

A RECONCEPTUALIZATION OF SCIENCE & TECHNOLOGY IN A HIGHLY MEDIATIZED & DEMOCRATIZED SOCIETY

Pieter A. Maesele

Ghent University, Dept. of Communication Studies, Belgium

Abstract

We inhabit an age in which economic progress in the European Union is equalized to more European research and better communication of that European research to the public. In strongly developed Western democracies this implies an important role for the citizen, and second for the highly democratized mass media acting in a transforming public sphere. Beyond a call for more communication and more scientific literacy, the discourse has shifted to a call for more engagement and more participation on behalf of the citizen. There is a widespread sentiment however that we are on a cross-road. From a media-sociological perspective we argue that scientific and technological issues in our contemporary democracies which are in essence primarily issue driven require detours of public-isation for their settlement to allow the citizen to make an informed assessment of the scientific debates in which his/her engagement is demanded and thus allow the informed citizen to play his/her 'informed role'. Inevitably this leads us to problematize the three actors in the debate about science communication, i.e. 'science & scientists', 'communication & the media' and 'the public'. The former will have to come to terms with the fact that their authority is no longer a priori given in present circumstances. Second the media are primarily to be considered as a feedback channel in which public opinion is represented and constructed. In this perspective science is but one of the many other knowledge cultures in society, albeit one with considerable weight, but also perceived as an actor with several interests. Science has changed from a unified cause to a highly politicized divisive force, being at best an opinion leader. This means science will need to reckon with trust, values, and emotion in revising its role in a highly mediatized & democratized society.

Keywords: issues, science and technology, communication, media studies, democratization, mediatization

1. Introduction

The European Commission (the European Union's executive body) held a conference in Brussels on November 14th and 15th 2005 on 'Communicating European Research' (CER 2005), "to promote more and better communication on science and research (Potocnik Janez, 2005: p. 3)". This is to be seen in the light of the Lisbon Strategy set out in 2000 where EU heads of State agreed on the ambitious goal of "making the EU the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion (Euractiv.com, 2004)." To achieve this ambitious goal member states pledged to meet the 'Lisbon target' of scaling up R&D investments to 3% of GDP by 2010, comparable to the level of the US and Japan. The rationale behind this is the following: more and better communication € more R&D investments € more jobs and growth. Especially the first relationship is of our concern here. Without public opinion support to upgrade R&D investments no government will downscale social, cultural or other economic investments in their national budgets (which would hurt every sector involved). Ultimately this leads to the conclusion that more and better communication on science is regarded as crucial for the economic progress in the European Union. This line of thinking rings a bell and takes us back to the publication of the Bodmer report "the public understanding of science" in 1985 by the Royal Society in the UK. The peculiar thing about the conference was that the social sciences were totally absent. Although there was an exhibition of 250 stands in which "scientists and organizations" were to "present interesting practices, results and examples of Communicating European research" the two seminal journals *Science Communication* and *Public Understanding of Science* nor any reference to the interesting practices, results and examples that were ever published by social scientists was made. All attention went to the (problematic) relationship between scientists and the media, and the public was left out of the equation. Nevertheless the Science and Research Commissioner Janez Potocnik stated in the Welcome text to the conference that "communicating and engaging with the public about research is a responsibility" and "researchers have an obligation to inform what they are doing, but also listen, to understand the social context within which they operate – what people worry about, what they want or need from science (Potocnik, 2005: p. 3)."

The above example is still exemplary for an obstinate tendency to conceptualize public communication

of science and technology as a very distinct form of communication, or as a separate media genre. In this paper we would like to inject this area of research with some realism from the perspective of media studies. Science and technology are confronted with the same strong mediatization and democratization as any other issue in society. The result is that the scientific actor is no longer able to rely on any natural authority in the late modern society. As any other actor in the public sphere the scientist is subjected to and subsequently has to abide by the laws of a strongly mediatized and democratized society. It is not always clear what exactly is the contribution of media studies in the science communication and public understanding of or engagement with science debate. In our reconceptualization of science and technology in society we will try to avoid several pitfalls this area of research seems to keep running into and in pursuing this we draw upon certain insights from social theory, political science and media studies.

2. Media and the transformation of the public sphere

2.1 Emancipatory and life politics

Ever since the publication of Jürgen Habermas' "Strukturwandel der Öffentlichkeit" and especially since its English translation in the eighties, the relationship between the media and the public sphere has become an important topic in media studies. The past two decades a number of authors have contributed to a more dynamic approach of the "public sphere" concept (for an overview, see Verstraeten, 1996; see also Dahlgren, 1995). Since the last quarter of the twentieth century the rapid evolution of science and technology has penetrated the discussion agenda of the public sphere. Characteristic of a more dynamic approach to the public sphere is a particular focus on the bottom-up sense-making processes of the citizen, next to the attention on institutionally oriented top-down processes. The necessity for such a dynamic approach presses forward because of the extension of the political domain from "emancipatory politics" to "life politics," as defined by Anthony Giddens (1991: 209-230). "Emancipatory politics" has sprouted from the ideals of the Enlightenment and is primarily directed at freeing individuals and groups from the societal limitations that restrain the development of their "life chances." Hence, the primary role of "emancipatory politics" is the diminishment or elimination of social exploitation, inequality and oppression. Notwithstanding the fact that the different political ideologies disagree on essential points on how to achieve these goals, they all consider the emancipatory goals as fundamental. "Life politics," on the other hand, manifests itself, once the first – however only partial – results of the "emancipatory politics" emerge in society. Once the limitations of exploitation, inequality, and oppression have diminished, and "life chances" have increased, citizens face the problems of "life politics." Having a certain number of choices at their disposal, what decisions do they need to take in order to develop their social identity in the best possible way? Whereas "emancipatory politics" is directed towards increasing societal choice possibilities, "life politics" focuses on the question of how people can use these new alternatives to reach "self-actualization" (see also Verstraeten, 2000). Next to the political developments, scientific and technological innovations have also made a substantial contribution to the expansion of "life politics." Let us clarify this with an example. Science has evolved to the point that it is possible to intervene at the genetic level of crops and add certain qualities, thus increasing life chances. However, this does not infer that consumers are automatically prepared to buy food in their supermarket which contains genetically modified ingredients. The citizen demands a politics of choice.

2.2 Public Understanding of Science and Science Communication

More engagement is often no more than a rhetorical tool, but nevertheless the area of Science Communication has seen a shift from the Public Understanding of Science to Public Engagement with Science. The dominant discourse in the "Public Understanding of Science" debate has been a declared war on the scientific illiteracy of the public. Advocates of science communication and popularization have been battling for the improvement of the public understanding of science since the beginning of the twentieth century (Logan, 1991) and the PuS movement de facto institutionalized in 1985 by the publication by the Royal Society (UK) of the "Public Understanding of Science" report, widely referred to as the Bodmer-report (Bodmer, 1985). This dominant discourse is typically referred to as the deficit or the science literacy model. In (mass) communication terms, this model refers to a one-way top-down asymmetrical flow (of knowledge) leaving from the scientific community passing through the mass media to the public. A fundamentally mechanical and positivistic sender-receiver communication model, in which the media serve only for the transmission of "true" scientific knowledge to the "ignorant" lay public. Its advocates bank on linear effects in the old hypodermic needle style, the first conceptualization of media effects ever (De Fleur, 1966): the more the public learns about science and technology the more 1) scientifically literate and 2) the more supportive it will become (thus ensuring the future necessary funds). We can clearly see how this conceptualization lives on in the above mentioned conference of

the European Commission. It is also clear that in this line of thinking the public and the media are problematized, and not science: the public for being ignorant, and the media for distorting a clear picture of science (Wynne, 1995).

This dominant (classic) conceptualization clearly conflicts with the notion of life politics. The question to what extent people are able to use their increased societal choice possibilities in order to reach self-actualization, or to develop a social identity, can not be answered here. On the contrary, this conceptualization is an explicit form of emancipatory politics (Maesele and Verstraeten, submitted). No other role than replicating the information coming from science communication is reserved for the public. Viewed in the light of the pedagogical philosophy of emancipatory politics, it is inferred that individuals are able to make “informed” choices. Nonetheless, nothing indicates that if these choices for example oppose anything, they will exert any influence. Second, only the rational-cognitive level is considered, the ethical or political is irrelevant. Overcoming the illegitimate dominance of some groups or individuals over others by emancipatory politics only brings along a new dominance. Inevitably this leads to an expert-educating-a lay person relation. It assumes someone or something to set up the process of emancipation, as an apolitical top-down mechanism. So there seems to be a democratic paradox in the Public Understanding of Science movement, although democratic motives are explicitly stated as being fundamental. (Winnubst, 1990; Thomas and Durant, 1987). Scientific experts with an exclusive privilege on the “absolute truths” are being put on top of the social ladder through their privileged position in the knowledge economy, and second in opposition to all outsiders (like for instance the media) only waiting to falsify the truth.

2.3 Public Engagement with and the Public Value of Science

To account for the bottom-up sense making processes of the citizen, thus to account for life politics, public understanding of science was gradually replaced by public engagement with science, foregrounding more dialogical forms of science communication. Whether you are a scientist, a politician, a social scientist or a factory worker, you will think and talk differently about science and technology. Shared meaning is easily missed and differences misrepresented (see for instance Bucchi, 2004). This shift from emancipatory to life politics is exemplified by the House of Lords (UK) ‘Science and Society’ report (2000) and the rise of consensus conferences and citizen juries (Goven, 2002, Irwin, 2001) Nonetheless, these participation procedures easily end up with another deficit model or with narrowing the debate to risk questions instead of questioning the wider social visions and values driving science and innovation. The House of Lords report and the Demos pamphlet by Wilsdon, Wynne and Stilgoe (2005) both propose to focus on the software of engagement (values, codes) next to the hardware (participation procedures). The latter warn that without a shared framework we are likely to find ourselves in one of the next two blind alleys, as the CER 2005 conference recently demonstrated: (i) determinism: an almost political pressure that we must be “pro-science” and “pro-innovation”, easily leading us down the path of defining what is “possible” as “desirable”, as well as assuming that economic and social benefits of innovation are obvious and agreed. And (ii) reductionism: economics is always called in to assist science in its role as unproblematic source of authority, reducing dialogue to the calculus of economic growth or risk assessment: “Confronted with scientific and technological choices, we need the freedom and opportunity to ask a broader set of questions than economics or risk assessment will allow. And this is where the notion of public value can prove useful: ‘if we assume that science’s benefits and costs affect citizens in very different ways . . . then public value questions emerge as at least as important as economic ones’ (Bozeman & Sarewitz in: Wilsdon et al. 2005: 27)”

To proceed with our re-conceptualization of this area of research, three studies are crucial for asking the right questions. The first was carried out in 1988 in the UK and was aimed specifically at measuring the main rationale of the deficit model: the more understanding, the more positive attitudes (Evans and Durant, 1995). One of the main conclusions was that general attitudes to science were poor predictors of public attitudes to specific scientific issues. The second was that people who scored higher points on scientific understanding are more opposed to morally contentious areas of research than people who are less informed (no consistent attitudes). The authors warned long before the GM controversy for the complex consequences of a scientifically better informed public, and they suggested that “the opinions of a scientifically well-informed public may serve as a check on public and political support for certain areas of research (71).” The other two studies (specifically about biotechnology) are both from Massimiano Bucchi and Federico Neresini. Two survey’s carried out in 2000 and 2001 in Italy showed again that being better informed does not lead to more positive attitudes with respect to different biotechnologies, yet it is associated with asking for stricter state regulation, which should not be left to scientists or business, but for example to consumer groups, instead of potential beneficiaries (Bucchi and Neresini, 2002). Media exposure did not prove to be relevant, so the authors conducted another study in 2003 aimed at explaining public hostility to biotechnologies (Bucchi and Neresini, 2004). High levels of trust in science in general again were confirmed and scientists in this survey were indicated as the most trustworthy source of information on biotechnology. Nevertheless, 69% of respondents defined science as “loaded with

interests.” A clear indication scientific research cannot longer count on an aspect of impartiality and disinterestedness. Citizens also expressed a strong request for involvement and public participation: one out of five indicated that “all citizens” should be involved in decisions regarding biotechnology (utopian approach), against one out of ten indicating scientists themselves should be left to bear the full responsibility (elitist approach). Although the authors exposed no belief in either one of these two approaches, their results did represent a concern “for the procedures connecting scientific expertise, decision-making, and political representation (...) Experts are not sufficient because political actors and institutions are considered inadequate in this area by the majority of citizens.” These three studies show us our re-conceptualization needs to take into account (i) the role of specific issues instead of science as some kind of abstract institution, (ii) the consequences of a “morally contentious” framing (iii) the role of both in the perceived (in)adequacy of procedures involving scientific expertise, decision-making and political representation.

3. Issue politics

3.1 No issues, no politics, no public: issues as occasions for democracy

Although both the adherents of the deficit model as its participatory critics claim to be pursuing democratic goals, we would like to take a step back and consider the practice of democratic politics itself. Since the famous debate between Walter Lippmann (1922, 1927) and John Dewey (1927) around the first quarter of the twentieth century, issues are attributed an essential role in democratic politics (Marres, 2005). Certain features of what they perceived as the rise of a technological society in the United States around the First World War, i.e. a media revolution and a proliferation of complex issues, led them to a re-conceptualization of political democracy: public involvement in politics is occasioned by issues and democratic politics is about finding a settlement for those issues. The public becomes involved whenever existing institutions fail to reach a settlement for a certain issue. Existing institutions are capable of solving simple problems, without public involvement. The opportunity for a public to engage opens up whenever complex problems pop up about which information is lacking and the facts are obscure. Issues call publics into being whenever an issue, in which the distribution of the effects of a certain action transcends those directly involved in its production, thus becomes a public affair. From this follows that the public is only secondarily and indirectly involved, through the communication of these issues, and its agency is derived from its ability to influence the actors that are directly involved. Noortje Marres (2005) connects this with life politics when she states that “the emergence of a public affair can be characterised (sic) as an occasion on which a specific irreconcilability between modes of living comes to be articulated, as opposed to the many divergences among them that are too often easy to observe, but rarely translate into focused disagreement” (p. 58). She also introduces the rule “no issues, no politics, no public,” in which the public is to be understood as “an effect of particular political processes of issue formation (p. 62).”

3.2 The displacement of politics: no displacement, no public

In the late modern societies of the second half of the 20th century many scholars observe a crisis in the modern institutions of rational control which gives rise to structural transformations of society, as exemplified by Beck’s risk society (Beck, 1992; Pellizzoni, 2003; Marres, 2005; Funtowicz and Ravetz, 1993). This brings forth displacements of power and politics (Marres, 2005), caused by (i) a successful democratization which decreases power of intervention by the state, (ii) the invention and marketing of new technologies which increases the power of intervention by actors in the social domain, and (iii) the pervasiveness of the mass media, which subject activities outside of the official political domain to public scrutiny. Globalization is also an important factor in the displacement of politics, and the emergent “science powers” like China and India are often used as a pretext for a more relaxed stand on social, ethical or environmental issues, and ever closer ties between business and universities. The displacement of politics away from traditional national democratic institutions is exemplified by transnational institutions as the United Nations, the World Trade Organization, or the European Commission, and by the rise of transnational NGO’s like Greenpeace or Friends of the Earth.

But a more important displacement of politics for this paper is found in Science & Technology Studies (Jasanoff et al., 1995) in which it is argued that science itself is the pursuit of “politics by other means” (Latour, 1988). “Techno-scientific projects here come to be understood as intrinsically political interventions insofar as they mediate radical reconfigurations of society (and nature) (Marres, 2005: 9). The distinguishing element here is that these political effects are also to be understood as “faits accomplis”: they are only visible in retrospect, once the interventions have been made. Marres (2005: 10) concludes “In a society permeated by science and technology, democratic arrangements may do no more than generate legitimations after the fact, instead of securing control over the processes in which the facts take shape.” Many people in the developed world have come to see science with suspicion and hostility, as they do not feel they have any ownership, control or

influence on the sciences and technologies marketed by their governments and industry.

The result is a fundamental shift in the locations of politics characterized by a lack of legitimacy, accountability, and control. Today, two factors render this analysis extremely valuable. One, in the context of the displacement of politics issue politics becomes particularly visible. And second, the same goes for life politics, in which lifestyles, self-actualization and social identity play a primary role. Western voters do not longer identify themselves along strict political ideologies, but individual lifestyles have come to the fore in making choices, in taking decisions, in choosing different sides on different issues, and thus engaging in politics. This takes us to our next focal point in this investigation: issue definitions.

4. Mediated issue development

4.1 Issue attention cycles

Now what exactly is the role of communication and the media in issue politics? We mentioned above that all those affected by an issue – which we shall call the public – become involved – although secondarily and indirectly – through the communication of this issue. Anthony Downs (1972) was the first to set out different stages in what he dubbed the ‘issue attention cycle’ to study the nature of public attention. At first an issue is stuck in the pre-problem stage until a certain triggering event takes the issue into the public arena. In stage two, public attention to the issue is high and “a combination of alarm and confidence” guides the public pressure on political leaders to act. A gradual decline of public attention sets in as soon as the dramatic and exciting elements needed to sustain public interest become exhausted and new issues come to the fore. Once an issue has moved through the issue attention cycle Downs (1972) points to the fact that “the issue now has a different relation to public attention than that which prevailed in the ‘pre-problem’ stage”. It will recapture public interest more likely than others or certain aspects may be coupled to other problems which come to dominate public attention. Another important aspect is that any institutional arrangements set in place during an issue’s domination of the center stage persist for long after public attention has waned. But let us return shortly to issue politics first.

4.2 Conflict about the conflict: issue definitions

Elmer Eric Schnattschneider (1960), one of the famous agenda setting theorists, is another seminal author on these matters. For Schnattschneider politics is a set of strategies for the displacement of issues in which the principal strategy is the “conflict about the conflict”: the struggle over the definitions of the issues at stake. This is the decisive political intervention – the “supreme instrument of power” – which decides who participates or not. Then democratic politics is defined as the public-isation of affairs: the proliferation of conflict or the socialization of issues as opposed respectively to the containment of conflict or the privatization of issues. In both the former is the democratic movement, aimed at a larger participation of all those affected, the latter is the anti-democratic movement, aimed at limiting the parties involved. Noortje Marres prefers to focus on the trajectories of issue formation. Democratic politics occur when issues that affect the public and existing institutions fail to settle, depend on the detours of public-isation for their settlement. We are witnessing a democratic deficit when bad issue displacements occur: “when issues that depend on public involvement for their settlement are transported to locations that are inaccessible to publics, making their involvement in issue formation, and thus the settlement of affairs, impossible.”

4.3 A model of mediated issue development

Matthew Nisbet and Mike Hoge (2006) have worked towards a “model of mediated issue development” (see figure 1) in addressing some of the criticisms left at the doorstep of Anthony Downs. Nisbet & Hoge identify three key underlying social mechanisms driving issue attention cycles: (i) the type of policy venue or arena to debate the issue, (ii) the control of media attention and the framing of the issue in advantageous terms, and (iii) the shift in news beats and the media definition of the issue at stake. The most valuable aspect of their model is their linkage between strategic interpretations on the one hand and the type of policy venue, and the level of media attention on the other, as well as the integration of the work on problem definition from political science and the framing literature from media studies.

Table 1. Different features of administrative and overtly political policy arenas

Type of policy venue	Administrative arenas	Overtly political arenas
Scope of participation	Limited	Expanded
Access & input decision-making	Few actors	Diversity of actors
Consensus	high	eroding
Intensity of conflict	low	high
Potential change	incremental	nonincremental
Attention	scant	media and public attention
Special access	industry, scientific community	general public or other interests
Scientific authority	high	low
Policy monopoly	science and industry	pluralistic
Issue definition/frame	technical dimension: scientific evidence, cost-benefit calculations	dramatic dimension: ethics, morality, uncertainty, social concerns
Referential symbols	devoid of emotional content	emotionally charged
Symbolic weight	low	high
News beats	science writers, business journalists	political, general assignment reporters, opinion pages, letters to the editor, editorials
Potential volume of coverage	low	high
Narrative structure	uncommon	common

Returning to Schnattschneider, table 1 shows us how the conflict about the conflict decides the scope of participation: defining the issue purely in technical terms limits the scope of participation and serves in the interests of the actors advantaged by the status-quo in decision-making. Disadvantaged actors, who will benefit from a displacement of the issue, will depend on the detour of the public-ication of the issue to expand the scope of participation and the potential for change. In this public-isation the dramatic dimensions of the issue will be emphasized to drive conflict expansion and attract public attention and concern. In this process a more dramatic and political framing provides a narrative for the journalist for reporting on the issue and the issue will also shift across news beats, from the specialist journalists like science writers and business reporters, to political and general assignment reporters, which automatically also increases the amount of coverage devoted to the issue. A concomitant rise will occur in the opinion pages, letters to the editor and editorials, which are more likely to emphasize the ethical dimension of an issue than journalists themselves, through the latter's preference for appearing impartial. Nisbet & Huges point out that in administrative policy venues, like regulatory or funding agencies, special access is typically granted to the industry and the scientific community, and decision-making is left in the hands of administrators, scientists and independently constituted scientific advisory boards. In these institutional arrangements, technical and scientific arguments are the most persuasive, and science and industry enjoy a policy monopoly. "Scientific authority is created and defended in these arenas in part through the dominance of impersonal and neutral technical discourse, (...) the shift in framing of an issue from technical terms to dramatic terms [serves] as a key element in promoting the scope of participation around science-related controversies (Nisbet and Huges, 2006: 9 & 12, see also Nelkin, 1975). Once the issue has been displaced to overtly political arenas, consumer groups or environmentalists for example, enter the process of decision-making, while scientific authority is no longer a given where arguments based on social concerns stand in opposition to scientific evidence. Thus, how an issue "has been defined both reflects and shapes where the issue has been decided, by whom, and with what outcomes (Nisbet & Huges, 2006: 12)."

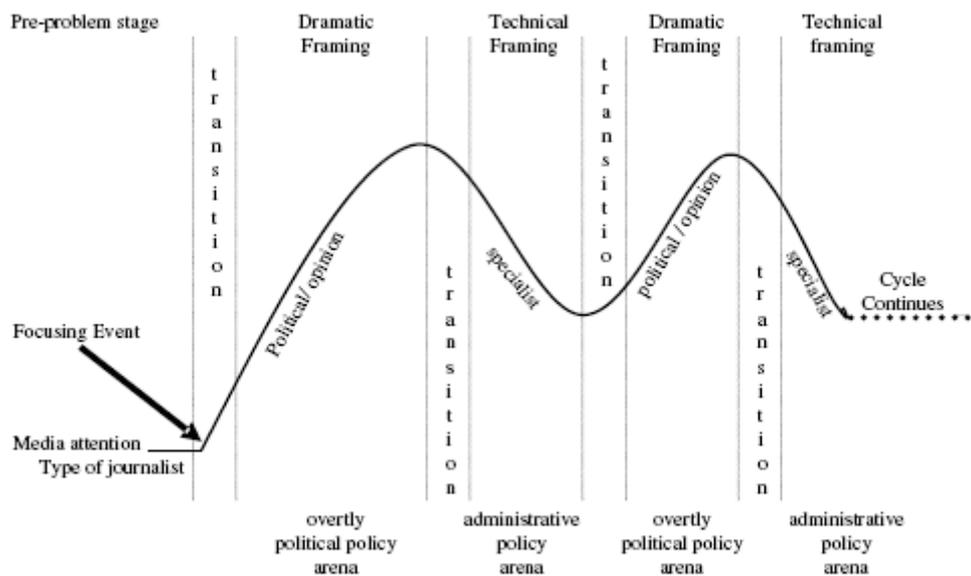


Figure 1. Model of Mediated Issue Development (Nisbet and Huge, 2006: 8)

This model of mediated issue development (see figure 1) has been applied to the issues of plant biotechnology (Nisbet and Huge, 2006), stem cells (Nisbet et al., 2003) and intelligent design (Moony and Nisbet, 2005), all in the United States. The model proved especially valuable in providing some explanations to the low level of controversy surrounding the plant biotechnology issue in the US in comparison with the rest of the world. An important reason for the limited scope of participation seems to be the framing of the issue in technical terms since early policy decisions, whereby a policy monopoly was established in administrative policy arenas. In this case we can also refer to Guy Cook who did an interesting study of the language used in the GM controversy and how different words are used to defend certain favorable interpretations and to marginalize opponents (Cook, 2004). Now let us turn our eyes to a very recent issue displacement in the debate on GMO's.

5. World Trade Organization

The United States, Canada and Argentine filed a complaint at the World Trade Organization in 2003 challenging the EU over its de facto moratorium on GMOs at the WTO, arguing that the ban is illegal and without any scientific foundation. This is a clear example of an issue displacement to an administrative policy arena aimed at limiting the scope of participation and potential for conflict. The WTO can only rule whether international trade rules are broken. The three accusers were hoping that the WTO would argue that the EU de facto moratorium was illegal, thereby ending all restrictions on the import of GMOs in Europe. It was not the safety of GMOs the WTO panel was due to rule on, but whether the approval process met WTO rules that products must be tested without "undue delay", thus preventing a form of backdoor protectionism (Financial Times, 8 February 2006). In this administrative policy arena only the legal dimension of the issue is considered, however in this case this meant assessing whether the EU had moved with proper speed in assessing the safety of GMOs, thus essentially it was about science-based risk assessment. Special access in this case is granted to scientists whom the trade diplomats rely on to inform their rulings. In February 2006 the WTO ruled in favour of the three accusers, arguing the EU had violated international trade rules by blocking the imports of GMO crops. Nevertheless, as consumer resistance to GMOs is still fierce, several European member states have declared this ruling would not influence their stance on this highly controversial scientific and technological issue.

6. Conclusion

All the pleas for more communication or participation procedures (often eventually narrowed down to risk questions) can easily be accounted for in the mediated issue development model. They serve to strategically frame the scientific issue in favorable terms for each party involved. To understand the dynamics behind science and technology disputes one has to account for the trajectories of issue formation and the detours of publicisation for the settlement of the issues. In this process the media reflect and shape the debate. More importantly,

how an issue is framed, will reflect and shape where the issue will be decided, by whom and with what outcomes. The recent WTO ruling provides a clear indication of this. We conclude with a rather provocative quote from Noortje Marres: “The big scandal is not that existing institutions fail to contain the issues of politics.(...) The big scandal is the disarticulation of public affairs: the displacement of issues away from sites hospitable to their definition, which thereby undo the work of specifying what exactly is at issue, and cause publics that have organised (sic) around issues to disintegrate, leaving behind a blur of inscrutable — un-, dis- and mis-articulated — concerns that are pursued without consideration of the attachments with which they are intertwined in antagonistic ways (Marres, 2005: 152).”

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