In short, the new *homo academicus* feels comfortable in a no-nonsense culture.

This culture has a double character: it provides both opportunities and risks. Twente greatly appreciates such a culture. The Strategic Plan of 1991 states that "the UT will adopt an entrepreneurial attitude in the meaning of daring, not afraid to take on difficult and risky matters, bold." (UT, 1991: 2.) The new attitude is stimulated with a whole range of measures, such as the establishment of a Business & Science Park, the use of the slogan *The entrepreneurial university*, the foundation of the Liaison Group (which should stimulate contacts with the business community), and the development of a dynamic personnel policy. The last measure implies, for instance,

promotion of staff mobility and retraining, more short-term contracts, and ongoing function discussions.

4. *Quantification.* An organization which uses productivity as a norm requires objective knowledge about results. Economic discourse claims, not surprisingly, a realistic picture of the world. The UT increasingly gathers information about their own management. The Board of Governors wants "appropriate management information about income, performance, expenditure and commitments, both in terms of money and of human resources." (UT, 1995: 28.) The requirement of objective, realistic information has consequences for the style of presenting information. Twente makes more and more use of numbers for setting goals, the evaluation of policy and assessment of personnel. A quantitative style should guarantee impersonal measurement because of the adoption of a standard. Numbers are also used in order to compress information; they are supposed to condense information better than words, they ought to be able to show at a glance what is going on in management.

How are, for instance, numbers used for the assessment of scientific personnel? Numbers are produced concerning every academic: interim assessment marks, the number of those students that pass or fail, money earned with contracts, number of publications, etc. Every academic is confronted with a 'dossier' full of reports and results. This creates a ranking: some do it better than others. That could be attractive for those with good marks. But it implies also that everybody is subjected to a regime of surveillance. Each staff member becomes part of a network of truth, which

produces a measurement of their behavior: do they perform well or badly, are they normal (productive) or abnormal (unproductive) people? – the era in which the professor has complete freedom to choose his activities belongs definitively to the past in Twente.

5. *Steering at a distance.* The double character of economic discourse, freedom and discipline, culminates in the phenomenon 'steering at a distance'. This new idea about management on the one hand gives responsibility and freedom to departments and individuals, and on the other hand it demands of the same actors that they conform to the organization. Since the mid eighties, Twente started to develop a new management which was characterized by a devolution of powers and decentralization of means. The faculties and most of the departments have turned into independent 'cost-profit centers', each with their own budgetary responsibility. These departments conform no longer to central guidelines but operate as independent service providers. This example does not mean that the board of governors has withdrawn from management interference. On the contrary, simultaneous to the independence of departments, management began to produce strategic plans, public relations campaigns, and newsletters for personnel and students. Decentralization in Twente is simultaneously complemented with processes of centralization with the aid of instruments of information management. The information exchange between the board of governors and the faculties has increased rather than decreased. Central administration strengthens its apparatus to increase its indirect influence.

The strength of the apparatus no longer comes from directives, but from information. Information about results says a lot about what to do: low results for a faculty or scientist mean that the productivity must increase. With the aid of knowledge and information steering can be more indirect; everybody *knows* what to do. The permanent supervision is exchanged for periodical evaluation and negotiation. The price of more freedom and responsibility is that actors must now motivate and control themselves. Steering at distance does not mean a free hand for everyone; on the contrary, 'giving explanation' is one of the spearheads of the Strategic Plan 1991 of the University.

6. *Managerialism.* "The entrepreneurial character of the UT assumes a determined workforce and requires a decision-making process with short and clear vertical and horizontal lines of communication. Naturally, this calls for an appropriate organizational set-up." (UT, 1995: 27.) This somewhat cryptic formulation implies a plea in favor of management instead of political administrators. The board of government wants to decrease the influence of lay administrators selected by elections. They believe that particular expertise (of managers) is better for governing than what other professions or lay people have to offer. It shows that if an organization accepts economic discourse with open arms, it will appreciate those members which can speak this discourse best.

The Strategic Plan 1987 therefore argues in favor of strengthening the administrative force by managerial development including the improvement of the remuneration of faculty administrators, support of professors in their de-

velopment if they take part in top management, and the increasing importance of the criterion 'management qualities' for the recruitment of new professors. Twente thus shows a soft spot for managerialism: the advance of managers and management principles in the organization.

### Continuity and Discontinuity

The above is a description of the contemporary situation where economic discourse dominates. The substitution of economic for political discourse did not run smoothly; it generated a lot of discussion and conflict. The *resistance* to the entrepreneurial university became particularly visible when the Board of Governors launched the strategic memorandum 'Entrepreneurial University or Scientific Business?' in the autumn of 1986. This note which openly chose for an entrepreneurial university, caused many reactions such as readers' letters to the university paper, notes against the plans, and motions in the university council. Fierce criticism came especially from professors' quarters. The professors (cf. Hoogerwerf, letter to the Board of Governors, dd. 11.12.1986.) reproached the governors for disloyalty to the idea of the university, and with that to the age-old academic tradition of scientific education, and detached, fundamental research. They went back to a cultural discourse of academic freedom. From students' quarters, the critics concentrated on the narrow orientation on business life, and the scanty attention for the societal effects of science. (cf. UT, 1987b) Noticeably, the progressive students did not turn completely against the plans; the students too did not want

academics sheltering themselves in an ivory tower. Starting from a political discourse, they formed a certain alliance with the supporters of the entrepreneurial university – both wanted societally relevant research. The students did not fall back on a cultural discourse with its Humboldtian ideal of *Lehrfreiheit*, even though they did not want such a strong connection with industry. The strategic plan (UT, 1987a) was accepted by the University council after discussions and some adaptations in the summer of 1987. These adaptations did not abstract from the wish to come to an entrepreneurial university. A quite large consensus was formed in the following years for Twente now uses *the entrepreneurial university* as a daily slogan.

That almost everybody nowadays make use of an economic discourse does not mean that they all adopt it indiscriminately. For instance, when the science shop Twente switches from political to economic discourse it tried to partly *translate* the new discourse into their own ideals. I have already mentioned that the science shop started by asking a price for the knowledge they offered. In this way the shop staff use an economic discourse which regards knowledge no longer as a public but as a private good. The shop thus broadened its target group: it permitted small enterprises to ask for help and it abandoned the ideal of emancipation of backward groups; they should utter their own wishes. In principle the customers of the shop now had to pay for the answering of their questions. But the UT still wants to support disadvantaged groups and therefore created a fund for those with low incomes. Of course the UT already gives financial support to the shop, but

it is now organized with the aid of an economic vocabulary. By translating the new discourse to match their own ideals, and by asking a charge for knowledge exchange, the shop staff could avert the danger of marginalization—a few science shops in the Netherlands had already perished owing to the advance of the economic discourse.

These two examples of 'resistance' and 'translation' show some limits to the force of economic discourse even if it is accepted in the official plans of the university. Sure, not everything changed, but phenomena such as the increase in contract research, the establishment of a Business and Science Park, the boom in the use of output figures for scientists and departments, and the growing attention for the management qualities of professors do illustrate that the advance of economic discourse was accompanied by a change in the reality of the faculties and in the working environment of individual members of the university community.

Economic discourse is apparently a reaction to political discourse. The entrepreneurial university appears to be a reaction to the 'critical university' of the late sixties and seventies. Under the slogan 'critical university', progressive students and staff members in the Netherlands fought for a socially responsible and democratic university. It was the heyday of the political discourse in which it was claimed that disadvantaged groups could be emancipated through participation. My discussion of the entrepreneurial university thus far emphasizes the existence of a rift with the past. For instance, nowadays *homo academicus* is an economic figure rather than a political figure in whom manage-

ment principles replace democratic (political) principles. The transformation from political discourse to economic discourse is a sign of discontinuity. But, this idea of a split with or a reaction to political discourse needs some qualifications.

### *A New Phase of Modernity*

In many ways political discourse prepared the way for the entrepreneurial university. This I will illustrate with three examples: social services, individual responsibility and educational evaluation. Social responsibility was one of the key action items of the critical university. Scientists were encouraged to leave the ivory tower and to pay attention to social problems. Political discourse succeeded in bringing the environment (the society, politics, issues of war and peace, etc.) onto the university campus. Economic discourse still often refers to the social context of the university (the market, business organizations) and uses the same social metaphors as the former discourse. However, the content has changed: the concerns of dominant groups only partly replaced disadvantaged groups.

The second example, namely individual responsibility, shows that appreciation of individuality is not a unique characteristic of economic discourse. The progressive students of the late sixties were averse to conformity but struggled for equal opportunities for everybody. According to these students, the university should treat every student as an adult who can make his or her own decisions and who is capable of discussing all kind of university and social issues. (Regtien, 1988.) Many groups besides students strive for maturity and

emancipation and are against patronage. Economic discourse still speaks about individual responsibility. The entrepreneurial university does not praise conformity; the ideal student should take risks and respond to new ideas and challenges. But again, there is a difference in content. For instance, students of the sixties challenged the establishment including the business world, whereas students of the early-nineties responded positively to the challenges of a dynamic economic world.

The third example, namely educational evaluation, is that both discourses plead for an evaluation of educational programs, they both are against the omnipotence of professors. The progressive student movement of the sixties took the lead in demanding a regular evaluation of lectures. The entrepreneurial university continues with evaluations. Nevertheless, there is a difference: not the student movement, but administrators take now the lead. These examples show that the 'transformation' is a matter of continuity and discontinuity. The progressive movement of the sixties and seventies has given a (maybe unintended and unwanted) stimulus to the entrepreneurial university.

The entrepreneurial university is therefore not so new as some authors (cf. Etzkowitz, 1990 or Gibbons *et al.*, 1994) think. Elements of continuity will be visible if we further analyze the historical context of this latest phase in the development of the university. I hope to give a start to such an analysis here. From STS-studies we know that the plea for a societal responsible university is not new. (see Bernal, 1939.) Bernalism, for instance, is a recognition of the increasing possibilities of developing scientific

knowledge which is applicable in society. This reflects the idea of the Enlightenment about societal progress, namely that with the aid of knowledge we can make a better society. Even the university of Berlin, founded in 1810 according to the ideas of Humboldt, was under the spell of the spirit of the Enlightenment. (Brookman, 1979.) Humboldt formulated this in cultural terms, such as the central role philosophy should play in the curriculum. The new ambitions of the larger states could, according to the Humboldtian ideal, best be realized if the higher officials were educated according to the ideal of humanist cultivation (*Bildung*).

Despite the innumerable pleas for more autonomy, the university has never been completely autonomous in the modern world. The societal aspirations of the university were too ambitious for that. For that reason, the rise of the entrepreneurial university cannot reflect a recent giving up of the idea of an autonomous science. All the more so because Twente still pleads for more autonomy, autonomy from the government. On the other hand, those expressing a fear of too much dependence on business community have almost grown silent. This means that the entrepreneurial university reflects a new configuration between science and society. Economization, in this sense, means that the wish to improve the human condition can best be realized via an economic route rather than a political or cultural one.

The recognition of the new configuration between science and society does not need to rule out a growing external interest in the university during the process of modernization. I already stated in the second section that society in the

modern world is increasingly organized with the aid of knowledge. The growing impact of science on society is also an effect of the growth of science. It is therefore not surprising that with the coming into existence of mass universities the external pressure on the university increased. With the continuing 'scientification' of society more people and groups became interested in science. The increase in scale of the university also generated more internal interference: more planning and an expansion of the bureaucracy. Nevertheless, the entrepreneurial university distinguishes itself not only in terms of the increase of information, but also in a shift of the kind of information aimed towards management requirements. But here again we must refer to Bernal's ideas about the efficiency of scientific research in order to be aware that the interference from management or administrators with science is not a new idea. The attention of management for science is therefore not only a reflection of a new university organization, but also of a time-honoured process of the rationalization of science.

The rationalized and bureaucratized entrepreneurial university must remind us of a new phase in what is called the modern project. Even science cannot escape it. I have already mentioned Foucault in order to describe the disciplining aspects of modernization. Despite all the rhetoric about more freedom and responsibility, economic discourse does not mean a break with the normalization character of the modern project. The dichotomy between productive and non-productive is a very refined one, owing to the use of numbers. Quantification is an important instrument for constructing a subtler ranking system. That eco-

omic discourse is more linked with a quantitative style than political discourse is, and is therefore one of the reasons why this discourse is still more successful in generating processes of normalization than a political one. The refinement is also enhanced through the development of the policy of 'steering at a distance'. Academic staff obtain freedom and responsibility in exchange for a regular assessing system on the basis of results. The mechanism of steering at a distance makes an individualizing approach possible by means of the internalization of the (economic) gaze. This means that the subordinates must motivate and control themselves instead of being stimulated and controlled by others. Economic discourse is an overnight success as far as the substitution of the internal gaze for the external gaze is concerned. Economic discourse also enhances the modern project through the stimulation of a meritocratic system. The increasing stress on rewarding (the positive pole of power) is possible due to a better ranking system of individuals. The entrepreneurial university is in fact, a striking example of modernization, and thus cannot be regarded as a new phenomenon.

### **What Can STS Teach Us about the Future of the University?**

That the University of Twente accepted an economic discourse is understandable given the broad reception of this discourse in our society. The question remains why economic discourse is so very attractive nowadays. This attraction can partly be explained by the advantages it brings such as the strong rhetoric of numbers, the idea of stimulating



competition, the trust in 'positive' incentives – instead of a negative constitution by means of prohibitions – and the attack on bureaucracy. It has a normalizing effect too: be productive. However such an explanation is problematic because the advantages only function well inside economic discourse. The idea of stimulating competition, for example, works only if we are ready to see the world as a system of competition. The students of the sixties did not regard the world as such; they regarded knowledge as being a social product. Besides, such an explanation ignores the weak points, such as measuring problems – you cannot express everything in numbers – or the fact that possibilities to be productive are not equally spread among everybody. This means that the optimistic spirit of economic discourse, the challenge of new opportunities, does not hold for everybody.

Furthermore, the transformation to a management organization does not need to be a transition to more freedom. Economization can help us to get rid of dogmatic bureaucracy but it can also replace it with a new form of disciplinary management. This paper emphasized therefore the double character of economization: it is an opportunity for greater freedom and it is a possibility for discipline. The bureaucracy with its rules and public enquiry procedures has been replaced by a management system with priorities, data, indicators, and target figures. Knowledge (for instance in the form of management information) becomes the key factor for creating a social order. But it is an ambiguous one: knowledge has a liberating and a disciplining effect.

All these ambiguities around eco-

nomie discourse necessitate further research into the question when economization is desired and when it is not. Science and technology studies must therefore take seriously the challenge of a critical analysis of the entrepreneurial university. Alas, this critical analysis is mostly lacking in the subdiscipline of STS, which gives the most attention to the entrepreneurial university, namely the 'New Economics of Science'. (See, for example, Dasgupta and David, 1994, and Etzkowitz, 1990.) Researchers working in this very young subdiscipline do not recognize that this field of research is also an example of economization. We need to be aware of the allure of economic discourse in this day and age in order to examine if the attraction of the New Economics of Science is a sign of an intellectual fashion or the promise of a better analysis. For instance, authors like Fuller (1993) and Callon (1994) argue that knowledge is a thing or a product. The problem is not that the idea of knowledge as a thing does not make any sense, but that the authors are not critical of the constructive elements of these goods. Nowadays, knowledge is more an object than twenty years ago; it has increasingly been transformed into a commodity. The entrepreneurial university aims at the commodification of knowledge in such away (through, for instance, patenting and contract research) that it can receive a price on the market. In this way economic discourse has the performative power to materialize knowledge. If we distance ourselves more from economic discourse, we have better opportunities to make a critical and reflexive analysis of it.

A plea for criticism should not yet tempt those STS-people who are highly

ensorious about the recent developments to the easy and safe position of 'we don't invent and ask for this'. Sassower (1994), for instance, gives the impression that the entrepreneurial university is a phenomenon which was developed completely from another science-political vision – enchanted by the dominant (commercial) culture – than his own ideal of a university as a place created for intellectual passion and the passion to bring about social and political change. Sassower does not account for how the radical political tradition inside STS has also give an impulse to the contemporary university, because he ignores the effects of translations. In the former section I expounded on how the progressive movement (unintendedly) prepared the way for the entrepreneurial university. Administrators who want to commercialize knowledge gladly make use of the political discourse about societal relevance.

This shows that, even if the entrepreneurial university is partly an inheritance of the roaring sixties, this does not mean that the heirs always think and act along the lines of their ancestors. The recognition that even a change in the popularity of discourses does not rule out elements of continuity should be a challenge for STS to situate the discussion about the entrepreneurial university in a broader historical context. STS could show how problems of societal relevance and autonomy are as old as the university, and that have been thought up different solutions for these problems in the course of the time, but that none of all have pleaded for a complete isolation of the university. Every kind of university, even the entrepreneurial one, has striven for autonomy, but they could

have different spheres opposite which autonomy is defended. Where the critical university wished above all to be independent of the market or economy, the entrepreneurial one wanted to achieve independence with regard to the government (especially the Ministry of Education) or politics.

By being reflexive about its own history, STS could also clarify the debate about the future university. When the entrepreneurial university is historicized from the perspective of discourses, the way will be opened for an "other" university. We can first of all state that one discourse, even an economic discourse, cannot exhaustively solve all problems. For instance, economic discourse alone cannot deal with all the moral issues around contract research. Furthermore, the market is not always a reliable alliance. In the first half of the nineties the UT may be glad about the favorable reports about its education and research quality, and the increasing numbers of students. The UT praised the market for being a good indicator of quality. At least until 1995. In that year, the intake figures were clearly falling. (UT, 1996) This caused some surprise and disappointment, since the quality was approved in many surveys. The administrators concluded then that not only quality is enough, but that character is important too. They dropped a part of economic discourse as soon as the market did not materialize. This should therefore remind us of leaving enough space for other discourses.

But there is also a historical argument for why economic discourse will not be dominant for all eternity. The recognition that discourses show the characteristics of a trend, implies that after a pe-

riod of advance a period of decline will follow. Even the dominance of economic discourse has therefore a temporary character. This does not mean that we cannot influence its duration and effects. We can deduce two strategies from the case study for offering resistance against dominant discourses: employ an alternative discourse or adopt the dominant one, and translate it to your own situation and wishes. The possibility of translations points us also to a strategy for escaping from the bounds of discourses, from the performative power of discourses.

How can the present form of universities be improved? In addition to political discourse and economic discourse the university can also be shaped by cultural discourse. With that we are back to the classical university which sets itself a cultural task. At the same time, I join in the youngest societal trend, namely culturalization – the increasing interest for color, design and culture. Examples of this are the shift towards arts and culture in the sponsorship through business, and employment advertisements with cultural expressions. However, adopting a cultural discourse indiscriminately is not without dangers, since it can bring us back to the old elitist university where difference was made by cultural distinction. Cultural discourse needs for that reason to be translated to the extent that it fits with a democratic theory rather than an elite theory. This requires a creative use of elements from different discourses – a dogmatic attitude would be inappropriate. I will therefore make a plea for a university which has the societal nerve to walk beyond the bounds of the beaten paths. Such a plea is not without irony, since

we have seen that the search for 'heroism', nonconformity, exists already in the critical university and the entrepreneurial university, in respect to the last in the sense of daring to take risks in a competitive world. This points to a paradox: the more dominant economic discourse becomes, the less non-conformable and heroic the entrepreneurial academic becomes who supports such a discourse. He threatens to become a follower of the spirit of the times. But perhaps the most startling fact for the contemporary scientists, who let themselves be assailed with slogans as "the second academic revolution", "the tempestuous society", and "the increasingly dynamic world", is that the university of tomorrow can be typified partly with the observation that there is nothing new under the sun: there has always been societal impacts on the university. Since the birth of the university, the relationship between science and society has been colored by the dynamics of autonomy and dependence.

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### **Notes**

- 1 My Ph.D.-research concerns the analysis of processes of economization in the Netherlands since the nineteen-eighties.

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