

The Ghost in the Policy Machine

Agenda Setting on the Boundaries of Politics and Science

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INTRODUCTION

Biomedicine is a field in which utilitarian views and optimistic approaches of technology coexist with scepticism and a resurgence of conservative beliefs in the Western world. In one conceptualization, 'biopolitics' refers to the puzzling and powering on life science technologies. The multiple values and stakes involved in this field have led to claims about the ways of governing technologies such as those for assisted reproduction. These claims are about policy content as well as the process of governance. Some actors advocate rigorous state intervention and tight control of medical experimenting, others believe in market forces or defend the autonomy of medical professionals. Claims about the process of policy making vary between trust and reliance on expert judgments and calls for alleviating the 'democratic deficit' by shifting to a more participatory style of governing.

Country studies of assisted reproductive technology policy making since the 1980s indicate that governments often creatively procrastinated decisions, resorted to symbolic action, or took decisions against minimal political costs by avoiding public discussion and legitimizing decisions by referring to expert authority (Bleiklie et al. 2004). These reactions to issues of assisted reproduction may display a regulatory policy making of its own kind, but we still know little of the types of dynamics - and whether or not they are peculiar to this policy field. The novelty of an issue may have effects on agenda setting (Rochefort and Cobb 1994: 22) and may also affect the capacity of the state to engage in bureaucratic regulatory policy (Nowotny et al 2001: 23). But as Salter (2003: 141) asserts, the biopolitics generated by issues of assisted reproductive technology may not be so novel and may sustain the long established position of the medical community in framing policy images and in this way making its imprint on policy choices. The wide variation in policy design across countries suggests that there is more to it than the nature of the issue, and that we need to go into the different kinds of dynamics within countries. We need systematic research to reveal the patterns.

The aim of this paper is to present a frame for analyzing agenda setting on issues of assisted reproductive technology. Comparative analysis helps us to understand better whether the governance of these issues is on unexplored paths, is packed in formats with which actors are familiar, or is showing a transformation from one mode to another. But whether consolidating or not, we know little about the conditions and strategies across countries, and on what points these are similar or various.

Our focal point is agenda setting and the creation of problems definitions and images of solutions this involves. Since the early and rudimentary scheme for comparing agenda building presented by Cobb et al. (1976), the comparative element received little attention in research on agenda setting and problem definition. Problem definition is the social construction of problems and policy images as positive or negative (Baumgartner and Jones 1993; Rochefort and Cobb 1994). In the field of biomedicine, actors make operational and more fundamental evaluations of problems and policies; they argue about the tools of government or disagree over the desirability of government intervention in the first place. Such arguments involve also a degree of consensus – or dissensus – over the relevant knowledge to be used for making good policy decisions, and over uncertainties. Policy venues are the institutional sites where the portrayal of problems and solutions takes place (Baumgartner and Jones 1993). Venues thus are the locations where policies have their origin, obtain support, and are ratified as binding decisions. Types of policy venues are formal political arenas such as legislatures, executives and the judiciary, but also the media, the stock market, and institutions of scientific knowledge.

This paper elaborates the concepts of problem definition and venues into a frame for the comparative analysis of agenda setting on assisted reproductive technologies in Europe and North America.

Though the paper does not include this empirical analysis itself, it will contain illustrative material from a recent collaborative project on assisted reproductive technology policy (Bleiklie et al. 2004).

Section two presents the existing diversity in policy designs across countries – apparent national government responses to international developments in assisted reproductive technology. Speaking of policy diversity is no exaggeration; sometimes even neighbor countries contrast in the permissive or restrictive regulatory policies adopted over time. Then in section three agenda setting and the relevant

concepts in the theoretical literature are discussed. Countries vary in the configuration of venues for agenda setting, and this variation may be connected analytically to problem definitions and solutions. The focus is not only on what are called the 'venues of formal power' , but also on venues of scientific knowledge, and on the linkages between the venues from these two institutional domains. This focus is expected to have considerable added value for theoretical and empirical work on agenda setting, in the field of assisted reproductive technologies as well as in other fields of public policy. Expert knowledge is one of the bases of public authority mentioned already by Weber. It is impossible to understand the origin and dynamics of public policies in a field such as biomedicine without considering the 'boundary work' and 'coproduction' between scientific experts and policy makers. Thus an examination of ways in which scientific knowledge visibly or invisibly flows into the policy process, and feeds images of problems and solutions, and indeed of how science and politics influence each other reciprocally, is called for. This last point need some emphasis: scientific knowledge is not immune to the social and political environment – it is 'exceptional' only to some extent (some even argue: not at all). Building on these points, the next section considers boundary work and presents the key elements for comparing this phenomenon in agenda setting across countries. This part of the paper will include empirical illustrations – however preliminary – of the argument.

POLICY DESIGN

In all countries involved in the comparative volume by Bleiklie et al. (2004), the situation before any policy was initiated in the early 1980s was a degree of self regulation of medical professionals.¹ In this way, the autonomy of doctors practicing technologies for assisted reproduction was channeled - though not necessarily restrained. Self control was broad and detailed in countries such as Germany, Norway and Switzerland, and more lax in Canada, Italy and the U.K.. In most countries, the preexisting package of self regulation was used as a reference point for government regulation - either at national or at subnational level. But variation exists in the degree to which these norms and rules were codified as government policy.

Political agenda setting followed after the important medical scientific breakthroughs (IVF, surrogacy, stem cell cloning), but this did not lead to policy decisions everywhere. In some countries, national regulation was adopted in the second half of the 1980s, in other countries policies ensued first at subnational level, with national decisions being much more difficult because health policy making competencies were decentralized, no sense of urgency was felt, or because political agreement was absent.

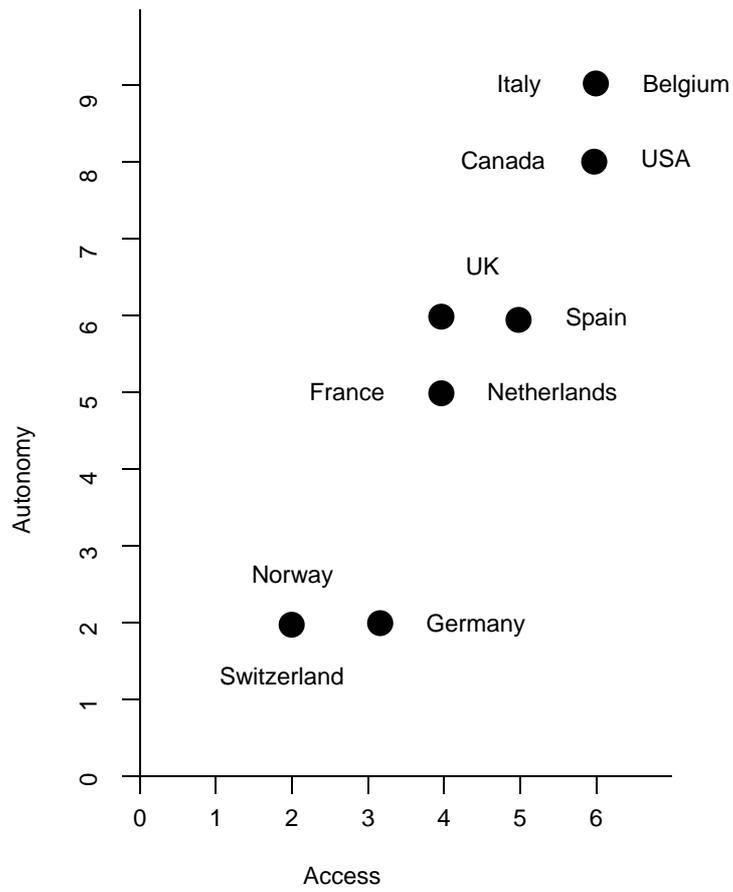
Rothmayr et al. (2004) present a comparative map of the policy designs on assisted reproductive technology until the year 2002. The comparison shows considerable variation, with three groups of countries: policies until 2002 were permissive in Belgium, Canada, Italy and the U.S.; they were quite restrictive in Germany, Norway and Switzerland; and in France, the Netherlands, the U.K. and Spain the policy packages in place in 2002 were of an intermediate type – permissive on some points, and more restrictive on other elements. Figure 1 presents a twodimensional model used for classifying the countries, and it shows a clear relationship between the dimensions of autonomy of the medical profession (practitioners and researchers) and access for clients to assisted reproductive services. In other words, if governments adopted policies that curtailed the autonomy of doctors, this often implied restrictive or intrusive rules rather than what Yishai (1993) has called ‘enabling’ policy – the type that would characterize a benevolent welfare state.

A subject for further analysis is the types of tools of government, development over time, and the patterns emerging across countries. The comparison in Bleiklie et al showed that countries often resorted to procedural policies when the issues of assisted reproductive technologies had just arrived on the political agenda, and changed gradually to more substantive regulation. Another research topic is the degree of policy convergence across countries – a convergence that may result from international or supranational regulation (which thus far was relatively soft but becomes more committing) or from lesson drawing.

¹ The countries are: Belgium, Germany, France, Italy, the Netherlands, Norway, Spain, Switzerland,

Figure 1

Country mapping along autonomy and access scales



Autonomy: 0-1 no or close to no, 2-4 low, 5-7 medium, 8-9 high;
Access: 0 no, 1-2 low, 3-4 medium, 5-6 high.

Source: Rothmayr et al (2004) , p. 230.

the United Kingdom, and Canada and the United States.

AGENDA SETTING

The variation in policies results from cross-country differences in process. All countries have their own dynamics, not only in the fine print of policy making on topics such as embryo transfer or genetic screening but also when considering more general patterns of health policy making. How do these different dynamics relate to emerging policy decisions? We consider this question through the lens of agenda setting theory. In the stages perspective of the policy process, agenda setting is followed by the making and taking of decisions, but the crucial element in agenda setting theory is that the early framing and portrayal of problems and solutions has a clear imprint on the formal decisions in political arenas – or on nondecisions whenever actors cannot build majorities.² This issue portrayal can be more or less subtle and be made openly or manifest itself indirectly when transferred from one institutional arena to the other. As Birkland (1998: 72) notes, giving an ambiguous meaning to biotechnology or other high technology events can be an effective way of containment, avoiding issue expansion. In comparing stem cell policy in Germany and the U.S., Gottweis (2002b) points out how the framing of this issue in terms of historical trauma of eugenetics or national progress and health promotion led to widely different policies. Thus agenda setting and the concomitant creation of images is a highly strategic but also the least formalized and visible element in the policy process – and this is a reason why it has intrigued theorists.

Since Schattschneider's (1960) definition of politics as 'the mobilization of bias', central concepts in the literature on agenda setting are issue containment or expansion, problem definition, policy entrepreneurship, and venues for agenda access³ (Cobb and Elder 1975; Kingdon 1984; Baumgartner

² The stages approach in analysis of policy making distinguishes different stages running from problem identification via policy decision taking and implementation to policy evaluation (references). The stages heuristics actually build on a the formal organization of policy making, by distinguishing for example interest groups from political representatives and these from bureaucrats, and by drawing boundaries between their institutional domains.

³ Other terms used for the political agenda are the formal agenda (Cobb et al. 1976) and the systemic agenda (Baumgartner and Jones 1993). This agenda distinguishes itself from the public agenda – the attention for an issue within society which may or may not be adopted as an issue by actors in political arenas.

and Jones 1993; Rochefort and Cobb 1994a).⁴ The actual crafting of problem definitions – and thus of possible policy goals, instruments and target populations - is a social construction involving symbols, rhetoric and can be instrumental or expressive (Edelman 1985; Rochefort and Cobb 1994b; Schneider and Ingram 1997; Stone 2002). In their theory of punctuated equilibrium, Baumgartner and Jones (1993; 2002) relate this substantive element of social construction to the elements of structure and strategy, and argue that long episodes of stability alternate with abrupt shocks in policy and the institutional designs associated to them. Policy dynamics over time is a result of entrepreneurial actors seeking access to institutional venues where they can change the topic and tone of the discourse, and in this way dismantle an existing policy monopoly and build a new one.

While agenda setting is a global research theme, most of the theoretical literature emerged in the United States. To paraphrase Schattschneider, the chorus of agenda setting theorists sings with a strong pluralist accent. For example, the concept of venue shopping used by Baumgartner and Jones suggests that actors have open choice between venues, in different branches and at multiple levels of governance. But as Pralle (2003) notes, when strategizing, policy entrepreneurs have bounded rationality and this constrains the range of venues as well as the extent of political manipulation in which they may engage. Moreover, countries and the policy communities within them have different configurations of venues for policy making. The routes of policy discourses diverge because substantive values and beliefs vary, but also because institutional venues differ across policy fields and countries. Thus topic, tone as well as tempo in problem definition are in part institutionally induced.

When agenda setting within policy fields is related to institutional contingencies, there is a rich literature to borrow from. We do not discuss this body of literature here, but focus on one key aspect: the variation in policy venues in agenda setting and problem framing across countries. Assisted reproductive technology policy making is a useful field for analyzing this variation, as most work focuses on the substantive discourse and takes a social constructivist perspective (see for example:

⁴ Rochefort and Cobb (1994a) provide a useful overview of approaches to problem definition, in which

Gottweis 2002b). Social constructivism and institutional analysis of policy venues are complementary. Institutional arrangements and policy discourses have a twodirectional relationship: venues are arenas for ideas and debate, but institutional venues also may be designed and redesigned as actors build a new policy monopoly. Baumgartner and Jones (1993) call this image-venue interaction.

Venues for agenda setting are not limited to formal decision making institutions. The media and scientific institutions are also sites where images and definitions of problems are shaped and the mobilization of support begins. Problem definitions involve a repertoire of rhetoric including symbols, metaphors, and pictures (Stone 2002). Thus venues for agenda setting directly or indirectly shape the different government responses to issues of assisted reproductive technology. Such responses may be based on claims of expert authority, on growing demand for medical services, or on public opinion pressure. Events such as breakthroughs in reproductive medical technology that trigger attention will have different impacts depending on the venues in which the events are given some kind of meaning – a positive or negative tone (Birkland 1998).

If venues exist in the different institutional domains of politics, the market, the media and science, also the *boundary work* between these domains becomes relevant. For example, the nexus between politics and science can vary both across countries and within single countries in a policy domain over longer periods of time. As Schneider and Ingram (1997: 158) argue, issue portrayals signify political risks or opportunities, and this sets the primacy on either science or politics in the boundary work between them. The scope of an issue often will be limited when primacy is given to scientific expertise, and it expands whenever scientific issue containment is no longer possible and political entrepreneurs play on changing moods in the public. In the next sections of this paper the focus is on policy venues and boundary work in the domains of politics and science across countries.

THE DIFFERENT BASES OF POLICY AUTHORITY

the different concepts are related to one another.

As noted, Pralle (2003) recently challenged the idea that policy entrepreneurs engage in 'venue shopping'. Policy venues often have their own kind of clientele and this relationship is sustained by familiarity and resources available to actors. But also the properties of venues within the policy field and in the political system at large channel the choice of policy entrepreneurs. Venue variation between countries is both quantitative and qualitative. Since long, the comparative politics literature highlights differences in macrostructures, such as between federal and unitary states or parliamentary and presidential systems which set the number of legislative, executive and judicial arenas as well as the powers vis à vis each other. The literature on comparative public policy deals with ways in which policy sectors are organized across countries and show variation in strongly and weakly institutionalized sectors.

The focus in this paper is not just on structures per se but also on patterns of access to policy venues and their substantive consequences for problem definition and the shaping of policy images. For this, a systematic consideration of the boundary work between politics and science across countries will contribute to our understanding of the origins of dominant definitions and images. This focus includes both policy initiatives from outside and from inside the formal policy making machinery. The nexus between politics and science is arranged in some way, and these arrangements on the boundaries of politics and science can be more or less formal and change over time. In defining problems and shaping policy images, the primacy may be on either side, and this primacy may be more or less stable. Related to this, shifts may occur between the usually relatively closed venues of specialists trying to contain issues, and the venues of macropolitics, where actors may expand the scope of conflict over issues. Thus, comparing the nexus between political and scientific venues between countries may reveal an important part of the dynamics of problem definition.

Venues of the Formal Powers

As noted, there are quantitative and qualitative elements in the variation between venues of power – legislative, executive (both political and administrative), and judicial. Political systems may be centralized or decentralized and show clearly defined jurisdictional boundaries or overlap between

different levels of government or between government ministries at one level. Administrative agencies may operate under direct rules or at a distance from ministries. Executive political powers may be negotiated and shared within a coalition or be enjoyed by a single party with majority control, or involve some type of cohabitation. Party pledges or negotiated political deals may constrain the leeway for executives as well as for any advocacy groups that seek to promote their views of problems and solutions. Furthermore, legislative and judicial power may be a vital venue for policy intervention in one country, while in other countries legislators and judges they may stay aloof and be reluctant or even unable to decide on issues.⁵

Such configurations of formal power venues and their institutional characteristics across countries produce variation in addressing problem definition. For example, the constitutionality of policies is a key point of scrutiny in the USA (Bosso 1993: 193-194). In systems with coalition governments, actors seeking agenda access are focused more on government formation where deals are made that commit parties for the term in office. These observations concur with Pralle's (2003) assertion that actors not always shop around for venues but direct their attempts to one or a few venues of power that they know, that speak the same language about the problem, and are open for access in the first place.

Venues of Scientific Expertise

Whatever the degree of differentiation and the extent of competencies, the venues of the formal powers are only one side of the nexus between politics and science. While venues of formal power are important in making authoritative decisions, definitions and images often will be shaped at the interface with science. Venues of scientific expertise may be more hidden to the general public, but they have come to play a significant part in the policy process as governments in the Western world took on more complex tasks in fields of economic, social and technology policy. Indeed, a key assumption in the early development of the policy sciences as a discipline was that scientific knowledge would help alleviate the problems of governance. The policy sciences were oriented towards importing 'truth' and 'usable' knowledge in the policy process (Lasswell and Lerner 1951;

⁵ For a broad mapping of such institutional differences and their possible consequences for assisted reproductive

Lindblom and Cohen 1979; Wildavsky 1979). While this pretention has become inflated (Ezrahi 1990), expertise is still an important basis of authority – and in many ways much more sophisticated and subtle than in Max Weber’s original typology (reference). But there is still relatively little comparative analysis done on how the venues of science are used in different institutional settings.

Venues of scientific expertise include academic research institutions, think tanks, and advisory committees that may be formed ad hoc or be institutionalized. Some of these organizations even enjoy a long standing reputation and sometimes even must be consulted by governments when dealing with a policy problem. Stone (1996) has analyzed how leading think tanks in the U.S. and the U.K. were active and effective as research brokers in the epistemic communities and policy networks in which they were engaged. In the field of biomedicine, the expertise within advisory committees is being supplemented with ethical, legal and social knowledge in an increasing number of countries. To an extent, this already is a response to changing constructions of problems of biomedicine – but the aims of this kind of accommodation by institutional design may vary between countries. At the same time, the medical associations existing in all countries often have a strong representation in the venues of expertise. The links between research and practice, and between supply and use of biomedical knowledge are often diffuse and this stems for a large part from the autonomy of the medical profession (Freddi and Björkman 1989). This autonomy is an institutional legacy and it explains why medical professionals sometimes see attempts at government regulation as a brutal infringement.

ANALYZING BOUNDARY WORK

This last point is one reason why it is important to analyze the nexus between politics and science in this field. The links between the two institutional domains with venues for agenda setting can take many forms and vary over time. A key concept useful to study these links is ‘boundary work’ (Gieryn 1983, 1995; Jasanoff 1990). Boundary work involves demarcation of science vis à vis politics in which typical and distinctive properties are identified, and coordination of the ways in which science, or

technology policy making, see Timmermans (2001).

scientific knowledge, is involved in politics and vice versa (Halffman 2003). Importantly, the concept of boundary work does not assume a permanent primacy of one over the other, nor even lines of division between politics and science that are always clear and stable. As Guston (2001: 104) notes: “To the extent that the practice of politics concerns the control of the expansion of conflict and the choice of cleavages between issues, any framework that fixes the nature of consensus or a particular division between science and politics misses crucial possibilities. A realistic study of science in politics must be constructivist.” In the terminology of this paper, boundary work involves the establishment of links between venues of politics and venues of science. While such links can and do institutionalize, this perspective relaxes the essentialist view of science vis à vis politics and other domains of social activity.

In dealing with social knowledge in the policy process, Wittrock (1991) distinguishes eight models of interaction between politics and science, based on two dimensions on which variation may occur: the primacy of politics over science or vice versa, and the convergent or divergent nature of logics and operative codes within politics and science. For example, in the classical bureaucratic model, politics and research have diverse logics while the primacy lies with politics and administration. In contrast, the technocratic model includes convergent logics but sees a primacy of research over politics. Other models are the engineering model in which politics prevails over science but which are similar in logics and operating codes, and the enlightenment model in which science has primacy but uses a logic that diverges from politics. These four models are ideal types of which four additional models form more realistic intermediary types in which the primacy and logic differences are less pronounced – and the boundary work between politics and science is constrained less by rigid demarcations that sometimes inhibit interaction in the first place (Wittrock 1991: 344). Thus Wittrock presents the policy learning model as one in which research prevails over politics but with mostly analogous logics. In the adversary model the logics are only weakly convergent and are discontinuous, and politics takes primacy. In this model, knowledge typically is used as political ammunition. Political actors thus take a much more strategic and instrumental position with regard to venues of science. The remaining two models are the problem solving and the dispositional model, which are more nuanced versions of the

engineering and enlightenment models. As Hoppe (2003) notes in discussing this conceptualization of interaction, the eight models are points in a property space still in need of empirical investigation.

For such an empirical investigation, it is useful to focus on the configurations of venues of politics and science between which some kind of boundary work emerges. What patterns of boundary work exist when comparing countries from Europe and North America? How are the logics of politics and science perceived, as convergent or divergent? What are the patterns between countries, and perhaps over time? Are there differences between countries, or between particular groups of countries, in the primacy on either politics or science? Are there shifts over time, and do these develop in similar ways between countries or groups of countries? These questions are not only of intrinsic interest, but are also directly relevant for the subsequent problem definitions and policy images, and eventually for government responses – whatever the nature of these responses. The interactions we find may be instances of successful depoliticization and containment of the issue, or indicate attempts at changing the definition of the problem and expand the scope of conflict.

While boundary work involves social construction and a degree of ‘coproduction’ (Jasanoff 2004) between venues of politics and venues of science, the point of departure for our comparative analysis is variation in the configuration of venues between which boundary work takes place. Changes in venues of power and science may occur, as for example described by Bimber and Guston (1995) who show how the U.S. Congress attempted to modulate science, but these are limited in tempo and extent by what institutionalists call the ‘constitutional’ level (Kiser and Ostrom 1982), the fundament in which interactions in a policy field are embedded.

At this point, differences between countries in settings of boundary work thus are represented as differences in the national configurations of policy venues and scientific venues and the rules these venues contain. Brickman et al (1985) stated generally that political structures and processes may or may not facilitate the use of scientific knowledge claims in policy dispute resolution. While avoiding an institutional determinist perspective, the beginning point nevertheless is institutional variation, but

the questions about the consequences are still quite open. None the less, a number of observations can be made about the uses of scientific expertise (a more limited notion than boundary work) in different systems. For example, Hamlett (1992) asserts that the American system with its multiple veto points makes the use of scientific evidence vulnerable, more than in most European countries (Brickman 1985). Confronted with the argument of Baumgartner and Jones (1993) that the presence of multiple venues in the U.S. entails opportunities for policy initiatives, the question that arises is whether this also implies prevalence of one type of boundary work – one in which politics has primacy over science. Such a finding may contrast with the situation in other countries.

Renn (1995) has presented a framework for comparing styles of using scientific expertise that connects to the concepts of venues and boundary work. In a study of regulatory control of chemicals that entail aquatic hazards in the U.S., England and the Netherlands, Halfman (2003) builds on this framework by identifying regulatory regimes in which different processes of boundary work occur. Renn's framework consists of four ideal typical cultural styles of using expertise: adversarial, fiduciary, consensual, and corporatist. The variation in cultural styles results from sets of rules that guide policy makers in what counts as relevant expertise, in processing information, mixing scientific expertise with anecdotal evidence and strategic considerations, and in legitimizing policy decisions towards the public (1995: 151). The features of an adversarial style are openness of arenas for actors trying to get access to the agenda, use of evidence of expertise supporting positions taken by these actors, reliance on expertise provided by advisory boards, and emphasis on tight rules of due process. The U.S. are mentioned as an outstanding example. The contrasting type is fiduciary, in which a closed group of patrons selects and imports expertise in ways that are both inaccessible and opaque to the broader public. In this system of patronage with its emphasis on faith rather than participation, formal procedural rules hardly exist. Renn argues that this style is ideal typical of southern Europe. The corporatist and consensual styles of using expertise have in common that they are oriented towards reaching a compromise in which a limited group of actors is allowed to participate. In the consensus model, the procedures are sufficiently plastic to allow accommodation of interests and evidence. Conflicts are hidden for the eye of the public, and external expertise is mobilized whenever this helps

accommodation. On these points, the corporatist style includes much more formalized procedures, which may lead to confrontations whenever policy views or scientific wisdom are in conflict. The difference with the adversarial model however is that the corporatist club is closed, and scientists are fixed and full members that are expected not to take strong partisan positions. Japan is mentioned as a case approximating the consensual style, and northern European countries are placed in the corporatist category (1995: 151-152). These categorizations however are not static, and Renn points at transitions within countries from one style to the other, and mentions an additional 'mediative' style involving more citizen input to policy debates but with strict rules for making claims of evidence (ibid: 153). Another caveat for empirical analysis is that the different types of boundary work, especially those in which a rigid formal separation between politics and science is constructed, involve not only interaction at 'front stage' but also at 'back stage'.

Halfman's comparative empirical study of regulatory science of eco/toxicology also highlights variation. In this study, the different roles of expertise in regulatory science are analyzed in combination with variation in the national historical legacies of state intervention, state-society relationships, and the position of legal institutions (2003: 255ff). The U.S. is found to be pluralist with a minimal state tradition, strict rules of procedure in all legal institutions, and a sharp boundary between policy and science. England also has a limited degree of state intervention and weakly institutionalized state-society relationships but it has less tight rules, almost no judicial review, and more ambivalent boundaries between policy and science – with pragmatism as a key word. Boundaries between politics and science in the Netherlands also are seen to be ambivalent, but these are more formally and tightly organized as part of a corporatist legacy in which state-society relationships are intimate and exclusive to a predefined set of actors.

The conceptualizations by Renn and Halfman as well as by Wittrock put emphasis on rules that vary between countries or between policy fields. For Halfman, the regulatory regime even is the central unit of analysis. He argues that claims in the literature on 'national styles of regulation' for which macroinstitutional conditions are responsible often are too general. It is necessary to have an eye for

the contingencies of specific policy fields or issues, and acknowledge that regulatory regimes sometimes deviate from a supposedly 'national style'. Indeed, Halffman's contention is that the structure of the science/policy boundary in regulatory regimes is not explained by some national pattern, but is constitutive to it (2003: 398). This is a challenging assertion, though in part it may be true as a matter of definition. The analytical issue raised by Halffman is about the endogeneity or exogeneity of explanatory conditions for boundary work – and its implications for agenda setting, problem definition and regulation. While part of the dynamics and patterns across countries or policy fields is endogenous to these fields, the structural conditions for the game are the configurations of venues of politics and science as they exist when agenda setting begins. The key empirical question, of course, is how boundary work is constituted within this configuration – which venues appear to be sites of busy traffic and which ones are, because of their institutional properties, less involved. Not only the presence or absence per se of venues such as a bicameral legislature, a supreme court or a bureaucracy claiming exclusive jurisdiction is relevant, but also the rules of access and other properties that facilitate one type of interaction and hinder another type. Once this interaction is underway, the use of venues and the boundary work between politics and science may begin to involve redesigns that help to establish a policy monopoly.

In combination, these contributions by Wittrock, Renn and Halffman on types and institutional settings of boundary work form a useful conceptual frame for comparing agenda setting on issues of assisted reproductive technology. The analysis of agenda setting and problem definition requires that the configuration of venues of politics and science within a country and more specifically within the field of health policy is depicted. This configuration of venues thus includes political arenas that may be centralized or decentralized, bureaucratic organizations and agencies that may enjoy exclusive competencies or compete over jurisdictions, courts that may or may not engage in judicial review, public, semipublic or private organizations of health services delivery, associations of medical professionals and, as venues of science, think tanks, advisory councils and expert committees. Within such configurations of venues that vary between countries, the process of boundary work may resemble one of the styles mentioned by Renn and more specifically show a combination of the

features delineated by Wittrock, so be conform the bureaucratic model, the adversary model, or be alike enlightenment. With these varying institutional settings, also the types of problem definitions that are produced may vary. This last kind of effect is the main substantive research question in the comparative analysis.

Though these elements are still too crude for a neat theory of boundary work and agenda setting, the connections between them are not random. Thus an institutional setting conducive to an adversarial style is unlikely to show a model of policy learning, and rather produces interaction according to the bureaucratic model or the adversary model. Likewise, a consensual setting entails institutional conditions most favorable to problem solving, while the corporatist style may involve more of the dispositional or the technocratic model. Boundary work fiduciary style may facilitate engineering (and perhaps sometimes enlightenment). These connections may exist in part because of overlapping conceptualizations; both focus on institutionalized rules. But there is no one to one relationship, and extensive empirical investigation is necessary to reveal the patterns – including changes within countries and more specifically within the field of biomedical policy that occur over time.

A number of preliminary observations on the interface between politics and science can be made from the country studies of assisted reproductive technology policy making included in the volume by Bleiklie et al (2004). Some countries had expert advice as a ‘big bang’ in the policy process - a broad committee considering a wide range of technologies, meant to construct a basis for public and political deliberation, and meant to have an impact. This was most clearly the case in the United Kingdom, where in 1984 the Committee of Inquiry into Human Fertilisation and Embryology (Warnock Committee) released a comprehensive report which led directly to a lively debate, and to legislation in which many of the Committee’s recommendations were visible. In Canada, the Royal Commission on New Reproductive Technologies (Baird Commission) produced a similarly comprehensive (but more worried) report in 1986, but in this country the sense of urgency of national (federal) legislation felt by the government party was diminishing. In these two countries, a national administrative agency (the Human Fertilisation and Embryology Authority, and in Canada the Federal Department of Health)

was actively trying to supervise medical practice - for which a Voluntary Moratorium on a number of techniques adopted by the medical community in Canada was a rather limited legal basis. More recently, in the United States the National Bioethics Advisory Commission (1995) was influential in the process of enacting federal legislation restricting research on cloning (2001). Before such research issues became nationally salient, however, medical expertise was largely internally directed and used for self regulation; given the emphasis on medical autonomy, no cases were made to use such expertise for state or federal regulation. In Spain, the medical community was the most significant kind of actor influencing the framing of legislation for which the Socialist Party was pressing successfully in the legislature. As noted in earlier work by Nelkin (1979) and Jasanoff (1990), the U.S. seems to be the clearest case of an adversarial type of boundary work. But also in Canada and the UK elements of this style are present.

Countries where expert committees were relied on more frequently, but still largely ad hoc, are France, Italy and Switzerland. The outstanding case is Italy, where such committees were set up in the 1980s and particularly the 1990s, but they always formed an arena of controversy involving the religious-secular divide. In France, a National Consultative Ethics Committee for Health and Life Sciences was set up in 1983 to consider both ethical values and the merits of scientific progress. This committee was intended to clear the ground for political debate (which was anticipated to be painstaking), and as such it was given a broad mandate. In Switzerland, an expert committee was instructed to translate, in what as in France was called a 'preparliamentary stage', the popular initiative into a draft for a Constitutional amendment. In this country, the influence of the medical community on policy design was delimited by the bottom up initiatives originating from the electoral arena. In Belgium, the role of experts in attempts at regulation has been more diffuse and seems to be confined to what the medical community found to be most in its own interest: advising on the design of a licensing regime to regulate the market for assisted reproductive technologies. This seems to be also the main achievement of the Consultative Committee for Bioethics, which was set up in 1995. Though the processes took different courses, these three countries show characteristics of the

consensual style, while Italy also contains fiduciary elements. The specific models of boundary work in these countries however seem to be more in variation.

Countries with the most institutionalized arrangements for expert advice are Germany, the Netherlands and Norway. In Germany, the Benda Committee was influential in the mid 1980s, and advised the special work group containing spokespersons from the subnational and the national government. More recently the Inquiry Committee on Law and Ethics in Modern Medicine paved the way for political consensus on the Stem Cell Act. In the Netherlands, the Health Council, an advisory body with a strong and formalized position in the policy process, has been a crucial venue for the medical community. Since assisted reproductive technologies were on the political agenda in the mid 1980s, the Health Council was involved many times - nearly one report each year. In this way, the political actors operating in a coalition system tried to depoliticize the policy process. The safest route appeared to be to focus on procedural regulation, until in the late 1990s coalition relationships allowed more substantive regulation on the newly emerging embryo research issues. Finally, in Norway, expert committees in the 1980s and 1990s were prominent in policy prefiguration, and their recommendations were translated more easily into policies in the more centralized arenas present in this country. Norway, the Netherlands and Germany come close to the corporatist style, and the predominant models were dispositional and problem solving.

A common notion of biomedical agenda setting and policy formation is that this field involves an element of technocracy and is shielded off from the general public. As Gieryn (1995: 434) notes, scientific actors try to 'keep politics near but out', and this adage applies to issues of biomedical technology. However, the cursory look of countries above also indicates that political actors did not always - and not constantly - follow the imperative of expertise. But sometimes this implied that emerging problem definitions were difficult to translate into policy decisions. In these instances, knowledge was used strategically. This happened in different institutional settings and was most clearly the case in countries with an adversarial style of interaction between venues of politics and science, as well as the interaction within these venues. More recently, a call for more participatory

processes resonated in most countries. Attempts at making new institutional set ups were made along the lines of what Renn has called the mediative style.

In addition to the more extensive examination of boundary work and agenda setting in the different countries by using the conceptual frame pointed out in this paper, investigation of the transitions between models within each of these countries deserves systematic attention. Such transitions may occur from exclusive to more inclusive types of interaction, and they may entail shifts in emphasis from science to politics or vice versa. In such processes, the scope of conflict in the venues with primacy is limited or expanded accordingly – it often will be limited in the venues of science, and expanded when venues of politics have primacy. But as attempts at transitions are made, with its consequences for the topic and tone of debates, the point of departure differs across countries. One question to explore further is how the institutional setting facilitates or keeps up substantive policy reorientations and procedural or structural redesigns. The patterns of change over time may be punctuated, as in the theory and the supporting empirical work on the U.S. by Baumgartner and Jones (1993), or be more incremental. Comparative research on this matter has high theoretical relevance and is just beginning to occur (Howlett 1997; John 2003; John and Margetts 2003; Scholten and Timmermans 2004). The answer to this question on patterns of change over time involves the identification of conditions that make such punctuated change possible or hinder it. The frame in this paper presents institutional conditions existing both within the emerging policy field and at the broader systemic level. Though such an analytical distinction easily becomes blurred, the issue that remains on the research agenda is to find out how exogenous and endogenous conditions work out, and how in such a setting actors engage in boundary work when making explicit or implicit definitions of problems.

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