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zu|schnitt #21

Knowledge Society, Media Society and Democratic Action: The Case of Responsiveness

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AUS DER SCHRIFTENREIHE: ZU|SCHNITTE – DISKUSSIONSPAPIERE DER ZEPPELIN UNIVERSITÄT

Zusammenfassung

Dieser Aufsatz vergleicht die theoretischen Perspektiven "Mediengesellschaft" und "Wissensgesellschaft" und arbeitet gemeinsame Konzepte dieser beiden Theoriestränge heraus. Dabei werden einerseits die Konzepte "Information" und "Lernen" für eine mögliche Verbindungsfunktion auf theoretischer Ebene geprüft. Empirisch zur Anwendung gelangen unsere Überlegungen anhand einer Untersuchung des Konzeptes der Responsivität, wofür das Beispiel des Klimawandels gewählt wurde. Die öffentliche Verbreitung und Interpretation wissenschaftlichen Wissens durch die Massenmedien ist dabei die entscheidende Prädisposition, um solche Informationen im politischen Prozess zu nutzen. Die weitgehende Vernachlässigung dieser Medienfunktion stellt sich aus dieser Warte als Defizit der Theorie der Wissensgesellschaft dar. Das Fallbeispiel der Responsivität betreffend den Klimawandel zeigt aber auch, dass die zeitgenössischen Versionen der Mediengesellschaft ihre blinden Flecken aufweisen, insbesondere dann, wenn es darum geht Medienkommunikation und politische Partizipation zu koppeln.

Abstract

This paper compares the theories of Media Society and Knowledge Society. Linking the concepts of responsiveness with those of information and learning we then turn to global warming in order to put these societal diagnoses to the test. We find that the dissemination and interpretation of information from the scientific system to the public sphere via the media is a crucial predisposition for utilizing this information in the political process whose misrecognition is a significant shortfall of the concept of Knowledge Society. Current versions of Media Society also have deficits since an elaborated theory of mediatization needs to integrate a more critical approach to what effects mediated communication actually has in terms of political participation.

Content

Introduction

In this paper we aim to explicate the core propositions of Media and Knowledge Society and to identify conceptual overlaps. On this basis we then try to assess the potential of such contemporary macro perspectives for describing and explaining social processes, in particular how political participation might be conceptualized. Our goal is thus twofold: (1) we would like to reduce theoretical complexity by studying the kinship and commensurability of two current societal diagnoses; (2) we attempt to analyze the role assigned to social action within such comprehensive accounts of contemporary society.

We assume that despite their differences both perspectives, Media and Knowledge society, converge at the appraisal of the immanent importance of technical infrastructures and mediated communication for modern society. Both knowledge and communication are fundamentally universal as social phenomena. But how well founded are propositions that individuals in such societies *know more*, that they can receive and make use of ever larger stocks of *information* and prove more *knowledgeable* in political matters? Do such increasing potentials for (political) action necessarily translate into practice? What are the new means and new impediments for media conscious, knowledge based forms of social and political action?

Within this framework we seek to clarify two critical questions:

1. How appropriate are such macro-perspectives to describe our post-modern age? How adequately do these macro-theories conceptualize the inherent libertarian potentials that are so often ascribed to de-centralized media technologies and network structures?
2. Do the mass media systematically increase individual capacities for political action? Traditionally media have played an important role in the formation of national public spheres, which in turn became a constitutive element in the democratization of political systems. Will global media and universal knowledge do the same for a global, political public sphere? Might the latter even be the nucleus of a future world-society, as is sometimes claimed?

To answer these questions we refer to the idea of *responsiveness* as a key concept of bridging the political decision system and the public sphere. Our paper is organized as follows: First, we will introduce and revise both theories and accentuate their key aspects in order to conceptualize a theoretical framework. Second, we will identify key concepts, which provide the foundation for both approaches. Third, we will exemplify our theoretical approach by discussing its potential for the concept of responsiveness and therefore employ the case of global warming.[1] We are aware of the fact that our text is biased towards the political and informational aspects of the theoretical debate revolving around Media and Knowledge Society, while we acknowledge that there are many more layers, conceptions and cases to be discussed.

1. Descriptions of Society

Both Media and Knowledge Society may be understood as part of the classic sociological attempt to designate the current developmental stage of modern society and to wrap their most important and thus defining characteristics in a compact description.[2] In the tradition of the now classic notions of seeing modern society as defined by its mode of production and material foundations, like e.g. capitalist society (Marx, 1867) or industrial society (Aron, 1964), such attempts focus on a reduction of interpretive complexity, by tying the fundamental mechanisms of societal production and reproduction to a defining moment. Such attempts are necessarily limited in scope, both temporally and geographically: in order to advance from the prior description of an industrial society to that of a post-industrial society (Bell, 1973) to that of a network society (Castells, 1996, 1997, 1998)[3] the first assumption implied is that a new characteristic has come to shape society. Still, formerly central traits do not disappear or necessarily lose importance.[4] In this vein, both Knowledge Society and Media Society are arguably sociological concepts and of an evolutionary rather than a revolutionary kind. They both acknowledge the historical legacies and heterogeneous nature of their respective theoretical propositions. Both set off from empirically observable if sometimes subtle changes in the everyday experience of contemporary life which they then try to analyze as major structural and cultural shifts.
In the following, we will briefly elaborate on the central concepts of both Knowledge and Media society and then engage in a discussion of their relation.

1.1 Knowledge Society: Knowledge as the Capacity to Act

Stehr's (1994) designation of contemporary society being or entering the stage of a *Knowledge Society* also depicts a line of progression; a progression based on the developments that had begun in earlier stages. The two main processes observed are (a) the substantial increase in societal welfare and individual wealth over the last 100 years and (b) a virtual explosion of the knowledgeability of people within such societies due to the expansion of education.[5] As with many other attempts to wrap a societal depiction around a central term, the discussion of what rests inside the category of knowledge is of central importance. How exactly knowledge is defined conceptually has enormous consequences for the wider theoretical work as such, as it purports what is observed and then emphasized as a defining characteristic. Thus, it is not always clear what two theories of the same name actually are concerned with. From our vantage point, two basic definitions of knowledge become apparent: (1) a more action-theoretical notion that focuses on knowledge foremost as a certain type of human doing (Mannheim, 1952; Stehr, 1994); and (2) a more cognitivist approach that conceives of knowledge as the particular shape and quality of the content of consciousness (Luhmann, 1992). While these two ap-

proaches seem to point in different directions, it is our conviction that they are complementary: knowledge is an inherently social category that is instilled in the members of a society based on processes of socialization and enculturation while at the same time enabling the individual to conceive, contemplate and act individually (within a socially constricted environment). Such an approach might also solve the problem of the necessarily presuppositional circumstances it takes to identify something as knowledge and to enable people to act on what they know.[6]

Historically, the theory of Knowledge Society progresses from theories that describe the shift away from a social order driven by its industrial mode of production. This classic reference to the "material base" of society consequently emerges from changes in the mode and the means of production. It was Bell (1973) whose "post-industrial" society tried to root the observation of such a shift in the percentage of employees that were working in knowledge intensive occupations and the rapid increase in these fields of the overall value creation of national economies. The next step was then to leave the narrow argument of quantitative changes within the economic field and to pay attention to the overall increase in formal education of the population. On the one hand the important innovations coming out of the natural sciences and engineering were said to feed a new kind of theoretical knowledge into the producing professions as the (natural) sciences in general begun to play an increasing role for society as a whole – what he famously termed the "axial principle" (17). A second shift comprises the ramifications of such knowledge outside R&E, academia and professional training into a new mentality of the post-traditional age. A change towards a new mode of producing knowledge is witnessed which ushers in, at the same time, a heightened reflexivity of the new constitution of modernity itself (as has been extensively discussed in various guises, such as e.g. "reflexive modernity"; see Beck, Giddens and Lash, 1996).

As the criteria of scientific knowledge production spill over into other societal subsystems, potentially all social knowledge becomes subject to its particular mode of cognition. Knowledge turns reflexive and is increasingly applied to itself, affecting ways of life and social organization at the same time. While this process is by no means universal, theoretical knowledge becomes salient beyond the realm of science and technology or the economy. This strand of Knowledge Society, then, proceeds from the proposition, that we create our realities based on what we know. Thus, human knowledge of nature is knowledge of causation but also knowledge of the rules of action. The criterion of knowing, then, lies in the ability to alter reality in one way or the other (Stehr, 1991), knowledge thus becoming an increasingly important driving force of social change (Stehr, 1994).

Representing a different, equally influential concept of knowledge, Luhmann (1999) contrasts this proposition with a cognitivist approach, denominating knowledge in terms of cognitive schemes, which are ready to be altered, as soon as they are proven wrong by a socially constructed reality. Arguing in this vein means to understand knowledge as context-bound and dependent upon the adjustment with the *explanations* of an objective surrounding. These explanations in turn denote the form within which truth is being evaluated and hence the specific accomplishment of the scientific system, operating with the binary code true/false. Consequently, knowledge must not be conceived as subjective, arbitrarily constructible conceptions. In-

stead, the system-theoretical terminology employs the term “resistance as an indicator of reality” (Heidenreich, 2002, p. 6), which ultimately is a question of confronting communication with communication. This clash allows for “learning, evolution and self-organization” (Luhmann, 1999, p. 169) of the respective system, since the appropriateness of individual perceptions results from proving those in the light of this assured reality. This process is the presupposition of all thinking and acting or – leaving aside the system-theoretical language – “gives meaning to the natural and social living conditions of the people and regulates their virtual conduct” (Heidenreich, 2002, p. 6; 2003). At this juncture, knowledge can be equated with the “capacity to act”, as Stehr (1994, p. 208) states.

Taking this understanding of knowledge as cognitive schemes, which constantly bring about new possibilities to act without necessarily having to act (Adolf and Stehr, 2008) as a basis, one can approach the question of reflexivity. Luhmann (1999) does so by asking how modern knowledge copes with the explanations it has to acquiesce to and is thereby on a par with one of the central ideas in the debate around Knowledge Society, whose theorists widen the scientific view from a mere discussion of the abundance of knowledge in modern society to the mechanisms of self-organization and challenging established opinions and structures.

What all current approaches to Knowledge Society have in common then, is, that they do not tie their diagnosis merely to a quantitative, descriptive notion of societal knowledge (modern society sports more knowledge in keeping with Webster, 2006). The focus rests on the question how knowledge becomes central to social organization and reproduction and how (a sociologically viable concept of) cognizance comes about. At the heart of such theories of society lies the question of the characteristics of a mode of knowing that follows scientific rules by being (and knowing to be) fallible and methodically produced. *Knowing how* becomes more important compared to *knowing that*, just like the awareness of how much we *do not know* increasingly permeates our social conduct. Not-knowing becomes a necessary evil in how we make decisions.[7] As scientific and technological knowledge becomes ever more important by providing incremental, practical knowledge, the production of such new knowledge becomes increasingly differentiated and presuppositional (following the modern mode of a highly differentiated division of – scientific – labor). The knowledge base of contemporary society, at the same time, transcends disciplinary and social limits, re-structuring traditional social settings and boundaries.[8]

1.2 Media Society: The Social Consciousness of Society

Appearing as a sibling of Knowledge Society, Media Society emphasizes the mode of social reproduction and its rapidly evolving infrastructure: the modern media system. Having been neglected or delegated by social theory for the longest time, the media re-enter the sociological stage as their omnipresence in modern everyday life can no longer be overlooked (cf. Silverstone, 1999; Livingstone, 2009; Lundby, 2009; Krotz, 2001, 2007).[9] But in contrast to earlier

attempts that approached the consequences of the growing amount of mediated communication from an individualistic and socio-psychological vantage point, today the media are approached from within a larger, macro-perspectival and overall socio-cultural paradigm. Research in the wake of Media Society, then, no longer asks what the media *do to people* or what *the people do with the media* (Katz and Foulkes, 1962), but what they *do to society as a whole*. While there seems no end in sight for the growth rates in media usage and new technological gadgets cater to our every (communicative) need, the notion that the media have come to creep into every nook and crevice of modern society is pervasive.

As with the theory of Knowledge Society, early accounts of Media Society also rest on a techno-logical and material reasoning. Information society (see Webster, 1995 for an overview) – and later network society (Castells, 1996, 1997, 1998) – are conceptual creations that answer to new possibilities for transmitting and processing information, understood as data embedded in some kind of interpretable code: created, distributed and rendered intelligible with the help of technical devices. Such a new global reality premised on hitherto unprecedented connectivity seems to be shrinking the world just like in earlier visions of a "global village" (McLuhan, 1962). The network metaphor comes to describe such a new transnational scope (of both economic action and individual relation) and leaves behind the necessity of a central organization of in-formation and communication.[10] The most important instance of theorizing such a new net-worked structure of global relations and imaginations is Castells opus magnum on the Network Society. Here, profound technological and economic investigations are expanded to cover a more comprehensive social scope. While older versions of the Information Society fell prey to a technological reductionism (that often takes the ideal typical form of technophile utopianism or dystopian fear), his Network Society avoids most of these pitfalls. Together with other ap-proaches from a variety of disciplines, what emerges as an integrative denomination for fore-grounding information (quantitative aspect) and communication (qualitative aspect) in social analysis goes by the name of Media Society.

The notion of Media Society commences with the observation of (mass) media's pivotal role for the functioning and structuring of modern society, a silent revolution that has pervaded ever greater areas of social life. Claiming that the media have become a "total social phenomenon" (Saxer, 1998, p. 53; with reference to Marcel Mauss), the focus rests on the interplay between an expanding media system and both structural as well as cultural changes entangled with it.[11] Terminologically "media" capture both the techno-informational aspect (usually emphasized in metaphors of information society) as well as expanding the scope to include the vast cultural realm inscribed in any kind of communicative exchange or distribution. It also covers both media of distribution (the traditional object of mass communication research) as well as it is able to include the ever new hybrid forms of packaging and relaying information and interaction that expand with the so called (and usually web-based) "new media". And, importantly, the term *medium* comprises both the aspect of a (communicative) means to a (social) end, and thus includes most forms of social interaction, while at the same time including the (technical) impact of the medium on this (social) relation. This latter aspect is reproduced on another, systemic

level, when turning to the media's impact on societal communication processes via their specific institutional and organizational "logic".

Structurally, media society-theory departs from important changes within the configuration of the media's organization. As national, and increasingly global media systems change internally, their function for and role within territorially defined societies changes as well. Understood as a functional social system in its own right (Luhmann, 2000a), such a media *system* comprises a variety of elements (traditionally separated in more or less discrete strands of inquiry), emphasizing the interplay of a number of social, technological and economic dimensions. This emancipation is tied to organizational changes within the media outlets as well as with the emphasis of media as producers of commercial *and* cultural goods (Jarren, 2001). Whereas earlier the task of a party and partisan newspaper was to interpret the occurrences of the world in the light of a certain world-view, value system and political agenda, a politically independent press, depending on general interest (popular demand) and advertising revenues adapts its selection routines and news-processing logic (Imhof, 2006). Although many media have always been organized as free market enterprises only now the dual economy of the media market comes to fruition, and the media emerge as a social system based on technological innovation and organizational differentiation. This entails their generic functional processes and logics and (heightened) autonomy in the face of its environmental surroundings (cf. Altheide and Snow, 1979). Thus, Media Society is understood as an emergent social formation that develops when the modern media system, by way of technological means, typical content/production, and a patterning communicative logic, enters ever deeper into the individual, institutional, and societal sphere of contemporary society. As media and information technologies merge (Latzer, 2009) to provide the technical infrastructure of the bulk of human communication, they become the backbone of both private and public social interaction. Leaving behind their main purpose as intermediaries and agents of other social institutions, they now pursue their own goals.

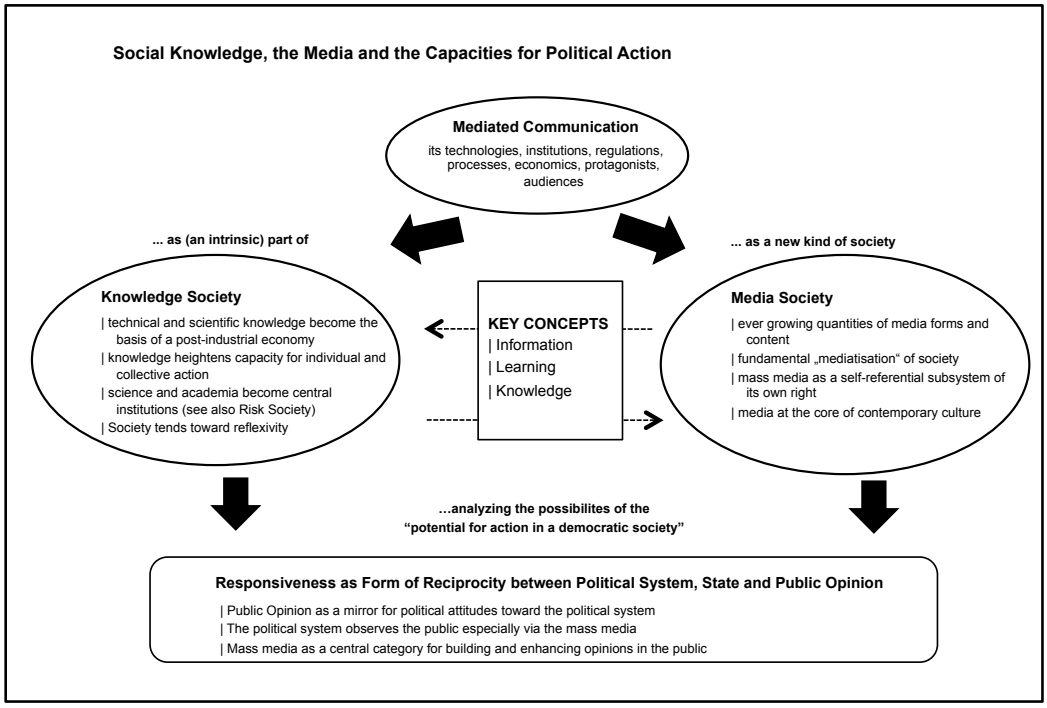

Figure 1: Social Knowledge, the Media and the Capacities for Political Action

While media's emergence as a major force of modernization and social change is structurally related to technological innovation and institutional differentiation, their cultural significance lies with these, their new social, political, and cultural roles. While theories of society, by their very nature, extend to all social and cultural phenomena of a given social formation, for our purposes we need to focus on concepts of central importance to both theoretical bodies, as well as relevant for a discussion of the political category of responsiveness. Thus, in the following chapter we aim to elaborate shared concepts of both: information and knowledge.

2. Discussion of Central Concepts: Descriptive Quality and Conceptual Potential

We shall begin with probing the term information for which we rely on Luhmann (1984). His conceptualization of information builds on the notion of a functionally-differentiated society. Taking a closer look at the mass media, one can observe that they are specialized in the distribution of information. In doing so they represent the world *from within* society *for* the society and build perceptions of reality (Saxer, 2007). They act upon their generic code of information/non information.[12] Everyone who joins the process of mediated communication receives information about a shared societal agenda. Luhmann's argument is based on two fundamental ideas: First, mass media form an operationally closed system. Second, the special function of the mass

media is to generate reality not only for themselves, but also for other subsystems and the society as a whole: "Whatever we know about our society, or indeed about the world in which we live, we know through the mass media" (Luhmann, 2000a, p. 1). Pointing to this special function allows us to integrate this theory of a functionally-differentiated society with what has recently been termed the *mediatization* concept (Livingstone, 2009; Krotz 2001). Both argue a special media-function in the distribution of information for every societal subsystem and both point to the fact, that observing society – and thus orientating yourself as a part of this society – is only possible via the mass media. In a functionally-differentiated and thus highly complex modern society they are the only common source of our knowledge about the society and the world, in which we live. The concept of mediatization goes even further and assumes that a generic media-code has extended to other subsystems, for example, the political and the scientific system (Hjarvard, 2008). These systems attach a "media logic" (see Altheide and Snow, 1979) as a second coding to their own coding, a code that then pervades other systems.

Information broadens the knowledge of its recipient by minimizing their not-knowing (*Nichtwissen*). Thus, information may be defined simply as that which reduces not-knowing. Information refers to the content of a message, which – given the right frame or reference and a shared code – enhances the receiver's level of knowledge. Information may spring from two sources: it can be gained directly through own (*life-world*) experiences or indirectly through third-party colportage. Mass mediated reality, the prevalent mode of experiencing our social and natural environment in contemporary modernity, is thus always a second-hand reality. As receivers of this information, we necessarily evaluate the (state of the) world from an indirect and second-hand perspective.[13] According to Luhmann, then, the societal function of the mass media is the creation of certain assumptions about reality, which people subsequently draw on in social communication. This integration can be achieved by topics (*Themen*). Topics that are featured in the big media outlets can be assumed as commonly known. By doing this mass media produce perceptions of reality against the backdrop of the media as a society's memory.

In contrast to information, it seems that knowledge *does not* lose its value after publication. Still, knowledge consists of information: It is the sediment of first- and second hand experience which is schematized as the background of our experiences. Knowledge is strongly characterized by a willingness to modify expectations, if it is confuted by failure or new knowledge (Luhmann, 1992). Our knowledge is composed of (mass-mediated) information, by our prior experiences and by our own processes of selecting and schematizing memories. Consequently, knowledge, communication and the media are interwoven phenomena, but seldom approached in this interdependence: The mass media have a preference for information, which quickly transforms into non-information once it is communicated, at which stage it might become socially viable knowledge. The latter, then, sports altogether different properties: it lingers until it is outdated or actually confuted.

Like knowledge in general, media based knowledge is often considered a public good, which is or should be made available to everyone (Stehr, 2001a). Due to the development of online communications, various organizations have released their pools of special knowledge to the public. Since these forms of knowledge are highly specialized and therefore not intelligible for

everyone, the mass media work to fill this gap. They provide, contrary to many specialized resources of knowledge, comprehensible knowledge for the many. They translate special knowledge into journalistic – or generally understandable – *language games* (Kabalak et al., 2008). Therefore, they integrate a variety of particularized knowledge into a societal perspective and arrange broad public perception for this archive knowledge. By doing this, mass media transform information into knowledge, via learning: as production of knowledge, as process of individual preparation and as a social process for common activities in new situations (Böck, 2007; Bonfadelli, 1994).

From this perspective, the media can be seen as continually recreating the semantic backdrop of new information, which only becomes intelligible by its interpretation in the light of what is already known. In order to serve their function as collectors and interpreters of an endless stream of events, i.e. in order to be able to reduce the complexity of the modern society to a manageable level for their recipients, the media need to draw on apparently unproblematic semantic and cultural foundations, thus confirming and strengthening them at the same time. Over time, their permanent contribution to and re-interpretation of the values, norms and conventions of modern society themselves become part of those foundations. In an era where mediated communication and thus mediated experience is our main connection to the world around us, the media have thus become the central institutions in the production and reproduction of contemporary culture. This is where knowledge society and media society converge.

To sum up, the duties of the mass media in this information-knowledge context are threefold: First, they translate special knowledge into generally comprehensible language. Second, they integrate these various special knowledge-puzzles into a universal perspective. Third, they arrange a broad public perception for this archive knowledge.

3. Responsiveness as a Possibility of Integrating both Concepts?

In the light of the above, all the possibilities of acting in a democratic society deflect on these basics, because the mediated pictures of a social reality affect our social actions in many situations. Processing information into knowledge is the basic resource for political participation and civic engagement. To a large amount, processes of learning take place via mass media, and for that reason, one could conclude that it is the duty of the political system to find ways to include people in the political system via the media. But comprehensive media supply is not automatically a sufficient condition for a high individual information level. The amount, the content and the mode of (political) information is much diversified and is often dependent on political predispositions and interest as well as on the individual social background. As the hypothesis of knowledge gaps points out, levels of knowledge are rather diverse in different social environments: People with a higher socio-economic status and easy access to media content tend to accumulate more new information and at a faster rate, so the gap in knowledge between these

social environments tends to increase (cf. Bonfadelli, 1994). One can find an immense number of critical perspectives on the role of the media for civic engagement. For example, Putnam describes for the U.S. a close link between the decline of civic engagement and the role of the media: The argument is that heavy media use would substitute civic engagement (Norris, 1996; Putnam, 1995a; 1995b). But at the same time, one can observe contrary effects: reading newspaper and viewing public affairs programming can also have positive effects, since the informational resources provided by mass media facilitate engagement (Scheufele and Shah, 2003). This can also be shown for online communications (Shah, Kwak and Holbert, 2001; Shah, McLeod and Yoon, 2001). Additionally, one can find positive effects of online communication for social engagement and single issue mobilization, for example, in community-building and networking (Davis, Elin and Reeher, 2004; Shah et al., 2002; Wellman et al., 2001): Civil actors use knowledge strategically to launch public debates on single issues. Thus, they try to challenge and undermine the special knowledge of bureaucracy and public officials.

We understand responsiveness as a form of reciprocity between the political system and the public opinion. Elections are a principal expression of people's satisfaction with political actors and decisions, but normally only take place at certain intervals. Between elections, the concept of responsiveness assumes the role of observing public opinion for the political system. Therefore, responsiveness can be defined as the capacity of the political system to respond to the preferences of its citizens. The concept of responsiveness attaches to the mass media in a twofold way: First, mass media are a central category for building and enhancing opinions among the public and therefore essential for building public opinions. On the other hand, the mass media serve as a mirror for the political system (Erikson, 2002; Luhmann, 2000b): reflected in the mass media's coverage, politicians and parties can observe the attitudes of the public on certain issues. However, a considerable body of research on the impact of public opinion on policy making in western democracies has come to ambiguous assessments on the level of responsiveness: Some scholars found strong and persisting impacts of public opinion on policies, but others reject these ideas (Manza and Cook, 2002; Page, 2002).

Responsiveness as an empirical construct which interprets the specific system-environment-relationship between political system and the public in an action-theoretical manner seems to be an appropriate concept to attempt a comparison between Media Society and Knowledge Society, since it centers social action and its formation, based on knowledge and its respective transmission through media channels. Responsiveness merges various crucial lines of argumentation of both macroperspectival approaches and channels them in the question of the functioning of democratic decision-making among the citizens and the political system. The concept touches the functioning of democracies in a decisive manner, since a legitimate political system needs to orientate its decisions with regard to a public sphere, in which the citizens have possibilities to participate in the political discussion. As Habermas (2006, p. 418) puts it: "According to the deliberative model of democracy, the legitimation process must pass through a public sphere that has the capacity to foster considered public opinion".

From this point of view, the political system needs to find comprehension and acceptance among the public for its often intransparent acts. It is thereby dependent upon knowledge in

order to cope with the discrepancy between the well-known elapsed processes and the not-knowing with regard to the future (Luhmann, 2000b). Facing the risk of taking the wrong decisions, the political system, as well as the citizen, is susceptible to relying on unconsidered premises and heuristics, which reduce information costs through redundancies. Both knowledge and communication – the central variables of Knowledge Society and Media Society – claim to serve as universal concepts, increasing potentials for political action on the structural as well as on the individual level. The democratic norm of responsiveness now allows for the identification of overlaps in both concepts. A political system can not act responsively, if the citizens do not participate in the public debate. In turn, the individual depends on the mediated communication of political information to come to an elaborate political choice – and to utter this choice in public. It holds for both political system and the citizens that knowledge, which is not publicly communicated, is equally ineffective in the political debate as in a rapidly evolving media system which does not transmit the key information about political activities and procedures. Whether Knowledge Society and Media Society come up to their ascribed democratic potentials seems to be tied closely to their ability to represent carefully the reasons and impediments for social action. “The link between public preferences and public policy is at the heart of democratic theory”, state Soroka and Lim (2003, p. 576) in accordance with an immense body of literature (e.g. Dahl, 1971; Herzog, 1998; Verba, Schlozman and Brady, 1995). However, how stable is this link for the issue of global warming?

4. The Case of Global Warming

As argued in the last chapter, responsive action is closely linked to the formulation and implementation of *decisions* on the part of both citizens and politicians, whose preliminaries shall be found in the forum of the public sphere. Are these processes hindered in the case of global warming and if so, why? Do the “grand” theories of Knowledge Society and Media Society overlook these obstacles? These are the leading questions of the following chapter.

Global warming, in the following subsumed by the admittedly reductionist term of “a global-scale environmental problem caused by the universal physical properties of greenhouse gases” (Demeritt, 2001, p. 307), has become a highly topical phenomenon in social science research. Some scholars notice a significant increase in information about both the causes and possible impacts of global warming, which is not only reflected by a rising number of newspaper articles or scientific manuscripts. Instead, “discussions of global warming are spreading beyond the news media and into popular culture” (Kellstedt, Zahran and Vedlitz, 2008, p. 113). The abundance of information and entertainment programs, circulating around environmental issues is sharply contrasted by the failure of national and international politics to formulate and implement stringent agreements, restricting the world-wide emission of greenhouse gases, as it recently could be observed in December 2009 during the Copenhagen World Climate Summit. In order

to fathom this contradiction, it seems to be essential to analyze the nature of the issue of global warming, the dissemination of information about this issue and the prior-ranking transmitter of this information – the media. Integrating the individual strands into one coherent picture shall expose possible discontinuities in the responsive connection between citizens and politicians, as well as the assumed misrecognition of these discontinuities by the concepts of Knowledge Society and Media Society. Both citizens and politicians need to take deliberate decisions, in order to actively take part in the political process. Hence, the essential question to clarify is: "How can individuals come to acknowledge practically meaningful connections between their everyday experiences, and broader events and conditions in the world that are often quite distant from their experience?" (Schiff, 2008, p. 1).

In the case of global warming, the formation of these connections might be exacerbated by two factors. The first one originates in the issue itself. Global warming denominates highly risky and complex incidents and processes, whose characteristics may account for wide arrays of not-knowing among the involved actors, be it scientists, politicians or the average layperson. According to Beck (1992), this kind of not-knowing refers to realms beyond assessable and, as such, in principle familiar risks. Expectations and frames of action, grounded on already calculable risks can thus be exceeded and rendered useless (Wehling, 2006). Furthermore, the apperception of and reaction to global warming issues is accessorily hindered by considering a temporal dimension. Prospective consequences, for instance the destruction of the ozone layer, rarely offer testable cause-and-effect-chains in the presence. From this it follows that hypotheses about possible future outcomes of the present ecological devastation, are difficult to prove, so that (political, maybe also electoral) decisions must be taken, although there is no definitive scientific consensus to rely on (Gill, 1999; Morone and Woodhouse, 1986).

Hence, the problems of handling global warming issues apparently supports the central ideas of the Knowledge Society, proclaiming scientific knowledge as fugacious, preliminary and contestable (Heidenreich, 2003). The occasionally far-reaching consequences of this kind of knowledge which can scarcely be conveyed to practical cases is similarly acknowledged, Stehr speaks of "collective unease and obstacles to action" as "the flip side of individual restlessness in knowledge societies" (2001b, p. 91). However, the incapacities of the individual, which are – in aggregation – decisive for collective action in democratic societies do not attract any more interest: "This trend towards the development of fragile social systems is clearly the result of an (uneven) extension of individual's capacity for action in modern societies" (Stehr, 2001b, p. 90). What Stehr merely puts in parenthesis – the potentially unequal disposition of cognitive resources – deserves further scrutiny, not only with respect to the normative democratic standards of responsiveness and equal representation. Knowledge as a political category is also accessible as the individual level of awareness about the freedom of a self-dependent citizen and thus, as the basic requirement for political action. The resultant competence and motivation to *participate* (Wirth and Matthes, 2006, p. 342) is indeed normatively demanded, for instance by Berelson, Lazarsfeld and McPhee, who state in their famous 1954 election study that "[the] democratic citizen is expected to be well informed about political affairs" (1954, p. 308), but just as well empirically ascertained. In order to define and interpret a public issue, its causes and

originators, addressees, goals and prospects of success as the pre-condition for a decision for or against participation, knowledge and experience is needed (Weßler, 1999). Meanwhile, wrong information abates the capability of the individual to orientate their actions according to their knowledge, interests and values. Consequently, the quality of democracy is affected (Jerit, Barabas and Bolson, 2006; Eveland and Scheufele, 2000), as well as the central assumptions of the concept of Knowledge Society.

These (cognitive) hindrances for the functioning of democracies might be reasonably illustrated by the example of global warming, since various studies about this issue show how demanding the opinion formation process as the basis for political participation can be, especially for uninformed citizens. Consequently, a widening gap between knowledgeable and unknowledgeable citizens emerges, since "[m]ore educated and higher income citizens appear to have the civic skills and resources necessary to absorb selective costs and recognize opportunities for participation" (Lubell, Zahran and Vedlitz, 2007, p. 408). Additionally, a large set of motivations, as "causes of goal-oriented activity" (David, 2009, p. 5; Atkinson, 1964; Hull, 1943) mediate these processes and so do values, ideology, partisanship, background, socio-economic and demographic variables (e. g. Straka, 2005; Schmidt, 2005; Roth, 2001; Shaw, 2001; Mannheim, 1952). Yet, great importance can be attached to the effect of factual information, when it comes to the evaluation of situations and the deduction of instructions for action. "Focusing specifically on global warming, we […] showed that individual's knowledge and information certainly affect their propensity to evaluate a condition as serious. As information becomes more certain, people become more definitive in their judgments", write Wood and Vedlitz (2007, p. 564). Definitive evidence about the causes and consequences of global warming thus seems to ease the demanding cognitive efforts of the individual. The citizen is dependent upon facts in order to form – ever abstract – interests (Pitkin, 1967) and to convert those interests into preferences – a central competence in democratic systems (David, 2009) whose adaptation strategies depend upon "the ability of individuals and communities to act collectively in the face of risks" (Adger, 2003, p. 400). So far, we can summarize the following points: The understanding of global warming coherencies and the subsequent building of (political) preferences is impeded by the complex and risky nature of the issue itself and by differing cognitive and social predispositions on the part of the citizens. The resulting consequences for the democratic norm of responsiveness are marginally addressed by the theory of Knowledge Society.

In order to offer valuable clues to further shortfalls of the concepts of Knowledge Society and Media Society, we will review in the following the process that puts their central variables – information and knowledge – in a concerted picture: the transmission of information and its practical utilization in the political process. "When the issue is precisely the competing factual claims of differing experts, nonexperts can hardly be expected to judge the scientific facts for themselves", states Demeritt (2001, p. 329). Due to the fact that "science cannot provide us with 'truths', only with more or less well-founded hypotheses and probabilities" (Stehr, 2001b, p. 91) and the fact that "the relevance of any type of research for a typical person's day-to-day life is far from obvious to the vast majority of people" (Kellstedt, Zahran and Vedlitz, 2008, p. 115), scientific knowledge apparently needs a sort of communicative transmitter to be conveyed from

the scientific system to the public sphere, where it can unfold its democratic potential. Hence, it can be assumed that "public concern in this domain […] is driven by knowledge gained through exposure to mediated information" (Zhao, 2009, p. 705). Pursuant to the idea of the Media Society, the mass media have taken "a more central role in society with increasing power over both politics and the public" (De Haan, 2008, p. 21). The media's role as a transmitter and interpreter of factual information has lightened hopes about an accurate reproduction and embedding of the primary data on global warming, which may lead to an activation of the audience. "Newspaper reading and Web use mediated the effects of age, race and education on perceived knowledge on global warming. Perceived knowledge and concern over global warming, in turn, significantly predicted future information seeking", argues Zhao (2009, p. 716; see also David, 2009; Nisbet and Myers, 2007). These findings are relativized by a considerable body of research on selection routines and news-processing logics of media institutions: "Studies suggest that in general the media have tended to provide relatively little discussion of adaptation to climate change […]", concludes Anderson (2009, p. 167). This observation might be substantiated by the use of specific, often dramatizing frames, which constitute a second-hand reality of remarkable risk. Metaphoric scenarios like for instance "apocalypse", "doom" or "superheating", often combined with numerable, sometimes biblical sub-frames like "torrential rain" or "climate sins", shall ensure a temporal classification of global warming events, as well as a demonstration of their eventfulness and radicalness to the audience (Hornschuh, 2008; Weingart, Engels and Pansegrau, 2008). Similar effects may be attributed to the exposing of single phenomena and events like the hurricanes Katrina in 2005 and Ike in 2009 or the imminent collapse of polar bear populations (Borick and Rabe, 2009). However, the contrary might be the result of purely emotional reports: "The more people worry about global warming, the less the feel they have control over it and the more likely they are to avoid information about it" (Kahlor and Rosenthal, 2009, p. 405). Accordingly, simplistic media frames on global warming do indeed constitute ways of organizing ideas, but the media's dependency upon gaining maximum audience and advertising revenues seems to be hold up at the expense of carefully embedded, well-founded information. At this point, the differing systemic logics inherent in the two approaches become again evident, since media society makes no claim as to the quality of the knowledge it disperses.

Without going as far as Entman, who argues that "framing seems to raise radical doubts about democracy itself" (1993, p. 57), one can detect serious consequences for the democratic core concept of responsiveness. Visibility for the topic of global warming, established by the media, is no warrantor for a high rate of responsiveness. Rather, Bishin and Hayes (2008, p. 26-27) found out, that "legislators seem to respond to the preferences of intense groups of citizens". The missing link between representation and the degree of issue visibility thus has important normative implications for democracy, not only because less informed citizens do not have a chance to be equally heard in the political process if they lack the factual knowledge, necessary to exert effective pressure upon politicians. Moreover, if substantial, reliable knowledge about global warming issues, which is essential in order to introduce regimes about these matters (Dimitrov, 2003), does not reach the public sphere, it is neither available to potentially commit-

ted citizens, nor to politicians, who try to correspond responsively to their electorate's wishes. The relation politician-voter is interrupted, responsive behavior is not possible.

5. Conclusion

What kind of shortfalls does this argumentation reveal in the concepts of Knowledge Society and Media Society, concerning the example of global warming? The theory of Knowledge Society seems to overlook the unavoidable transmission and practical utilization of scientific knowledge. A democratic society requires "active citizens who possess ample and equal information" (David, 2009, p. 26). This argument is as old as democratic theory itself; still the idea of Knowledge Society lifts this claim to a higher level, proclaiming the intensification of knowledgeability of people within those societies. "Only knowledge is capable of increasing the democratic potential of liberal societies" (Stehr, 2001b, p. 91), it is argued. The findings on public knowledge about global warming suggest that such broad propositions are not backed by empirical evidence on the microlevel.

The question arises, how an initially unknowledgeable citizenry can actually inform itself to a degree that enables it to take part in more knowledgeable groups and thus, to be heard in the political system. This is the point where the media enter the picture. The dissemination and interpretation of information via media channels from the scientific system to the public sphere is a crucial predisposition for utilizing this information in the political process. The misrecognition of this process thus is a significant shortfall of the concept of Knowledge Society – it seems, at times, to overlook this mandatory process of mediation.

The concept of Media Society also displays an important deficiency. The mass media have pervaded great areas of social life and form the social lens through which citizens perceive tremendous parts of their reality. It might be inferred from this powerful position that "corporate media might be capable of promoting 'guided' social change" (Kim, 2005, p. 20), although the consideration of the contents transported is largely neglected. Indeed, the theory of Media Society is concerned with the adaptation of selection routines and framing processes to popular demands, attention routines and advertising profits. Yet, so far the most important works do not problematize these procedures and their consequences on the potentially modified contents and, continuatively, on their usefulness for individual preference-building and political participation. While much of the work on Media Society, especially in the wake of systems theory has focused on the mechanisms and procedures of "mediation" a theory of mediatization needs to integrate a more critical approach to what effects mediated communication actually has in terms of political participation.

Summing up, it might be assumed that both theories, Knowledge Society and Media Society, in their current guises overlook significant parameters for the ability to act collectively in responsive political systems and thus, in democratic societies. As much as they have increased our

understanding regarding the mechanisms of contemporary social change, they often have little to say as to the qualitative dimensions of such processes.

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Endnotes

(1) Despite little differences in the definitions of global warming and climate change we will use both terms as synonyms.

(2) Which also means that we are talking about western, industrialized and considerably wealthy societies here.

(3) For a comprehensive discussion of the notion of the Information Society, see Webster (1995). Both Knowledge Society as well as Media Society are related to the larger discursive context framed by what has been put forward under the heading Information Society. They are, after all, not of the same kind as earlier theories of society that were usually intimately associated with a single author.

(4) For example, postindustrial society implicitly regards industrialization on a high and stable level as its foundation since only from this vantage point change and/or advancement might be observed. Such an evolutionary notion is also responsible for such approaches being attributed to a "modernizing" paradigm: modern society emerges from traditional society and then becomes post-industrial after a certain saturation point has been reached – while retaining the essential contribution to its overall make-up from this earlier stage.

(5) See Böhme/Stehr (1986), Stehr (1994a; 2001). Stehr and other proponents of the Knowledge Society usually refer to Drucker and Bell as laying the foundations of this concept.

(6) The confines of this paper do not allow a comprehensive account of the various strands of Knowledge Societies, not even a detailed discussion of a single theoretical body of work. Rather, we aim at the identification and explication of certain core assumptions and to render them comparable to other paradigmatic approaches.

(7) See e.g. the flight ban in European airspace in April 2010 as the ashes of an Icelandic volcano forced air travel over Europe to a grinding halt. Soon discussions arose concerning the necessity and appropriateness of these regulatory measures, while it quickly became clear that engineers simply did not know enough about the effects of such particles for airplanes just like there was no technology available to exactly monitor the spread and density of the ash cloud, but partially erroneous simulations.

(8) Returning to the example of the flight-ban, it is interesting to observe how political decision making for governments becomes an increasingly difficult task, as the media provide myriad opportunities for a cacophony of voices. For every scientific advisor consulted, another expert voiced a contrary standpoint via media channels; for every attempt of legitimizing measures taken, a diverging interest was laid out. Making collectively binding decision under these circumstances contradicts earlier prognoses of modernity being an age of scientifically founded certainty. On the contrary, the more we can know, the less certain seems what we deduct form such new knowledge (Stehr, 2001a).

(9) As a universal phenomenon, both communication – as the basic mode of human organization and exchange – and the media – as potentially deployable for any kind of social activity and able to carry and process signals of all kinds since the advent of digitalization – have always had to deal with their fate as the blind spot of social interaction, eclipsed by their everyday usage.

(10) Accompanied by the notion of globalization, network society explores the possibilities of new social, political and economic processes in a world where the formerly structuring constraints like (national) space and time seem to drastically lose importance. Key ideas that have come to be subsumed under the heading of Media Society have long been the concern in fields such as sociology (e.g. Thompson, 1995), cultural studies (Williams, 1976), communication studies (Schulz, 2004), anthropology, media ecology (Meyrowitz, 1985) and other social and cultural sciences which suggests the universal nature and wide reach of these societal transformations under the influence of mediated communication.

(11) Let us stress again, that this applies mainly to wealthy, western societies, although some media, like e.g. TV or the mobile phone have seen tremendous success even in less developed states as well.

(12) For a discussion of this central notion of Luhmann's theory and suggestions of other, perhaps better suited codes see Görke and Scholl (2006).

(13) This notion relies on the epistemological foundations of systems theory and is thus not immediately comparable to earlier critics of the media as an ideological system. It springs from the autopoietic conception that systems can only ever function within their own code, reproducing themselves through their own operations (see Luhmann 2000a).