

Disorganised Knowledge or New Forms of Governance

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The theme of this paper is a paradoxical problem threatening to afflict modern knowledge societies: how abundance of knowledge can turn into a deficit of knowledge at the same time. Within debates on globalisation, a constantly debated issue relates to the problem of finding new mechanisms of governing societies no longer bounded by the authority of the traditional bureaucratic state. Such concerns typically focus on the weaknesses of national politics and legal mechanisms in controlling the movement of capital in an unrestricted world economy. The point of this discussion is to focus on yet another complex of issues related to the rise of global knowledge societies. Intrinsic to such societies, not the least because of the explosive growth of ICT, is the abundance of communication, information and of unrestricted knowledge. Such abundance not only generates rapid and disorganised movements of capital flows across the world, but, and this is the point of this presentation, it also leads to rapid and disorganised flows of communication and understanding as far as the sciences are concerned.

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Within debates on globalisation, a constantly debated issue relates to the problem of finding new mechanisms of governing societies no longer bounded by the authority of the traditional bureaucratic state. Such concerns typically focus on the weaknesses of national politics and legal mechanisms in controlling the movement of capital in an unrestricted world economy. The point of this discussion is to focus on yet another complex of issues related to the rise of

global knowledge societies. Intrinsic to such societies, not the least because of the explosive growth of ICT, is the abundance of communication, information and of unrestricted knowledge. Such abundance not only generates rapid and disorganised movements of capital flows across the world, but, and this is the point of this presentation, it also leads to rapid and disorganised flows of communication and understanding as far as the sciences are concerned.

Thus, the theme of this paper is about a paradoxical problem threatening to afflict modern knowledge societies: how abundance of knowledge at the same time can turn into a deficit of knowledge. I will start out, however, with attending to the historical roots of disorganised knowledge.

Mannheim Revisited: From Knowledge Monopoly to Competition

Karl Mannheim's essay on "Competition as a Cultural Phenomenon" (Mannheim, 1971) has recently gained renewed interest due to the "current of our time" (Delanty, 1997: 113-114.) Competition is akin to more recent epistemological positions in the field of the sciences and of knowledge for the reason that the term itself challenges "privileged" positions. The notion of competition recognises that there is a multiplicity of viewpoints and of actors at any one time fighting for recognition and perhaps also for power.

At the outset of his essay, on "Competition as a cultural Phenomenon", Mannheim states that competition is at the very heart of social life. Economic science has come to monopolise the use of the term, which, according to Mannheim (1971: 227), is due to the fact that economics was the first discipline around to formulate a *general social relationship*. The task now, he says, is to free the term from its economic embeddedness, and to make it generally applicable to studies of social life. In this mission it is to be noted that Mannheim's essay was composed at a time (1952) when the tension between socialist planning and free economy was sharpening. His refugee

partner, the economist F. A. von Hayek, had written a seminal essay called "The use of knowledge in society" a few years earlier (1945). Common to both Hayek and to Mannheim is the recognition that the multiplicity of viewpoints, characteristic of modern times, generates problems for central planning. The sociologist Mannheim did recognise, however, that viable syntheses among competing positions could emerge, and stabilise social and economic planning for some time. Hayek relied on the inherent wisdom of spontaneous market processes.

Mannheim recognises four pure types in the "public interpretation of reality" (from Heidegger) where competition is at the base of social life. My contribution will be to suggest a fifth and even a sixth "competitive phase" more adequate to globalised network societies, and to inquire into the implications as far as reality-interpretation is concerned.

Spontaneous Co-operation Between Individuals with a more or less taken-for-granted Consensus of Opinion.

This first phase of "unquestioned reality-interpretation" is found in more static or cold type of societies with little social differentiation. Traditional wisdom can be drawn upon, and even if there are needs for some small adjustments here and there, such adjustments are possible without too much ado to the totality of an interpretative universe. Although such *stasis* may be typical of archaic societies with little contact with an outside world, clearly we may find such "stasis" also in pockets of late modern societies. Such spontaneously co-operative schemes of interpretation typically harbour an abundance of proverbs as to

“it is”, or “it shall be so”: “The ‘it’ in us observes and rules the world”, as Mannheim (1971: 231) says.

The taken-for-granted mode of reality, as we know from phenomenological sociology and from theories of modernity, assumes an “ontological importance” ever after (Giddens, 1990). In different degrees, modern societies deploy the cultural resources of a traditional *Lebenswelt*, or a spoken vernacular language, as competitive resources in launching a *we*, as opposed to *them*. Even if societies no longer are cold and static, but hot and dynamic, efforts to sustain a common world-view, once supplied by tradition and a common history, assume an extra-ordinary value. To search for *Danish values* has now become an official government strategy, and especially so in times when there is a threatening invasion of what is felt to be foreign goods of interpretation.

Monopoly-Position of Various Groups Leading to a Rupture Between Men of Learning and Common Sense Positions.

As an illustration of this first and rather rough social distribution of knowledge, Mannheim refers to the Chinese *literati* and to the emergence of a clergy in the case of Europe in the Middle Ages (Mannheim, 1971: 233). The rise of such deep cleavages among common people and scholars is of course a functional relation of a sharpened social differentiation. The rise of an elite culture points to a heightened mode of intercourse among men of different local cultures but with a common, universal, point of reference. The Church in Mediaeval Europe presents such a universal point of reference. The Latin language facilitates

communication.

These first monopolies of knowledge production units, says Mannheim, arise in rather static cultures as well, and share some stable characteristics with the “consensus type of societies”. The real difference between these scholar communities of priests and literati and the ordinary consensus types are that the former contains a division between common sense and artificial symbol-systems. With regard to competing schemes of reality-interpretation the vernacular language communities could in principle be challenged from above. A learned community of clergy and of scholars has now appropriated the ability to interpret “true” reality, and impose a new order of interpretation. But “true reality”, Mannheim continues, is in the case of church interpretation mostly relegated to the interpretation of texts, the *ordo* of which could be imposed upon reality. He further notes how the “two worlds”, the scholarly and the common sense, can live side by side because of a clear social differentiation. We inherited from the Middle Age a dual worldview: a celestial and a terrestrial one, and these two worlds referred to a strict hierarchy of the social world with not much trafficking in between the various levels (Mannheim, 1971: 234).

However, as the monopoly interpretation of the church is being questioned, the feudal society is eventually afflicted with great upheavals. Questioning comes from various corners, also from within the church itself. The scientific universe of interpretation is eventually to surface as the supplier of a primary reading of reality. Loosening its cognitive dimension, the religious universe is disarmed, and now survives as the language of pure

faith.

As the society with increasing commerce and intercourse is becoming more dynamic, yet another challenging source of interpreting reality is emerging. This is the language of the market, the characteristics of which are much less elitist than that of the academic humanist scholars and priests. In Northern Europe, the intense commerce and exchange between the Hansa-towns created a new secular world of interpretation well beyond control by the Church and the Kings. Clearly, the increasing centrality of towns and of cities in the emerging economy of commerce weakened previous powers, and created a new and much more de-centralised interpretative exchange. Common sense language, challenging the pride and the vanity of those in gowns, gained in power. A plural world interpretation, signifying the arrival of the New Age, has now replaced that of a monopoly.

Atomistic Competition

Once monopoly power breaks down, competition will break out both within and outside the organisation. Mannheim cites several examples from church history. What seems to be typical of “modernity” (*Neuzeit*) is, he says, its “negative characteristic”: “it is, for the most part, no longer concerned with fitting new facts into a given *ordo*.” (Mannheim, 1971: 237). In philosophical terms, the epistemology of Descartes now gains primacy over the ontology and metaphysics of being. That we *think* becomes more interesting than what we think: form gains primacy over substance. This is also the time, as Mannheim notes, when it is discovered that people think

differently depending upon where they come from. People from Manchester think in different ways from pietists in Germany, a finding that according to him led cultural scholars to take an interest in social and cultural differentiation: “Every concrete group had its own perspective, different from the others.” (Mannheim, 1971: 237).

Although Mannheim admits the existence of what appears to be an almost “postmodern state” with competing wills and sectors of social life in struggle with one another, he is still recognising one basic supreme bastion: “the epistemological primacy belongs to the type of knowledge represented by exact natural science.” (Mannheim, 1971: 298).

The Process of Concentration of Competing Groups and Types of Orientation

In order to illustrate his point that there is a “drift” towards concentration of thought categories, Mannheim again draws upon the economic analogy of the market: instead of individual bargainers and local markets, greater interdependence create bigger markets and more uniform prices across space. In order to fight increasing competition employers and employees assemble and form wider associations with individuals and groups with the same “structural” conditions. This is also how Mannheim seeks to understand what lies behind “currents” (*Zeitgeist*) affecting the minds of people. These currents must be understood as group phenomena, and not as individual phenomena grounded in “motives” (Mannheim, 1971: 242).

Mannheim points to diverse examples such as “irrationalism” vs. “ration-

alism”, philosophical viewpoints which in the course of time tend to congregate and refine their inner systems and categories. Similarly, he points to Conservatism as a thought-system that evolves over time and assumes a more refined form. A polarising system is that of Socialism or of Liberalism, ideologies that develop in competition among themselves. There is nothing pre-conceived or necessary in Being which stimulates one form over that of another, but each form must be understood existentially: in terms of structural social conditions. The rise of oligopolies, concentration of thought-systems, is not dependent on purely local conditions as in previous “spontaneous cultures” but upon similar structural conditions among spatially separated groups.

The dominant ideologies for Mannheim are conservatism, liberalism and socialism. While respecting the dialectical synthesis between radically opposed poles, Mannheim clearly distances himself from socialism and its insistence upon privileged historical position. Rather, he seeks out such generations or groups in history that have managed to synthesise opposing viewpoints in order to achieve a competitive gain over other groups. Such historically managed syntheses are not epistemologically true once and for all, but they can be assessed as to their pragmatic value at the time of their occurrence. “The streams of history... tends to sift out in the long run those contents, patterns and modes of experience that are of the greatest pragmatic value.” (Mannheim, 1971: 258). Presumably, the pragmatic value in the long run is to be assessed in terms of structural power among competing groups. Such assessment, Mannheim

says, is a question of fact, rather than of value.

*Mannheim in Perspective – and
Competition in a New Light*

In the mid 20th century, when Mannheim wrote the essay on “competition as a cultural phenomenon”, Western society was facing a formidable military, economic, and political confrontation between two irreconcilable super-powers: USA and the Soviet Union. Clearly, the strategy of conflict between these two powers shaped internal and external developments. Categories of interpretation, both with regard to science and to everyday life, were affected by the overall scheme of tension and conflict. The Cold War affected the mental life of several generations. The Berlin Wall and the Iron Curtain in Europe are vivid memories in the minds of the post-war generation. To hold “a third opinion”, and not to denounce Communism or Capitalism, had fatal consequences for quite a few individuals in East or West.

Mannheim’s cautious sympathy of expression for compromises as a creative way out of ideological or political impasses is understandable given the conditions of his own life as a German-Jewish refugee living in England for the remaining part of his life. As early as 1938, shortly after his arrival in England, he gave a lecture on “the age of planning” (Mannheim, 1953: 255). Belonging to the liberal intelligentsia, the question, he said, was no longer whether societal development developed spontaneously or was subject to planning, but rather the nature of social planning. The development of a free society and of free individuals required careful design. Refer-

ring to Emile Durkheim's vision of an organic division of labour, Mannheim trusted the prospect of an intelligent politics from above securing ongoing differentiation and individualisation. He clearly dissociated himself from large-scale bureaucratic planning resulting in conformity and not freedom. He believed in small-scale intelligent planning fostering spontaneous action among individuals as well as in the wise foreseeing of counteracting balancing forces. In short, he believed in a liberal, and well-ordered society, where (social) science was a central instrument of governing (Rawls, 1971).

Although he believed in the possibility of compromises and new creative impulses, Mannheim could not possibly foresee the breakdown of the Iron Curtain and the rapid ideological adjustment of the globe. He knew nothing of the European Union emerging as a new competitive power in a closely interwoven world economy. Neither could he foresee the rise of communication technology changing the surface of both business and knowledge production. Science was an orderly instrument in his universe of thought.

We need to add a fifth, perhaps even a sixth phase in order to understand the principle of competition in late modern society where also science has lost the privileged position that it still had in Mannheim's universe of understanding.

Competition in Late Modern Society: Globalisation, Network Communication, and New Forms of Knowledge Production

Already in the 1970's Western capitalist society no longer assumed the forms

and structures of the so-called industrial society (Bell, 1973). These changes were to a great extent dependent upon significant changes in work- and information systems. Central sources of wealth-creation were no longer found in traditional industrial sectors of raw material and manual labour, but in sectors of transport, finance and commerce. The rise of a plethora of welfare services with regard to health, schooling, administration and recreation changed the composition of the work force considerably. Women entered the job-market on a large scale, and these processes in turn changed the nature of the family household: new consumption goods such as the microwave oven changed customers' demands for 'fast food'. Pizza restaurants, hamburger bars, and coffee shops, now to be found all over the capitalist world, changed not only our consumption habits but also the structure of social and economic life. Investment in research and development also assumed a vital economic role. Technology no longer pertained merely to machine production but to systems of communication rather. Personal computers started to boom in the 1980's, and the day-to-day life of ordinary people was affected accordingly. What manual labour had been to traditional industrial society, investment in knowledge and in brainpower was to become for the new post-industrial society.

Manuel Castells (1996) describes the maturation of Bell's post-industrial society in terms of "network societies". Communication technology frees production systems from the constraints of spatial territories; to conquer space in travelling from Stockholm to Singapore no longer really takes time: communi-

cation and transportation systems collapse distances into the immediacy of the present. The concentration of powers that Mannheim had described as central to his fourth phase of competition appears at this fifth and virtual phase of instant communication to be a real burden rather. Flexible production systems are not profiting from heavy concentration of man- powers and of material artefacts. Competition in the global market is processed in cyberspace: real market-demands no longer govern world capitalism as much as rapid global waves of financial capital. The age of finance capital is different from that of old-fashioned capitalism: it assumes, as Klaus Offe and others put it, disorganized features (Offe, 1987).

As a result of these larger structural features, the question arises if not also the production and interpretation of science in late modern societies assume its own *disorganised* features? After all, science has become a strategic developmental tool here. In what follows I will list a number of such tendencies in order to inquire into the wider consequences as regards the social principle of competition in late modern society.

Knowledge Production: from Mode 1 to Mode 2

The popular books by Gibbons *et al.* (1994) on the *New Production of Knowledge*, and more recently, by the same collective (Nowotny *et al.*, 2001) *Re-Thinking Science*, have already sketched the contours of how the production system of scientific knowledge has shifted from the “restricted” to the “extended” mode. The shift from Mode 1 to Mode 2 is well discussed, and need only a brief presen-

tation here.

Mode 1 is typically seen in the traditional and strongly science-governed type of knowledge production, governed by disinterested curiosity and urges to validate knowledge. Scientific growth is seen as essentially an internal, scientific process. This mode of knowledge production is strongly oriented towards methodology to secure intersubjectively valid knowledge. Social and industrial needs are basically seen as external; such needs may affect goal-setting, but certainly not the internal knowledge search.

Mode 2 is different both in forms and in content, especially with regard to the link between science, industry and politics. It is much less driven by pure disinterestedness than by strategic developmental needs to secure financial growth. Methodology in terms of restricted rules no longer plays an important rule; a number of methodologies can be used along the lines of utility and strategy. Previous claims of restricted knowledge are now giving room to a much more widened “discourse of knowledge” where the important thing is “newness”. Research, say Nowotny *et al.* (2001: 67), is evaluated in terms of its innovative capacity.

The presentation of the shifting modes of science production has caused distress in the science community. Advocates of traditional science either discard the alleged change as an expression or irrationalism and relativism, or as a bifurcation in the midst of science itself. The new, non-disciplined “hybrid” sciences may adhere to *Mode 2*, while pure science remains largely unaffected. Thus, within the very realm of science understanding, competing modes struggle for recognition. New dividing lines surface:

old and sharp divisions between expert and layman understanding loose in sharpness, while divisions as to the proper understanding of science itself gain strengths. In the language of Karl Mannheim previously reviewed, it may be suggested that the old *ordo* is weakened as competing modes of understanding affect the very kernel of science: a decentralised worldview replaces the old catholic *doxa*. Such de-centralisation may also be a lead in the strengthening of science's grips on society: science communities are no longer elevated and external to ordinary social life, but integrally associated with the differentiated needs of larger social and economic communities.

Knowledge Consumption: On the Formation of Publics and Competing Forms of Understanding

Within the social study of science and technology, risk communication and risk perception are becoming central issues. In the classic modernist view of science, science was surrounded by an exclusivity (Mode 1) that it no longer could sustain in the present. Science used to be monological, while today it is forced to become much more dialogical. Science interpretation needs to encompass not only the views of scientists, but also those of much wider public of potentially affected. The case of embryonic stem cell research is today a typical example where many different publics are engaged, also those who are not yet born (Habermas, 2001). The interpretation and communication of risks, especially as mediated by various stakeholders, laymen and other vital actors engaged in the application of science, are becom-

ing central issues of modern research policies.¹

Various hazardous incidences recently ravaging Europe (BSE, crises in food and agriculture) have led to a distinct concern among central governments, not the least EU authorities, and among science administrators, to improve on science and risk communication. A governmental strategy to restore the confidence of the public in science as a governing force more generally is particularly seen in the case of England. Amongst these concerns is a questioning of what is perceived as the traditional model in the understanding of the relation between science and its publics, now called the "deficit model" (House of Lords Select Committee, 2000; Irwin, 2001: 2). This traditional model assumed that there could be a correct understanding of scientific and technical risks among experts themselves, and that the real risk-problem was to communicate to the general public, to laymen, how to understand and perceive risks. This model built on a gap between expert and public understanding of risks, i.e. that there was a correct (scientific) and a false (non-scientific) understanding. In this regard we see a shift towards decentralisation and differentiation also in science policy, similar to that which has already happened in the case of the sociology and philosophy of knowledge. No one set of actors has the complete picture in a social system of science with permeable boundaries. Laymen constructions of scientific knowledge are no more correct than pure expert opinions: both levels of understanding risk being marred with the same fault of a one-sided perspective. Instead, the social processes of a widened science communication as an

ongoing and risky adventure, engaging a plethora of concerned science actors are the issues of concern in a knowledge society characterised by interpretive decentralisation.

At the present, and because of the power of mass media, publics are dispersed in space and they are no longer necessarily contained by the boundaries of the nation-state: Publics are fluid and they spread quickly and widely. Such publics can easily assume such (disrupting) features that sociologists once labelled as “collective behaviour” or the mass. Collective behaviours in modern global societies are formed in and through modern technological mass media. Recent writers even suggest that reason and deliberation less drive modern publics; they are driven by “imitative” emotions such as fear or lusts, dangers and pleasures (Maffesoli, 1996). Before hastening to proclaim such new forms of public responses, affecting also the interpretation of science, irrational as opposed to rational, we have, with Mannheim, to consider the social conditions of their occurrences. The enlightened public in Habermas’ famous treatise shared a common past, and harboured expectations of a common future (1989). The classic view of the public as reasoned argumentation was bounded by a container model of the social; by the stable and derived culture of the nation-state (Beck, 1998).

The instantaneous formation of acting and re-acting publics have no such common reference to a shared past, nor for that matter to a shared future. The time horizon of advanced communication societies risk collapsing into that of “presentism” (Luhmann, 1992). Reason and understanding, once concentrated

into an enlightened public, now dissolves into a multiplicity of more or less localised publics, some of which are linked in global network arrangements. As clearly illustrated in the case of resistance against GMO, science has to enter more and more into communication with these dispersed communities. Increasingly, individuals are becoming their own (science) experts as they learn to put together bits and pieces of fragmented electronic information (Nowotny, 2000).

Attention on risk and science communication is also signalling a new order of governing, related to complexity of the modern age. The governing of non-state societies, as is the case with for instance Europe, needs new mechanisms in channelling communication between those who govern and those who are governed. The success of an emergent European rule is much more dependent on the establishing of a link of complex understanding, not the least of science and technology, than in the case of any of its national states where cultures and traditions mediate communication. Lacking a common culture, the role of science in establishing an overarching consensus becomes more marked than ever before. Given the fragility of the new rule, and its problem in creating trust and confidence, recent EU concerns for the “public understanding of science” can be seen in a new and interesting light. Lacking a common history and a common culture of shared discourse, science communication gains a special social significance: while informing the publics of “the facts”, the governance through science and technology is also entrusted with the burden of creating social and cultural integration. When scientific facts are contested, as is often

the case in the European research setting, such facts also become strongly value-laden and socially embedded. This is not a matter of seeking to disrepute the governance through science, but an attempt to understand the fragility of modern science-based ruling.

Welfare Societies at Risk – Individual Practices vs. Collective Solidarity

Collective responses, as mediated via more or less organized groups or instantaneous publics (as in the case of BSE and GMO), unsettle and reshape the authority lines traditionally handled by old professional communities. When everyone can become his or her own expert, old monopolies of understanding experience implosion from within, and new collective and individual forms of science appropriation appear.

The English sociologist, Nikolas Rose (1999; 2001), has developed a suggestive thesis on how the abundance of science communication is mastered on the level of individual conduct via adherence to strict bodily discipline. He coins the term “precautionary society” as a corollary to that of risk society. Science information is translated into individual – precautionary – conduct. It is up to each one individual to care for his or her own body in accordance with a strict *gouvernement* regime. Inspired by Michel Foucault, Rose traces the modern form of Biopower governing conducts via the autonomous action and subjective desires of individuals themselves.

If correct, such governance via individual conduct does not at all indicate that the systems of science would suffer from disorganisation. On the contrary, such governance via science has as-

sumed the most efficient form possible: individuals have become their own masters, and they are increasingly freed from sources of external authority. In the science communities envisioned by Rose, traditional politics play a lesser role: when translated into the praxis of individual conduct, science replaces the realm of politics. New modes of governance no longer operate through commands from the top, but via a multitude of new “communities of technology” (Rose, 1999: 188-189; see also Irwin, 2001) carried out as individual behaviour.

The *precautionary society* as formulated by Nikolas Rose on the level of the multitude of individual regimes is already in operation with social consequences. If a person does not adhere to a set of precautions, he or she may risk exclusion from the healthy community of guardians; from insurance policies, and perhaps from the job market. A question arises at this point concerning the possible adaptation of this new mode of governance through individual conduct to the social principle of solidarity that governed the application of science in the traditional welfare society.

As it is regularly found that young male car-drivers have a very high frequency of accidents due to careless driving, it is fair and just that members of this age category pay a higher insurance rate. It has been found that there is a statistical correlation between smoking and the risk of lung cancer, and the question is, if this piece of knowledge should have consequences for the individual actor? In a market economy, insurance rates may be higher for smokers than for non-smokers. In the case of the welfare-society, this is a contested question, indeed.

Translating (scientific) knowledge of behavioural regularities down to individual consequences may lead to the occurrence of even greater social discrepancies between population groups. Hence, there has been a wide resistance in the Nordic welfare countries against the idea of introducing more individualised insurance schemes as against the existing collective and universalised scheme anchored in tax transference. In these countries, the translation of scientific knowledge into individual action used to be mediated by behavioural (state) experts of various types: we get help by therapists and councillors to stop smoking; health propaganda can be strongly targeted and so on.

To translate knowledge directly into consequences for individual conduct would amount to the same as transferring traditional forms of thick (action) solidarity into thin and highly individualised forms of statistical risk-solidarity. Such individualised scenarios, of which there are several indications in the present, generate no less than a moral dilemma in the welfare state to deal with the consequence of knowledge information and of risk calculation well illustrated by the problem of heavy smokers. The needs of this group for hospital services increase the necessity to ration health care services and the needs of different groups will have to be balanced as well. There is a standing debate in the health service system of how to distribute resources justly and rationally between the deserving ill and those whose illness is seen to be self-inflicted. The major problem here is that self-inflicted illness such as smoking, obesity, and alcoholism may easily be supplemented by an endless list of drivers or sportsmen

whose injuries are no less self-inflicted. To follow Luhmann's distinction between risk and danger (1993), one might argue that the more we know of risks to our health, the more becomes avoidable.

The welfare society, once based in the firm intersection of science and rational politics, risks to weaken its own premises, not the least because of the application of science. The welfare society is largely responsible for having improved general health conditions for all, thus also helping to generate a much older population with consequent strains on hospital services. Here are examples of various beneficial interventions, both on the individual and the social level, which lead to unforeseen consequences that in turn demand new interventions, in an endless cycle. These consequential complexities are already well known in the case of the social welfare society. The suggestion is that these consequential complexities (based on science information) will increase exponentially in a risk-society producing endless streams of abundant knowledge and of risk-calculations. The biogenetic revolution is likely to increase this information even further. And the increase in risk information will lead to further strains in terms of the action principle of solidarity. A reflexive equilibrium, mediated in and through collective politics, will be hard to come by, and if at all reached, further scientific information threatens with permanent dissolution: the more we know, the more becomes avoidable. Governance in the future knowledge society will face difficulties in harmonising the rapid communication of science and risk with traditional forms of governing human relations based on action solidarity.

How much tax-money are individuals prepared to pay for all those who turn out to be free riders? Thus a further proliferation of unbounded risk information may indeed constitute a real risk (perhaps danger!) to the social principle of the classic welfare society anchored in tax transference between the rich and the poor, the healthy and the sick, the young and the old. More risk knowledge generates more demand for the risk reduction that the public health services may provide. Such knowledge demands pressures on care to be financed by other means than tax transferral, thus again weakening the political power of the state.

Disorganised Knowledge or New Forms of Governance

From the point of view here sketched, the problem of translating information into action imperatives, it is quite evident why the problems of science and risk communication have come to occupy such a predominant role as it seemingly does. The emergence of public(s) in many different sectors of science points to a (possible) future state of a much more *interactive* role between science experts and lay interpretation. In this regard the traditional welfare state with its once stable “switchboards” or “interfaces” (the professions and authoritative experts) is endangered for the reason that such switchboards in a future knowledge society is likely to be more fluent and passing than before. Individual options in seeking guidance and information have increased as a consequence of ICT. Customer organisations, patients associations, different councillors, instantaneous experts illus-

trate how the link between science and action, theory and praxis, assumes new, unexpected, and perhaps even chaotic forms.

Traditional state organisation with its corollaries of professional authorities once held the monopoly in interpreting science to the public. Karl Mannheim's belief in social planning as piecemeal engineering in and through the cautious application of science still relied on the rock-bottom view of science. The trial-and-error principle of empirical science promised a solution, however distant, to the ideological squabbles of his time.

A corollary of knowledge society is that the principle of competition afflicts science from within. Scientific understanding can maintain its monopoly in interpreting the world to us as long as there are no competing forms of understanding. However, the advent of modern knowledge society based on the production and consumption of science has institutionalised the principle of competition as inherent to science. The impact and application of knowledge and/or risk society is that science itself is becoming one of the main destabilising factors in loosening up old state-based monopolies. A plethora of different science voices compete for space. Some of these voices are translated into individual – precautionary – conduct, others are translated into forms of collective behaviours, more or less stable. Many other voices are bound to remain unheard as the abundance of science information, for many actors, risk producing more noise than wisdom.

It is not just global societies that are in search of politics, so are even knowledge societies. While in previous epochs the production and consumption of sci-

ence and technology used to be governed by social and political needs, articulated politically, knowledge production in late modern society precedes and competes for such needs. The abundance of risk- and science information creates at the same time knowledge deficits: It becomes increasingly difficult to translate the surplus of available science information into politically organised conduct.

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Notes

- 1 The European Research Agenda (as seen both in the 5th and the upcoming 6th Framework) has been especially concerned with the problems of risk and science communication.

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