Public Knowledge Orders in Comparison: Dimensions and Modes of Re-production

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Preliminary draft – comments welcome
1. Introduction

By turning to the concept of public knowledge orders¹, we move away from a priori assumptions about the effectiveness or functionality of science-policy interactions. Instead, the question is posed how certain cultural and institutional configurations of public knowledge production become to be perceived as appropriate and legitimate in certain societies.

Public knowledge orders are boundary-crossing arrangements. They influence the production, circulation, objectification, and justification of politically relevant knowledge. In this paper I would like to outline the concept and basic dimensions of knowledge orders. In addition, two assumptions concerning the influence and dynamics of knowledge orders will be discussed:

Firstly, these boundary crossing configurations at least partly determine whether a novelty or invention is being publicly identified as new, relevant, interesting, valuable and thus innovative. In other words: By establishing a specific economy of attention, knowledge orders influence the processes of public innovation.

Secondly, public knowledge orders are configurations of dynamic stability, i.e. they are constantly produced and re-produced by knowledge politics. In order to get a better understanding of the mechanisms of re-production and to be able to distinguish between gradual and transformative change, a discursive institutionalist approach is being adapted.

By arguing that the production of publicly relevant knowledge and the innovation of governance are closely connected, the paper follows a traditional line of thought. Historically speaking, it was Leibniz (1931ff. [1680]-a; 1931ff. [1680]-b) who suggested in his political writings the installation of a “theatrum naturae et artis”, an experimental space provided by the state to encourage the public exchange of useful ideas. The very representation of the state and its welfare would be localised in this archive, comprising all kinds of artefacts and data. This factual and concrete knowledge would be, as Leibniz

¹ This paper is a first and preliminary result of the research project „Scientization or socialization? The transformation of knowledge orders in Germany, Great Britain and the US” (2011-2014), funded by the Volkswagen Foundation (funding initiative “Science, the Public, and Society”) and carried out as cooperation between the Social Science Research Center Berlin and the Humboldt-University. I thank the people from STePS, University of Twente, for valuable comments on an earlier version.
points out, highly valuable for political purposes. The regent, he argues, should be able to directly and instantaneously dispose of it by using a system of cross references and tables (“Staats-Tafeln”). This tool could help to map the different sources of data, reduce them to the most necessary, and thus be an “instrument of self-governing” – “ein Instrument der selbst-Regierung”. By conceiving the creation, circulation and control of relevant knowledge as a central task of political governance, Leibniz is one of the first to describe the basic problems and principles of public knowledge orders. Although it is not possible to pursue this in greater detail, Leibniz functions here as a ‘crown witness’ for the long-standing interaction between governance and knowledge.

2. Instruments of self-governing

Leibniz’ treatises on the archival organization of the state were highly influential in his time. His ideas on administrative accounting, on public experiments and the trade with scientific facts form the core of a growing body of literature on the political economy of empirical knowledge. Only a few years before, Hobbes (1996 [1651], 145) had developed a strict anti-experimentalism and declared that "the skill of making, and maintaining common-wealth consists in certain [mathematic] rules as does arithmetic and geometry". However, since the end of the 17th century, the science of cameralism becomes a regular field of study at many universities. Public finance and commerce, agriculture and trade, natural history and laws, mechanics and machines, medicine and morality – everything turns out to be of interest for the administrative data collectors.

In his book on the “poetics of the economic man” Joseph Vogl (2004) argues that the cameralistic epistemology in the tradition of Leibniz and others has changed the very notion of governing. Since the 18th century, the state has become a function of empirical knowledge. Both, its external and internal boundaries are neither fixed nor given. In relation to the ever-changing body of data, the state is constantly in move, constantly being renewed. These changes, as Vogl shows, are symptoms of a general transformation of what he calls the “knowledge order”.

The concept of “knowledge orders” or “civic epistemologies” has recently gained significance especially in the field of science and technology studies (Jasanoff 2005; Weingart 2001). This popularity is at least partly the result of both, the long-standing critique of knowledge utilization research and the crisis of the “Public Understanding of Science and Humanities” (PUSH) movement. While the former implied a rationality gap in the relationship between science and policy, the latter maintained the same for the
relationship between science and the public. Since the science system as the Weberian force of disenchantment has itself been disenchanted, both approaches lost their credibility.

In contrast, knowledge orders are defined as boundary-crossing arrangements by which a given society tests and justifies different and often contested knowledge claims for collective choices and mutual adjustments. They coordinate the production and circulation of publicly relevant knowledge, regulate its legitimacy and validity, organize the credibility of experts and thereby establish epistemic conventions and hierarchies of different forms of knowledge. Knowledge orders are produced and re-produced by knowledge politics and the “regulated struggle” (Bourdieu) for epistemic power.

When analysing knowledge orders the focus lies on the interfaces and cross-cutting activities between different contexts of, amongst others, political, economic, scientific, artistic, and journalist communications. While some might argue that knowledge orders tend to dissolve and dissipate societal boundaries, the contrary seems to be the case. Inter-organizational and inter-personal networks, mediating procedures and boundary-spanning practices transform the multiple irritations of boundary experiences into relevant information; in doing so, they allow for the actors and organizations to develop temporary expectations and attitudes towards each other. According to both Alfred Schütz (1976 [1959]) and Niklas Luhmann (1992), this is exactly how knowledge is defined: an expectation ready to learn, a certainty “taken for granted until further notice”. Thus, knowledge comprises both, the “relatively natural conception of the world” (“relativ natürliche Weltanschauung” in Scheler’s words) and the creative rationality and learning capacity emphasized by Giddens or Joas; both sides belong together, certainty and interpretive flexibility.

3. Dimensions of public knowledge orders

The earlier research on knowledge orders resulted in numerous and often fruitful classifications and typologies of policy advice and expertise. A well-known example is the comparison of different styles of policy-making and policy-advice by Ortwin Renn (1995). He distinguishes between an “adversarial” or “pluralist” style (e.g. in the United States); an “embodied” or “service-based” style (e.g. Great Britain) and a “corporatist” style (e.g. Germany, Sweden, partly the Netherlands). Sheila Jasanoff (2005) has grounded her comparison of the “civic epistemologies” in the US, Great Britain and Germany on Renn’s typology and expanded it using six different dimensions (styles of
public policy making, accountability, demonstration practices, registers of objectivity, visibility of expert bodies, modes of participation).

Fig. 1 (p. 14)

However, a closer look on countries such as, for example, the Netherlands would reveal – as Halffman and Hoppe (2005) have shown – that these and other typologies are highly limited when it comes to the multiple interdependencies and multi-layered dynamics of public knowledge production.

For this reason current research is paying closer attention to the reproduction of public knowledge orders through practices and procedures, the organization and coordination of expertise, and the public cultures of justification and validation.

To sum up the literature (Straßheim 2011), there are six interdependent dimensions of analysis, which I will briefly describe:

(1) **Politico-administrative embeddedness**: To a certain degree the basic characteristics of public knowledge orders depend on their embeddedness into the specific politico-administrative structures, the type of party and electoral system, the different styles of policy- and decision-making, the institutionalized procedures of conflict-solving and the internal structures of government. For example, think tanks are generally playing a much stronger role in majority-voting systems than in systems of proportional representation (Stone 1996). In addition, the internal structures of the science system, scholarly traditions and the governance structures between science and politics are of certain importance (Schimank and Winnes 2000).

(2) **Governance of expertise**: Expertise is the result of public competence attributions to certain actors, whereby competence means both capability as well as accountability in well-defined areas of knowledge (Schütz 1976 [1959]). However, the current debate on the legitimacy of expertise shows that the definition of accountability and the validity of competence attributions are subject to varying “cultures of expertise” – tacit understandings of who or what counts as competent: a connoisseur, a professional scientist, a local or international science institution, a political actor representing the interests of important groups (Weingart and Lentsch 2009).
(3) **Procedures of public justification:** By converting social, temporal and factual complexity into publicly accepted knowledge, procedures are a central source of legitimacy (Luhmann 1989). In procedures, knowledge production is a matter of timing. Depending on their internal rhythm and their culture of interaction, procedures are structured by “windows of opportunities” – sudden occasions for the participating actors to organize and justify their knowledge claims. Moreover, procedures are places of “boundary work”, as Gieryn (1998) has argued. In advisory boards and expert commissions decisions are made concerning the relationship between science and society, certified knowledge and political interests, facts and values.

(4) **Practices of objectivation:** Generally, practices are chains of action which mediate individual and social structures of meaning. As technologies of trust they help to decontextualise observations and thus create a seemingly self-evident and publicly acceptable knowledge. In many ways, the history of knowledge orders is at the same time a history of objectivation. Objectivity has been and is being attributed to connaisseurs, to techniques and mechanisms of visualization, to trained experts, to computer simulations or virtual communities (Daston and Galison 2007).

(5) **Public Participation:** Public knowledge orders also differ in terms of openness and transparency. As current studies show, knowledge controversies can lead to the establishment of counter-publics. These arenas of protest and bargaining constitute themselves along public risks and conflicting interests. They provide a forum for the interpretation and negotiation of knowledge controversies. By using strategies of scandalising and campaigning in the media, actors try to delegitimize publicly accepted certainties and to enforce the inclusion of marginalized knowledge claims (Böschen et al. 2008).

(6) **Media and the public:** Last but not least, knowledge orders are heavily influenced by the ways of public communication and the established relations between politics and media (Petersen et al. 2010; Pfetsch 2008). While the US can be characterized by a highly commercialized “adversarial journalism”, media in Germany and Great Britain are dominated by a public broadcasting system and a strong influence of political actors on public relations. However, following the wave of privatizations in recent years one can observe the convergence of these systems and the emergence of a common “media centered style”. More and more,
mass-mediated expertise becomes a way of informal policy advice. The
configuration of the public, the formation of the already mentioned “counter-
publics”, the dynamics of “issue cycles” and the functioning of the mass media
system are of central importance for the analysis of public attention and
knowledge production.

The governance of public knowledge orders can be understood as a reflexive process of
coordination, which is the product of the interactions between these six dimensions. The
coordination process is reflexive in so far as it generates its own symbolically
generalized and historically changeable fictions of legitimacy, validity and
appropriateness.

4. Political economies of attention
Public knowledge orders also affect public governance innovation. As Alfred Schütz
(Schütz 1976 [1959]) has argued, the process of knowledge production is always
accompanied by the generation of relevance. As soon as certainties are being irritated by
something new and unexpected, it attracts the attention of the observer. It is of
relevance. When the situation is clarified and the irritating information is still of
importance, it becomes the starting point for the reassessment of past experiences and
the reconfiguration of expectations.
Based on these observations, Schütz develops a theory of different types of relevances,
explaining motivations and interests. As a consequence of the societal distribution of
knowledge, generalized systems of relevance emerge, sometimes beyond the reach of
individual or collective actors. As Schütz points out in 1959:

„We are less and less masters in our own right to define what is, and what is not,
relevant to us. Politically, economically, and socially imposed relevances beyond
our control have to be taken into account by us as they are. Therefore we have to
know them. But to what extent?” (Schütz 1976 [1959], 129)

Public knowledge orders provide an answer to this question. At least partly they
determine the extend to which a material or symbolic artefact is being publicly
identified as something new and relevant – an improvement, worth to be preserved,
valuable and thus innovative (Braun-Thürrmann 2005, 6). Every public knowledge order
is characterized by such a political economy of attention. Parsons once insisted on
claiming the concept of *values* for social scientists and on leaving the concept of *value* to the economists. However, it seems to be more plausible to argue - as for example David Stark (2009) does following John Dewey (1939) - that knowledge generation and valuation are tightly coupled processes.

Dynamics of valuation are incorporated in every measuring instrument. Acts of estimation entail practices of esteem; calculations are not separate from judgements; performance criteria refer to multiple principles of valuation. Attention is the currency of knowledge markets.

Since they are both, “orders of knowledge” and “orders of worth” public knowledge orders influence the relevance of new governance arrangements. This assumption is also confirmed by comparative studies on expertise and policy making (Weingart and Lentsch 2009):

- Willem Halfman (2009) has shown that the Dutch Planning Bureaus have a unique knowledge monopoly through the accumulation of cognitive, political and administrative ressources. By favouring highly formal models of economic calculation over individual expertise or peer review they are actively restricting the space for alternative forms of governance.

- In contrast, the US are dominated by the antagonism between a highly decentralized system of expertise and an increasing politicization of science. In a study on the implementation of the US-American Federal Advisory Committee Act (FACA) it turns out, that the provisions to prevent the politicization of science undertaken by main federal agencies actually promoted it. By imposing highly demanding standards of “disinterested objectivity” on the expert members they encourage at the same time relatively low standards for representatives of lobby groups. Moreover: In the case of welfare reforms since 1986, these paradoxical principles have lead to the state-wide diffusion of benchmarking. By stimulating a “race to the bottom” this seemingly neutral instrument became a medium for the proliferation of the welfare-to-work ideology (Brown 2009; Straßheim 2003).

5. Modes of re-production: The discursive institutionalization of public knowledge orders

To sum up, knowledge orders seem to frame the valuation of new forms of governance. However, current research shows that they themselves are also subject to multiple transformations. On the one hand, one can observe the scientization of public policy and
the increasing relevance of evidence-based instruments like benchmarking, monitoring and regulatory impact analysis. On the other hand, science is being politicized by counter expertise and civil society pressure. Some authors still maintain that science functions as the societal force of rationalization (Drori et al. 2003). Others predict the emergence of a more experimental and transgressive mode of public knowledge production (Nowotny et al. 2001).

One explanation for these contradictory transformations is the growth of contingencies in a “world society”. Needless to say, the notion of contingency is nothing new. Leibniz himself wrote about the assumption that “this existing world [is] contingent and an infinity of other worlds [is] equally possible” (Leibniz 1951 [1710]). Today, with regard to globally extended communications, transnational networks and virtual spaces the possibility of other and even better worlds is not far-fetched. The current increase in worldwide policy transfers shows that actors are highly aware of a variety of political and social options. Confronted with the potential collision of very different logics of public knowledge production, there is a growing need to either justify or re-organize the traditional pathways of public knowledge production.

These observations stand in stark contrast to most of the literature where knowledge orders and “civic epistemologies” are presented to us as static arrangements, as frozen landscapes of knowledge (especially in the case of Jasanoff 2005). Instead, it can be assumed that to a certain degree knowledge orders are able to combine stability and change. To get a first and tentative understanding of this “dynamic stability”, the debate on discursive institutionalism is used as a starting point (Schmidt 2008). In contrast to the implicit conservatism of the path dependency approach, institutions are seen as structures, which constantly need to be stabilized and re-stabilized in discursive interactions. Here, discourse is understood as a generic concept. It includes those repertoires of interpretations, practices and actor constellations by which sense-making and chains of action are constituted and channelled.

Discursive institutionalization is a highly flexible reproductive process. It is triggered by two interdependent modes:

• Firstly, the institutional mode refers to the different ways in which rules of the game and premises of action are stabilized, de-stabilized and re-stabilized. Think of Powell and DiMaggios (1983) concept of isomorphism: The European Union consists of 1240 expert groups tightly connected from the transnational to the local level by mechanisms of professionalization and technocratic pressure (Gornitzka and
Sverdrup 2008). Isomorphic pressure can also lead to local de-institutionalization due to political fragmentation or growingly incompatible standards. Tolbert and Zucker (1983) have shown how city governments in the U.S. between 1880 and 1935 were transformed due to these mechanisms. However, Nils Brunsson (2009) has convincingly argued for a third kind of institutional mechanism. Many public management reforms are nothing more than routines of legitimation. Via bricolage – the flexible recombination of different elements – and de-coupling – the isolation of new institutional elements –, administrations are able to simulate the new management structure at the outside. At the organizational core, they often continue to follow the traditional logic.

- Secondly, discursive modes include the re-framing of ideas, the emergence of alternate practices and the building of belief-based coalitions between institutionally separated actors. The already mentioned evidence-based policy making is such a case: In conjunction with experts, political actors refer to the seemingly neutral and unquestionable objectivity of statistics and rankings to legitimate their decisions. This has lead to a spread of quantitative standards, i.e. indicators of sustainable development. Expert networks have supported the diffusion of this “governance by numbers” (Hood 2007; Porter 1995). However, in a comparison of local indicators of sustainability in the United States it turned out that there is a remarkable absence of standardization. No two communities’ indicator sets replicate one another. It seems that, despite the discursive pressure on knowledge orders, indicators are chosen and interpreted according to different criteria in different contexts (Miller 2005).

There are many more examples showing, that under external pressure knowledge orders reproduce themselves by internalizing the influences and at the same time keeping their distinctiveness. This is meant by the term “dynamic stability”. While there is a gradual change in terms of institutional reform or new practices, the implicit pattern of policy making and knowledge production remains intact. Isomorphism is countered by bricolage, standardized practices become an object of contextualized interpretation. It is this interplay between institutional and discursive processes that makes “dynamic stability” possible.

However, it is obvious that change is not always gradual and superficial. In the late 80s until the mid-90s, many welfare states underwent a drastic change, which also included the ways of political knowledge production (Cockett 1994; Denham and Garnett 1998; Katznelson 1996; Straßheim 2003). Therefore, it seems to be necessary to go one step
further and ask for the mechanisms of transformative change. Apart from the obvious case of an external crisis or breakdown – what are the mechanisms for endogenous change? Under which conditions would actors from the inside, i.e. “policy workers” (Colebatch et al. 2010) – civil servants, politicians, bureaucrats, advocates, experts, members of interest groups, among others – be able to launch a far-reaching or even radical change of knowledge orders?

Since we have no empirical data at hand, this is only a hypothetical question. One way is to simply start by distinguishing two different strategies of intervention into the existing knowledge order, political coordination strategies and public communication strategies (Schmidt 2008).

- The political coordination strategy refers to the individuals and groups who are directly involved in the creation, circulation and justification of politically relevant knowledge. These organized policy workers seek to coordinate agreement among themselves on institutional solutions or political ideas. Thus, the coordinative strategy may be the domain of “expert networks” or “advocacy coalitions”.

- In contrast, the public communication strategy refers to the presentation, legitimation and deliberation of ideas and knowledge towards the general public. This includes the strategies in the mass media via PR-Agencies as well as the establishment of small “counter-publics” or protest movements.

These are of course just two types of strategy to activate the above-mentioned modes of institutional or discursive change (for a different approach following the problem processing perspective see Hoppe 2010).

When we combine the strategies with the modes of reproduction we get a simple table, showing different ways of initiating change and de-legitimizing the existing knowledge order.

**Fig. 2 (p. 15)**

The upper left quadrant shows different ways to interlink institutionally separated actors, instruments or groups via networks or policy entrepreneurs; the lower left quadrant shows the already mentioned discursive coordination via coalition building; the upper right quadrant refers to ways of public (de-) legitimizing and (de-) institutionalizing expertise or accountability; and the lower right quadrant consists of
different ways of public agitation, framing or scandalizing via the mass media or other (e.g. virtual) media.

On its own, each of these strategies leads to gradual change that is easily internalized by the mechanisms of dynamic reproduction described above. However, it can be assumed that transformative change is more likely when some of these strategies are combined. Under the – admittedly rare - circumstances that all of these strategies are combined the so far unquestioned ways of public knowledge production come under the simultaneous pressure of institutional and discursive mechanisms. This is the moment of the crisis of the knowledge order. Its certainties and habitualized practices collapse when confronted with massive contingency. Suddenly it becomes, in the famous words of Schütz (Schütz 1976, 104), „not a shelter but a field of adventure, not a matter of course but a topic of investigation, not an instrument for disentangling problematic situations but a problematic situation itself and one hard to master.“ One paradigmatic example of such an event is the breakdown of the socialist systems. Of course, this crisis and its consequences went far beyond the mere change of political knowledge production.

There is a third option beyond gradual or transformative change. Ronald Inglehardt has called it the “silent revolution”. It happens, when certainties are undermined by a gradual, but cumulative activation of change mechanisms over a longer period of time. When counter-expertise is organized in a discourse coalition and used to re-frame issues of public interest as soon as the opportunity has come; when technocratic networks engage in developing alternative instruments of knowledge production to slowly devaluate competing forms of expertise – then a knowledge order comes under pressure from different sides. The former constellation has been the successful strategy of the international Mont-Pelerin-Society, an alliance founded in 1947 by liberals like Hayek, Machlup, Mises, Popper and also Schütz (Mirowski and Plehwe 2009); the latter is something we can currently observe with regard to the activity of expert networks in the Open Method of Coordination at the European level (Salais 2007). Both, the European Union and the OECD have established systems of mutual observation. Especially the Open Method of Coordination has lead to a considerable spread of information and communication based instruments of benchmarking, monitoring and policy appraisal.

However, there are two different logics involved:

On the one hand, technocratic expert networks such as, for example, the “European Statistical Advisory Board” or the “Standing Group on Indicators and Benchmarking” are focused on statistical standardization. As a country with a strong tradition of auditing
and evidence-based policy, Great Britain has a considerable influence on these expert groups (Armstrong 2006).

On the other hand, civil society networks like the “European Anti-Poverty Network” provide a very different form of transnational expertise. Some authors even argue that peer review procedures and other participative instruments follow a more deliberative architecture of “learning from diversity” (Zeitlin 2005).

Torn between these competing transnational regimes of public knowledge production – the regime of “governance by numbers” versus the regime of “experimentalist governance” – public knowledge orders are silently changing. The outcome of this contradictory process is hard to predict. Leibniz (1931ff. [1671?]) was well acquainted with the two different logics. It may have come as a surprise for some of his proponents that he eventually decided against the calculative rationality of “les Messieurs Cartesians”.2 Instead, he preferred experiments and empirical observation in order to prevent as he states “many beautiful and useful thoughts and inventions” from getting lost.

**Fig. 1: Characteristics of Civic Epistemologies**

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<th>United States (Adversarial style)</th>
<th>Britain (Embodied style)</th>
<th>Germany (Corporatist style)</th>
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<td>Assumptions of trust; Relational</td>
<td>Assumptions of trust; Role-based</td>
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<td>Objectivity (registers)</td>
<td>Formal, numerical, reasoned</td>
<td>Consultative, negotiated</td>
<td>Negotiated, reasoned</td>
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<td>Professional skills</td>
<td>Experience</td>
<td>Training, skills, experience</td>
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<td>Visibility of expert bodies</td>
<td>Transparent</td>
<td>Variable</td>
<td>Non-transparent</td>
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(Source: Jasanoff 2005, Renn 1995)
Fig. 2: The discursive (de-)institutionalization of knowledge orders

**Knowledge politics**

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