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Trials of explicitness in the implementation of public management reform

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ABSTRACT

We study how state practitioners account for the shape and action of the state. We focus on the implementation, from the early 2000s onwards, of a reform of public management in France which called for a revision of the description of the boundaries and achievements of the action of the state. The reform targeted the rules governing the budgetary process and included, along with new accounting methods, new forms of reporting and assessment aimed at identifying the performance of governmental and administrative action. We consider the implementation process as a set of trials of explicitness in which a number of state practitioners struggled to elucidate the meaning of the reform and were confronted with pragmatic interrogations on what the state is and does. We analyze, using archival material, a number of such trials in the domain of national science and research policy, focusing on the development of managerial vocabularies and performance metrics.

1. Introduction: accounting for the state

The question "What is the state?" is an acknowledged topic for discussions in political sociology, political philosophy, policy studies, accounting research and the managerial sciences. It addresses the problem of the agency of the state, that is, of its empirical reality (what is it) and its characterization as an actor (what can, does or should it do). To address this question, several strategies are possible that waver between, on the one hand, a ban on reification with an ensuing dissolution of the state in an assemblage of practices and apparatuses, and, on the other hand, a recuperation of the concept of the state as a unique, substantive reality (Abrams, 1988; Jessop, 2001; Kharkhordin, 2001; Miller and Rose, 1992; Mitchell, 1991). The question touches also upon the wider problem of agency (that is, of capacities and modes of action, especially of purposeful action) in relation to acting entities other than human individuals: corporate persons, institutions, technological artifacts or natural forces, to name a few (Coleman, 1982; Douglas, 1986; Latour, 1987). Accounting for the action of the state thus constitutes a complicated object for social-scientific inquiry.

But the agency of the state is also a cumbersome object for what we call state practitioners, that is, for policy makers, civil servants, politicians, accountants, consultants and other actors in charge of maintaining, expressing, evaluating, enacting, describing, executing or reforming the action of the state. The question "What is the state?" can become a crucial ingredient of their day-to-day professional concerns, especially in situations in which the action of the state is called into question or

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is subject to assessment measures. Campaigns of reform of public administration typically translate into pleas for a cogent description of the boundaries and achievements of the state. Contemporary attempts at spreading a culture of transparency and performance in public sector reform, often involving the cost-efficiency orientation known as New Public Management, are frequently accompanied by the implementation of performance measures whose purpose is to identify what does the state do, how, how well, how much and for how much (Du Gay, 2004; Hood, 2000, 2007; Hood and Heald, 2006; Modell, 2001, 2009; Townley et al., 2003). In such context, occasions arise in which actors themselves need to cope with the "What is the state?" question in ways that often parallel the depth of the scholarly critical, theoretical questioning. We examine a number of such occasions in the case of the implementation of a public management reform in France.

We tackle this question here from a pragmatist viewpoint in the sense that we examine how state practitioners themselves deal with it. Our pragmatist viewpoint is in part inspired by premises outlined in works such as Luc Boltanski, Ève Chiapello and Laurent Thévenot's analysis of the practical use of critical capacities (Boltanski and Chiapello, 2006; Boltanski and Thévenot, 2006) and Bruno Latour's call for a materialist approach to the semiotics of agency (Latour, 2005). The notion of "trial" ("*épreuve*", in French) is crucial to these works. A trial can be defined, within this perspective, as a situation in which uncertainty arises about the agency of parties at stake, a situation which calls for a collective investigation in order to settle the state of affairs. The existence, strength or legitimacy of acting entities, their relations, their faculties and the categories they can be referred by (be they social or otherwise) can thus be analyzed as they get put to the test, and hence accomplished, in such situations (Latour, 1988).

A pragmatist sociology of large, organized, collective entities such as the state posits itself as the study of the trials through which their agency is disputed, defined and effectuated (Linhardt, 2007, 2010; Linhardt and Moreau de Bellaing, 2005). In the research we present here, the question of what the state is (what its legitimacy is, what its shape and function are, what are its scope and its limits, its resources and its effects) is not a preliminary question whose answer could illuminate a subsequent empirical work, but the very matter of the empirical investigation as such. We insist on the state because this is the entity we stumble upon in our research. But it is true that this sort of pragmatist viewpoint works for the "unscrewing" of any kind of "Big Leviathan" (Callon and Latour, 1981). Large entities such as the corporation, the economy, the market or the nation can be submitted to the same type of inquiry, that is, one that traces the trials in which their agency is expressed and made explicit.

Accounting studies, especially the critical and interpretive varieties, have been particularly attentive to this type of pragmatist, constructivist standpoint. A large variety of contributions exist which provide valuable insights on how accounting devices at large (metrics of various kinds, frameworks for managerial description, visions of accounting order, organizational information systems) both shape and explicate accounting realities at large (organizations, economies, enterprises and so forth). The performative features of representational practices have been dealt with consistently within this literature (e.g. Bloomfield and Vurdubakis, 1997; Chua, 1995; Hines, 1988; Quattrone, 2009; Robson, 1991, 1992). But to claim that accounting devices do shape accounting realities does rarely translate, within accounting research, into an idea of empirical situations conforming straightforwardly to ideated principles that would be fully prefigured before being implemented. Implementation, to say the least, appears within this research area as a problem, explicitly also as a trial in quite the same sense that we develop here (e.g. Bourguignon and Chiapello, 2005; Briers and Chua, 2001). Recent contributions such as Arnaboldi and Azzone (2010) or Pipan and Czarniawska (2010) explore in this line of inquiry the intricacies of implementation of performance measure and management accounting in the public sector. These are not processes of smooth translation between ideas and realities, but rather of "translation" in the pragmatist sense put forward throughout Actor-Network Theory (Callon, 1986), a process that has been aptly tackled in terms of "drift" by a number of contributors (Andon et al., 2007; Quattrone and Hopper, 2001). Our study seeks to contribute to this line of inquiry by working out empirically the problem of implementation as an explicitness trial.

The particular case we focus on turned to be a massive operation of re-description (and, in a sense, of self-description) of the state: the implementation, from the early 2000s onwards, of an important administrative reform in France. The acronym of this reform – LOLF – refers to an act passed in August 2001 ("*Loi organique relative aux lois de finances*") which set the bases for a radical transformation of the rules and procedures governing the French budgetary process. This reform of public finance was to include, along with new accounting methods, new forms of assessment and reporting aiming at identifying the performance of governmental and administrative action (Barilari and Bouvier, 2007; Bezes, 2009; Corbett, 2010). The implementation of the reform translated into a period of elucidation and experimentation aimed at making operational the orientations sketched out in the LOLF. We consider this implementation process a trial: a trial of explicitness in which a number of state practitioners struggled to flesh out the reform. The reform is about making the state explicit, making it explicit in a particular way out of many possible ways. Making something explicit does not mean, in our view, turning real and concrete something that was already fully prefigured in a latent or potential form. In the process of implementing the reform, an array of possibilities opens up, many unintended, disputable or problematic, which may accomplish in different fashions the explication of what the state is, how it acts, how well, and at what cost.

The empirical situation is marked by its context, in particular by the historical weight of national administrative politics and by the local idiosyncrasies, in France, of the otherwise widespread modernization drive that affects contemporary public sector conduct in advanced liberal democracies. The LOLF reform has been considered by some, in this respect, as an example of the penetration into the core of the state of an enterprise-inspired, economy-driven managerial vision, a vision that may eventually run counter to the state's political singularity (Bezes, 2005, 2008, 2009; Ogien, 2007). On the other hand, analyses of the particulars of administrative culture and decision-making networks in the French public administration describe a rather inhospitable environment for New Public Management impulses, in part due to an excess of political singularity (Rouban, 2004, 2007, 2008). These and similar topics are extensively discussed in a growing administrative and social-scientific literature, as the LOLF becomes an outstanding occasion to analyze what the state is or ought to be, or what it is becoming.

Performance targets and indicators appear as a crucial topic in discussions about the drivers of this reform. As in many other comparable efforts of state transformation, great emphasis is put on measurement. The reform introduced a whole set of precepts about how to report the action of the state and about how to assess it in a quantitative fashion, so as to provide a sound rationale for budgetary decisions. In this respect, the reform is particularly suitable for sociological attention to the social production and the social consumption of public measurement (Bevan and Hood, 2006; Bowker and Star, 1999; Chapman, 2005; Desrosières, 1991, 1998; Espeland and Sauders, 2007; Espeland and Stevens, 1998, 2008; Hood, 2006; Hopwood and Miller, 1994; Law and Akrich, 1994; MacKenzie, 1981; Porter, 1995; Power, 1996, 1997). As Alain Desrosières has emphasized, it is important to take statistics into account as an instrument that accompanies the rationalization of the state and whose changing history may correspond to different ways of constructing what the state is and of defining how it should be described (Desrosières, 2003, 2005). We acknowledge the fact that a compound of implements and devices intervene into the framing of the shape and action of the state, as posited by sociological approaches to the study of public policy instrumentation (Lascoumes and Le Galès, 2007). However, we also recognize in the performance impetus of public sector reform some characteristics identified by Jean-François Lyotard in postmodern knowledge at large, namely that, besides serving as an instrument for authority, postmodern knowledge (in the form of performance assessment) also “refines our sensitivity to differences and reinforces our ability to tolerate the incommensurable” (Lyotard, 1984, p. xxv).

In what follows, we first provide contextual elements on the reform with particular attention to the domain of our analysis: the implementation of the reform in the ministry in charge of scientific research (Section 2). We next summarize research methods and data, with some further contextual clarifications (Section 3). We then provide an analysis of three trials of explicitness in which the description of the state is at stake in the domain of science. We choose to focus on these three episodes because they all deal in quite a telling manner with the problem of the conduct of the state (its direction, but also its behavior). For each trial, we first expose its problematic character and we then examine one empirical situation in detail. The first trial is on the contrast between a political and an economic drive in the conduct of the reform (Section 4). We focus on discussions on the meaning of the vocabulary of managerial orientation of national science and higher education. The second trial is on the identification of a legitimate body of statistical work in the description of the state (Section 5). We focus on diverging claims for statistical expertise in the observation of national science. The third trial is on the boundary and effect of the action of the state (Section 6). We focus on small controversies in the assessment of the impact of national science in the economy. We finally conclude on the usefulness and partial novelty of the notion of trials of explicitness (Section 7).

2. An experiment into the self-description of the state

2.1. The LOLF

Public finance involves practices of delimitation, selection, aggregation and calculation that are meant to account for the financial flows that irrigate public institutions. But those practices do more than that, since they affect profoundly the ways in which choices are made, persons and things are evaluated and collective action is organized within these institutions. Practices of public finance can reconfigure the reality they describe as they require this reality to fit particular representational techniques. Accounting and managing, counting and shaping: those two aspects are intertwined within the budgetary rationality of the state. The LOLF Act (“*Loi organique relative aux lois de finances*”, n. 2001-692, August 1st, 2001) and its implementation in the form of a program for the “financial modernization of the state” encompassed both aspects. The reform targeted primarily the operations of the government’s budgetary process and the rationalization of budgetary choices. But, as an extension of this and in accordance with the ambition of evolving from “a logic of means” to “a logic of results” (as was put in one of the reform’s mottos), it also translated into the implementation of a material culture of assessment and performance in the conduct of public administration.

The reform was thus often presented as a budgetary reform, “a revolution of the financial constitution of the state” (as put in another widespread motto of the reform) chiefly involving the introduction of principles of management accounting into French public finance, such as the taking into account of complete cost structures and fine-grained, justified budgetary allocation. Alongside, the reform was also considered prominently as a management reform, that is as a reform aimed at enhancing the accountability of public action and the spread of a “culture of performance” (another local motto), through the introduction of descriptive vocabularies and performance indicators that account for the achievements of the state in an articulate fashion. The state is now described in terms of broad “missions” each fed by a series of “programs” with diverse “actions” and “objectives” to which should correspond measured resources, precise budgetary engagements and appropriate methods of reporting and assessment. In LOLF-related administrative parlance, a “mission” is a broad ensemble of policies and administrations usually falling within the scope of one ministry, and a “program” is an entity in which are matched together one budgetary envelope, one policy rationale described in terms of “actions” (another LOLF-related keyword), and one segment of public administrations. For example, inside the mission for “Research and Higher Education” (an interdepartmental mission involving the ministry in charge of scientific research and higher education, but also parts of other ministries) the program for "Space Research" constitutes one defined budgetary section, corresponds to a series of policy actions such as "Developing space technologies for scientific research" or "Mastering access to space", and involves the principal budget of one national laboratory for space research. Other programs inside the mission for "Research and Higher Education" may involve more than on national laboratory or research facility (each of which may also have its state budget split between several programs), but also state agencies, departments internal to the ministry, universities and other institutions of higher education. Each program is thus characterized in terms of "actions" but also in terms of "objectives" and "indicators" (although specific indicators are always associated with specific objectives, the link between objectives and actions is quite loose in the sense that objectives are objectives of the program rather than of its actions).

What the LOLF exactly was or was not about turned often into a topic of dispute in administrative or political circles throughout the implementation process. Many aspects of the ongoing modernization program were sometimes said to be not directly derived from the LOLF itself, but to correspond instead to "the spirit of the LOLF" (another widespread motto). In a way, the LOLF was characterized from its inception by some degree of ambiguity. One widely commented characteristic of the passing of the LOLF in 2001 was the impressively high level of parliamentarian consensus in the voting of the act. Both socialist and conservative mainstream political forces joined together in the approval and celebration of this reform's rationale. The LOLF could be interpreted politically in a variety of mostly compatible ways – compatible at least at a stage in which actors at stake were not yet directly confronted to the trials of explicitness that characterized the implementation process. For instance, the reform could very well be defended with an emphasis on economies in public spending, on the control of public debt and hence on the reduction of the size of the state (Lemoine, 2008). But it could also be supported as a way of enhancing visibility in the voting of the budget, and thus as a democratic grip on the budgetary discussion, or as a lever for the governmental orientation of public administrations.

The notion of "transparency" often accompanied the collection of keywords that populated the myriad presentations of the reform, with the same effects of ambivalence that have been identified elsewhere (Grossman et al., 2008). How is the action of the state to be made transparent, to whom and for what? Providing the Ministry of Finance with a neat representation of the costs of public administrations does probably not mean exactly the same as providing members of Parliament with a sound instrument for assessing the political fate of public monies – and, still, both are instances of "transparency". It is only in the face of what we call "trials of explicitness" that such sorts of catchwords, leitmotivs, mantras and shibboleths ("transparency" runs here next to "performance", "efficiency", "accountability" and so forth) clarify, to a partial and not always stable degree, their meaning.

2.2. The case of national science and research policy

Our fieldwork focuses on the domain of national science. We observe aspects of the implementation of the LOLF in the ministry in charge of scientific research and science-related domains such as technology and higher education. This field is particularly relevant for a study of the performative aspects of managerial vocabularies and quantitative measures in the assessment and conduct of organizations. For example, measurement and statistics on scientific activity and technological innovation have a long record of implications for science and technology policy (Godin, 2003, 2004, 2005, 2007). Scientometrics, and bibliometrics in particular, once remote academic specialties (Godin, 2006), have turned in recent decades into instruments for institutional assessment of research and researchers. Econometric analysis, combined with schematic models of what innovation is supposed to be, inform the appraisal of the economic effects of scientific research in general and of government-led innovation efforts in particular.

The financing, conduct and assessment of public-sector research stand as pivotal concerns throughout the implementation of the LOLF. The focus on quantitative appraisal follows, and provides us with a unique circumstance in which the agency of the state is subject to explicitness. How much science does the state produce or contribute to produce? What is the value of this production in regards to its costs? And how well oriented this production is? Is this or that piece of science part of the state, or at least affected by the state? Of course, this and similar questions do not fall solely within the scope of this particular reform. They were and are still raised within the context of other discussions and initiatives. In the early 2000s, such topics were marked by heated debates in the wake of calls for reform of the institutions of national science in France that paralleled the implementation of the LOLF (Cytermann, 2004; Paradeise and Thoenig, 2005). Research management turned into a rather hot topic in that period, with voices defending the need for a sound appraisal and restructuring of scientific research and higher education in a context of budgetary constraint, and other voices denouncing the dismantlement of national research structures, the commercialization of scientific investigation and the hindering of researchers' independence. The LOLF as such was rarely the target of public controversies or media coverage. But its implementation in this domain contributed to the exacerbation of the problems of the reform of science and higher education. As we will see in further sections, the domain of scientific research was the theater of interesting situations in which the action of the state ought to make itself explicit in the face of a number of problems and devices.

3. Our object of inquiry

Our research is based on the analysis of written traces of the implementation efforts. We gained access to a collection of ad hoc archives at the special-purpose unit which handled the coordination of the implementation of the LOLF at the ministry in charge of science, technology and higher education from 2002 to 2005. The archives were "ad hoc" in the sense that they where gathered informally, on the basis of personal habit or precaution, by the chief officer in charge of this "LOLF task force".

In 2001 and 2002 all ministries had such special-purpose units, or "LOLF task forces", appointed for the purpose of handling practicalities about the implementation of the LOLF at several levels: from the implementation of the new budgetary nomenclature to the coordination of the definition of the boundary of the state mission and its corresponding objectives. The mission under scrutiny here is the "Interdepartmental Mission for Research and Higher Education" ("*Mission interministérielle recherche et enseignement supérieur*"). This mission deals indeed with administration, policies and budgets that are distributed among several ministries or departments, in part due to the fact that, in France, several ministries deal with topics of national science and education (defense, industry, agriculture, etc.). The mission's lead ministry, however, is the ministry in charge of universities and national laboratories, that is, the Ministry of Youth, National Education and Research ("*Ministère de la jeunesse, de l'éducation nationale et de la recherche*") which was renamed Ministry of National Education, Higher Education and Research ("*Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche*") in 2004 and which later evolved, in 2007, into the Ministry of Higher Education and Research ("*Ministère de l'enseignement supérieur et de la recherche*"). The LOLF task force there was organizationally linked to the financial department of the ministry ("*Direction des affaires financières*"), but was also in continuous communication with other departments inside the ministry such as the department in charge of national scientific research ("*Direction de la recherche*") or the department in charge of higher education ("*Direction de l'enseignement supérieur*"), as well as with other ministries implicated in the interdepartmental mission (ministries in charge of defense, of industry or of agriculture), with national laboratories and universities, with the Treasury (the complete name of the Ministry of Finance being, at the time covered by our data, the Ministry of the Economy, Finance and the Industry, "*Ministère de l'économie, des finances et de l'industrie*"), and, there, with the department in charge of the national budget ("*Direction du budget*") and the special-purpose department for the budgetary reform ("*Direction de la réforme budgétaire*") in particular, but also with commissions at the Parliament and the Senate, and with several kinds of auditing committees. In short, the LOLF task force in the ministry stood as an interface.

The LOLF task force within the ministry in charge of scientific research was under the responsibility of the same officer from 2003 to 2005. The archives accessed consisted of files of printed documents gathered during that period and preserved by this officer for the purpose of keeping track of ongoing issues. These files were constituted by very heterogeneous documents. These included both documents produced or co-produced by that officer and documents forwarded to him. These files were not set up in a systematic way. Their existence relied primarily on the officer's habit of printing or copying documents that he did consider to be important or relevant for a particular course of action, keeping them in ad hoc piles in his desk in the case of ongoing business and storing them in ad hoc folders in the office cupboard in the case of closed issues. Types of documents found in these files included: notes and memos intended for members of a service, drafts versions of such notes, meeting minutes, technical documents such as descriptions of budgetary procedures, printed slideshows, printed spreadsheets or tables with accounting specifications, reports, draft proposals and printed emails. Some documents where available in several versions, some annotated or amended.

This material does not correspond to an officially arranged archive, nor does it match a standard criterion of exhaustiveness. The material is thus qualitative in nature. We conjecture however, on the bases of interviews with the officer in charge and of observation of the material, that the fact that one document was printed or photocopied and kept is an indication of the fact that the document was considered as important or valuable (e.g. as a piece of information or guidance, as ground for decision-making or as proof for responsibilities) in the context of ongoing affairs. We also take into account, as an element for analysis, that choices and criteria involved in the keeping of these files were the outcome of the workings of the LOLF task force's officer, which constituted the designated passage point for the coordination of all implementation efforts. The archive's very constitution emphasizes thus, in our view, the threads that correspond to the more demanding trials of explicitness (as opposed to a more neutral or mechanistic record of documents).

We operated as follows for the examination of this material. Access to these files was granted to us at the ministry's facilities. We spent three months examining this material on site, from February to April 2007. We focused on a number of files that appeared interesting to us in the light of exploratory interviews (a total of ten, conducted in 2006 and 2007) and informal conversations with civil servants in charge of several aspects of the implementation of the LOLF in the domain of science and higher education. These interviews and conversations helped us identify issues, problems and points of contention that could eventually be traced back throughout the archival material. We also concentrated on files whose topic was more directly linked to our emergent research questioning. In this sense, we used a pragmatic rule of qualitative inquiry consisting in both redefining what was interesting to us in the light of empirical data and redirecting empirical attention in the light of interests generated by previous findings (Becker, 2009). Incidentally, we also put aside files that were not sufficiently linked to our focus on scientific research (for instance, files dealing exclusively with higher education). We considered a total amount of 1135 documents. We read each of them, coded them into a spreadsheet copying relevant content (title, author, type of document, salient points, meaningful excerpts), and photocopied 660 of them (those that we found more interesting). We estimate that our examined sample corresponded to about one fifth of the total amount of materials that were made available to us.

On the basis of our initial reading of the material, we elaborated a series of topics that constituted for us instances of what we have termed trials of explicitness: discussion threads in which several issues (no matter how small) were raised by several actors about the shape, nature or content of one particular device meant to embody one aspect of the implementation of the LOLF. We then searched back into our material (spreadsheet and photocopies) for excerpts in order to thicken our analysis. Although we focused primarily on content, we also took into account formal features such as the presence of handwritten annotations and amendments. These often allow for the expression of vivid counterpoints to administrative prose (Laurens, 2008). We were equally attentive to the agency of texts themselves, that is, to the forms of performative force that different sorts of documents may have in organizations (Cooren, 2004). In that respect, we observe in administrative work the significance of intermediate forms of textual agency ranging between the very denotative (a piece of description) and the very performative (a code of law). We note for instance the pervasiveness of soft-law devices such as notes, memos, or slideshows, and the effective practice of repeating, citing and reprising a piece of text as a way to make it stronger. The three trials of explicitness that we develop in the following sections did emerge out of this process of examination of the archival material.

4. First trial: to politicize or to economize

4.1. Politicization, economization and the managerial spirit

The reform's direction cannot be attributed to one single, unambiguous drive. Of course, many participants as well as external commentators have rightly identified one general direction of the reform, which is to modernize the state. The notion of "modernization" adds indeed to the list of mottos that characterize LOLF-oriented parlance, and it's perhaps interesting to note, in the light for instance of Lyotard (1984), that what is meant by this may be closer to an idea of "post-modernization" than to any concept of the modern state in the historical, sociological or political sense. Modernization seems to refer here to an idea of improvement in the workings and doings that constitute the state. In a word, things should be done more effectively. But the "how" or the "to which respect" (and even the "why") are left to further clarification and reveal the manifold dimensions of the reform. We do not venture here into a genealogy of the intellectual traditions that may have framed the features of this reform – it is likely that such an inquiry would find evidence of the influence of "managerialist" paradigms, mostly derived from private-sector experiences of management, with variations in their adaptation to public management and to local administrative and scientific cultures (Aucoin, 1990; Bezes, 2008, 2009; Ogien, 1995).

Our hypothesis is that the idea of the rise and spreading of a "managerial spirit" shades off, despite its patent meaningfulness, fundamental tensions at work in the process of implementation and, hence, in the transformation of the state. In a sense, we adhere to arguments that have identified some degree of barrenness in notions such as "managerial values" or "enterprise" (and their opposition to "bureaucracy") for the analysis of transformations in public services (Du Gay, 2000, 2002, 2004, 2006). We observe in our empirical material several moments in which the call for a managerial understanding of the state is articulated in entirely different directions. We identify in particular two rough movements that intermingle together in a struggle to define what "managing" is about. We term those two movements "politicization" and "economization".

As contributions to the analysis of phenomena of politicization of the civil service have shown, the very notion of "politicization" is sometimes ambiguous, and does not need to refer exclusively to partisanship in the conduct of public services or to political appointments to administrative positions (Du Gay, 2009; Peters and Pierre, 2004). We use a broad understanding of politicization, which refers to processes, situations or modes of actions in which the arguability of issues is emphasized and in which, consequently, decisions and resolutions are exposed to their political determination. A comparable standpoint can be observed in a number of contributions interested in the democratization of science and technology policy (Barry, 2001; Barthe, 2006; Callon et al., 2009). Within this frame of understanding, the idea of a politicization of the state can correspond, for instance, to an emphasis on political will in the conduct of government and in the orientation of civil services and public administrations, but also to procedures or practices aiming at democratizing decisions or at taking into account states of dissent or of public controversy.

This idea also corresponds, in some way, to intuitions in political philosophy such as the ones developed by Carl Schmitt in his analysis of the meaning of "the political" (Schmitt, 1996). It is of particular interest to us the fact that, in his otherwise daunting explorations of the politicized nature of the state, Schmitt criticized economic reasoning as a threat to the nature of the state, one that could eventually "exterminate" it as a result of its depoliticization – the reality of the state being necessarily political. It is unlikely that we may follow Schmitt in his portraying of "economization" as an unsupportable menace over the reality of the state. We nonetheless draw upon this contrast, which is rather exacerbated in Schmitt, in order to investigate the features of economic drives in the transformation of the state.

We consider economization, a notion which is at least as ambiguous as politicization is, in an equally broad manner (Muniesa, 2010). The idea of economizing refers primarily, of course, to an idea of rationing. We expand this intuition so as to consider economization as an aspect of practices, procedures and activities in which the calculability of things is put forward and in which, accordingly, action is subjected to optimality and hence made prone to economic assessment. A similar idea of economization can be identified in contributions to the sociology of markets which emphasize the role of economic technologies (Barry, 2002; Çalışkan and Callon, 2009; Callon, 1998; Mitchell, 1998, 2008; Muniesa et al., 2007; Van Hoyweghen and Horstman, 2009). The economization of the state would therefore be identifiable, in this sense, in situations such as the development of accounting measures that can foster reasoning in terms of budgetary restraints or pricing, or the use of standard indicators for the measurement and benchmarking of the efficiency of the civil service. What Michel Foucault identifies in his analysis of neoliberal influences in the transformation of the German state after the Second World War possesses for example the traits of an economization of the state, considered as an instrument for pacification (Foucault, 2008).

We take politicization and economization as two contrasting modes in which the question of what it is to modernize (or what it is to manage) can be explicated in practice. In other words, politicization and economization appear to us, within our data, as two different, sometimes divergent fashions of response provoked by a call for implementation, that is, by a trial of explicitness in the definition of the modernizing of the management of the state. Both would definitely fall under the rubric of a "managerial spirit" but, as we demonstrate in the following subsection, they convey quite different meaning of what "managing" means. Is the LOLF a reform that aims rather at politicizing the state or at economizing it? The purpose, rationale and existence of one particular program within the mission for Research and Higher Education raised such kinds of issues: we focus here on the program for the "Orientation and Command of Research" ("*Orientation et pilotage de la recherche*").

4.2. Drifts in the vocabulary of orientation and command

During the drafting of the mission for Research and Higher Education in 2004, one action titled "Training for and through research" ("*Formation à et par la recherche*") was the object of discussions within the ministry. From a budgetary perspective, this action was supposed to cover the ministry's grants for doctoral research. Two different ministerial departments were expressing competing views about this action. The Direction for Higher Education ("*Direction de l'enseignement supérieur*") wanted to have this action made part of a program called Higher Education and University Research ("*Formations supérieures et recherche universitaire*"). But the Direction for Research ("*Direction de la recherche*"), which was in fact responsible for the management of these PhD grants, wanted to keep this action as part of the program for Orientation and Command of Research ("*Orientation et pilotage de la recherche*"). In a note signed by the Director of Research, forwarded to the Cabinet Minister and copied to all relevant departments, the following argument is put forward (our translation, our italics):

> "The position of the Direction for Higher Education is based on the fact that doctoral researchers are inscribed administratively in doctoral schools in order to obtain their diploma. This viewpoint thus favors the *managerial logic* of higher education institutions, but fails from understanding that doctoral work is conducted in research units. It would not allow for *strong political stress* in terms of scientific *orientation* at state level, through allocation decisions that would take into account the quality of doctoral schools and the priorities of scientific policy. It is this dimension of *political highlighting* of a national policy for the development of the scientific capabilities the nation needs that chiefly justifies the maintaining of doctoral grants in an action within the program for the Orientation and Command of Research."

One issue at stake here was the need to promote budgetary content for one program whose principal meaning was that of inscribing, within the mission, an instance of interdepartmental policy, that is, a distinct presence of the function of government. The vocabulary of "orientation" and "command" (in the sense of "directing", "deciding", "conducting" or "driving") is very pregnant in this excerpt, as in many other documents produced within the Direction of Research or within the Direction of Financial Affairs at the ministry in charge of higher education and scientific research. Promoters of the program for the Orientation and Command of Research considered it as the most LOLF-oriented or "lolfian" ("*lolfien*", another current word in LOLF parlance) of all the mission's programs in the sense that it suited the ambition of developing instruments for an effective conduct of public action. The mission for Higher Education and Research was exceptional in the sense that is was interdepartmental, that is, it involved several ministries and hence called for coordination efforts, eventually for political coordination efforts. It thus constituted an opportunity for a politicization of the "mission" of the state in the field of research policy. The excerpt is part of a thread of documents in which this vision of the reform is opposed to other visions.

The notion of "strong political stress" ("*affichage politique fort*" in French) used in the excerpt is interesting. The literal meaning of the word "*affichage*" is displaying or billposting (an "*affiche*" is a poster), but it is also often used in French in a figurative sense. Within the context of the vocabularies of transparency in New Public Management, this expression can be linked for sure to other words present in the LOLF-related corpus such as "visibility" ("*visibilité*") or "readability" ("*lisibilité*"). But, as a mode of "rendering visible", the notion of "*affichage*" has interesting connotations: it is about signaling and catching attention (not everything ought to be displayed, only what is of strong relevance) but also about affirming, almost about proclaiming in a trenchant manner. In addition, here the "*affichage*" is meant to be a strongly "political" one. In the excerpt, competing views (here, that of the Direction of Higher Education) are presented as supposedly running counter this political stress.

But what does "political" mean here? Scientific "orientation" appears as the execution of policy, that is, as the result of an act of government. It is of course not about politicization in the sense of fostering a partisan view of science, but about conducting it. The vocabulary of "orientation" is equally significant: science is "oriented" insofar as it stands as the object of public policy. Science is (or should be) managed in the sense that it is (or should be) conducted toward a determined direction. The allocation of doctoral grants is the instrument of government that allows for the signaling of the directions in which national science should progress. The excerpt insists on the idea that a doctorate is a research activity, and minimizes the administrative requirements of a "managerial logic" ("*logique de gestion*" in the original). This "managerial logic" (attributed here to the position of the Direction of Higher Education) focuses on the fact that doctoral researchers are "inscribed administratively in doctoral schools" and on the idea that management is about functioning rather than about command. The notion of management can waver between an economizing meaning (to function, to administer, to optimize) and a politicizing one (to drive, to orient, to argue) and in this case the relationship between the two directions is tense. The terms that are used to name the program ("orientation" and "command"), while fully related to a vocabulary of management, are here connected to "strong political stress" against a "managerial logic" that is thought to be driven by mere considerations on which department handles the payroll of research personnel.

In other documents we observe however quite different uses of the word "management". The following excerpt is from a note from the Direction for Budgetary Reform ("*Direction de la réforme budgetaire*"), a special-purpose service located within the Ministry of Finance, in charge of the supervision of the implementation of the LOLF. The note was forwarded for the preparation of a meeting in 2003 with the representatives of several directions of financial affairs in several ministries. These excerpts were entirely underscored (highlighted by hand) by a reader at the Direction of Financial Affairs at the ministry under scrutiny here (our italics):

> "The mission does not constitute the level of budgetary specialty and *does not represent a management reality*. Therefore, the mission cannot be the operational support for the coordination, command and implementation of interdepartmental policies."

> "The constitution of interdepartmental missions *does not have a management consequence*: this is not a response to *the coordination and the conduct of policies* or interdepartmental actions. When an interdepartmental action is created, this requires nonetheless, if needed, the coordination of objectives corresponding to the implementation of one departmental policy."

These two paragraphs can be read (and were probably read as such by defendants of a politicizing understanding of the reform) as the confirmation of the depoliticization of the mission. For the Direction for Budgetary Reform, a mission within the framework of the LOLF "does not represent a management reality" ("*n'a pas de réalité de gestion*"), its constitution not having any "management consequence" ("*n'a pas de conséquence en gestion*"). The meaning of "management" here is best understood in terms of orientation, implementation and conduct of public policies. Note the practical ambiguity of the notion of management: those are precisely the terms that were equated to "strong political stress" and opposed to a "managerial logic" by the Direction of Research in the preceding excerpt.

According to promoters of the reform located at the Ministry of Finance, thus, the mission is not supposed to become a management instrument, in the political interpretation of "to manage". What was a LOLF-inspired "mission" supposed to be anyway? The debate was still open in 2003. Was the mission a bundle of policies translated into acts of government? Or was it rather a template for the presentation of the budget? Both, probably. But what counts in the context of a struggle for explication (and such kinds of notes and documents aimed at clarifying issues and correcting errors of appreciation) is emphasis on such and such an aspect. Here, emphasis is put on the fact that the mission should be considered as a category of budgetary authorization, aimed at summing up the economic information on budget preparation – a variation on the topic of economization. Of course, such information can rightly enhance political (i.e. parliamentarian) discussion on the rationale of the budget. But the mission's purpose should not be to implement policy, should not be to explicate the political will of the state.

Promoters of a politicizing view of the LOLF in this ministry struggled to feed, through different ways, the policy rationale of the several instruments and structures developed throughout the implementation process (Cytermann, 2006). The program for the Orientation and Command of Research was one vehicle among others for this emphasizing of the political meaning of management (others included the establishment of interdepartmental coordination committees or the edition of target-oriented policy documents). The program was eventually suppressed in 2007 (or "killed" as some informants in favor of it put it) in part as a result of the workings of one auditing committee in charge of assessing the implementation of the LOLF (the CIAP or "*Comité interministériel d'audit des programmes*") and one senatorial commission in charge of examining the viability of the preparation of the budget (the "*Commission des finances*"). The main reason adduced for this suppression was the fact that the budgetary content of the program was very poor, as the main budget for a proper orientation of the funding of national science was held within a special-purpose agency (the ANR or "*Agence nationale de la recherche*") which fell outside the ambit of the program. Does this stand as proof for dominance of the "economizing" over the "politicizing" in the implementation of the LOLF? Our analysis stops at pointing at two competing views of what "managing" in the public sector means and at observing how they confront trials of explicitness throughout the implementation process. We have observed one very narrow discussion on how to frame the payment of doctoral grants but, ultimately, what the state is and does in regards to national science is affected by the accumulation of trials like this one. The agency of the state may translate into the political capacity of a ministry for the elaboration and enforcement of policies and for the execution of the sovereign will in the conduct of science. But it can also shift from the terms of ministerial power to the more contemporary terms of the government agency ("agency" in the technical sense of an executive organization), framed as a vehicle for economic incentives and disincentives for scientific research.

5. Second trial: who produces quantification

5.1. Competition for the indication of the state

Throughout its life as a describable entity, the state is accompanied by quite diverse, historically contingent statistical apparatuses. Desrosières (2003) observes how specific modes of statistical description correspond to different historical configurations of the state, and of the state's relation to other things such as society or the economy (see also Didier, 2009;

Mitchell, 1998, 2008; Morgan, 1990; Suzuki, 2003). Whereas the paradigmatic statistical apparatus in an engineer-led state configuration, as is the case in planned or command economies, is likely to concentrate on national account systems, public statistics in a liberal state usually have far more meager ambitions and a scope limited to the description of trade and prices. The welfare state is better characterized by labor statistics and by the development of probability, as a result of focus on insurance and sampling, but, as it evolves into a Keynesian state, macroeconomic forecasting comes to the forefront. Finally, public statistics in a neoliberal state are rather addressed through notions of incentives, expressed in the terms of microeconomic theory or through attention to benchmarking. Of course, all these state configurations are ideal types and many styles of statistical description cohabit within empirical situations. What is of interest here is to note both the diversity of styles of quantification and their concordance or not with different ideas of what the state is or should be. But what is more important, from the point of view developed by Desrosières, is to consider sociologically the role of producers of quantification, their tasks and work habits, their different positions in emerging controversies, and the performative effects of the descriptions they produce.

The implementation of the LOLF involved many instances of quantification, from the renovation of budgetary structures and the introduction of elements of management accounting to the development of new information systems at several levels of the administration and the development of performance targets and indicators. Our research material led us to focus on one of such particular instances of quantification: the definition of targets and indicators in the area of the assessment of national science. Quantitative indicators in science and higher education have a long history in France as much as elsewhere, and much of what was at stake throughout this reform was also at stake before and after it. The depth and consequences of other ongoing or planned reforms in the governance and structure of public-sector research institutions and universities were topics for public debate, with a critical emphasis on the rise of the commercialization of science, the problem of assessment and the managerial threat to the independence of research (Barré, 2010; Bruno, 2009; Bruno et al., 2006; Cytermann, 2004; Derouet and Normand, 2007; Musselin, 2008; Paradeise and Thoenig, 2005). In a sense, though, issues were raised about the purpose and shape of performance indicators in national science well before and beyond the implementation of the LOLF. However, our research material provides interesting elements on the types of statistical knowledge (and on the types of statisticians) that a statistical description of the state in terms of performance of national science ought to mobilize. Again, the implementation of the LOLF operated in this domain as a trial of explicitness: a situation in which several instance of quantification are called upon to prove their relevance in the task of making the action of the state explicit.

We identify in the analyzed archival material several discussions about performance indicators: their metrics, their meaning or lack of meaning, their availability, but also about their sources and about who should be in charge of producing and delivering them. We observe the emergence of relevant interlocutors, as they are solicited by the ministry's LOLF task force or by other actors, or as they themselves react to circulating documents in order to express a view or a position. Two major players in these threads are the Direction of Evaluation and Prospect or DEP ("*Direction de l'évaluation et de la prospective*") and the Observatory for Science and Technology or OST ("*Observatoire des sciences et des techniques*").

The DEP is the department of statistics inside the ministry in charge of the national education system and of national scientific research. The "national education system" refers here to both primary and secondary education on the one hand and higher education on the other hand, and, although these two types of education can be handled at some point in the history of the French state by two different ministries (as is the case since 2007, with one Ministry of National Education and one Ministry of Higher Education and Research), the DEP features statistical work encompassing schools, universities and research laboratories alike. In 2006, the word "performance" was added to its name, which then became the DEPP ("*Direction de l'évaluation, de la prospective et de la performance*") – a quite strategic change, in the opinion of informants, as it conveys well the idea of a pivotal actor in performance (i.e. LOLF-related) affairs. Due to its position inside the ministry – that is, at the core of the state – the type of statistics observed, produced and developed within the DEP are quite linked to the operations of public administration. The DEP treats and elaborates data on economic flux, expenditure and personnel, with an emphasis on labor statistics and econometrics, and does also originate national surveys on science and education topics. Its statistical work is therefore much connected to that of the National Institute for Statistics and Economic Studies or INSEE ("*Institut national de la statistique et des etudes économiques*"), the institute for the collection and production of national statistics. The DEP is also characterized by its involvement in the production of comparative measurement on the efficacy of the French educational system and, hence, in the production of evidence for its assessment (Normand, 2003, 2004, 2005, 2006).

The OST is an agency focused on the production of indicators on science and technology. Its creation was strongly inspired by a 1986 report commissioned to researchers in the area of science and technology studies (Arvanitis et al., 1986; see also Barré, 2010). It is set as a special-purpose, public-interest collaborative structure ("*Groupement d'intérêt public*"), with several state departments, national laboratories and private-sector stakeholders as members. The OST develops expertise in the domain of scientometrics. It elaborates several kinds of R&D indicators, publishes them in yearly reports or communicates them on demand, favoring a notion of "positioning" (i.e. of comparison or benchmarking of actors in the world of scientific research and technological innovation). For instance, the OST exploits and transforms bibliometric data obtained from the ISI database (Thomson Scientific's Institute for Scientific Information provides access to the bibliometric database currently known as Web of Science) and delivers quantitative rendering of the positioning of French science in terms of production and reputation (Esterle and Filliatreau, 2004). The OST is open to multiple scientometric developments and contributes to reflections on the types of indicators that better suit the evolution of science and technology (Lepori et al., 2008). Let us now focus on how the DEP and the OST participated in a trial of explicitness in the statistical description of the performance of national science.

5.2. Pushing for scientometrics

In the early months of the implementation process (that is, in 2002 and 2003), performance indicators were not a priority in the agenda of the LOLF task force, which was rather focused on the design of the structure of the Interdepartmental Mission for Research and Higher Education (the definition of its budgetary and institutional boundaries, the ordering of its programs, the attribution of responsibilities, and so forth). The idea that performance should and would be measured was present, but not as a much problematic topic that should call for anticipated attention. It is relevant to note, in this respect, that many of the performance indicators that accompanied the first LOLF-informed budget in 2006 were actually still not defined or not ready for calculation. That said, the topic of performance indicators in the context of the LOLF was dealt with in a series of brainstorming seminars in the form of a "working group" organized by the OST and open to several stakeholders (from research institutions as well as from the ministry) from 2003 onwards. The idea was to reflect on the relevance and meaning of notions of quantitative performance indicators in the domain of science and technology, and to provide informed proposals for the definition of targets and indicators for several of the mission's programs. National laboratories involved in the program concerning environmental research ("*Recherche dans le domaine de la gestion des milieux et des ressources*") were also engaged in early reflections and proposals, with the help at some point of external consultancy.

Reflections originated in the OST put emphasis on scientometrics and on the taking into account of data concerning scientific publications and patents. Other types of data were also taken into account in the production of performance indicators, and the pivotal place of the DEP's national surveys was progressively acknowledged in the discussions. We observe the presence of multiple documents, originated by several parties, in which targets and indicators are drafted, interpreted and attributed to several actors. The role of both the DEP and the OST is acknowledged in most of these documents (and, incidentally, of other types of sources and actors). We interpret most of the exchanges in terms of cooperation, sometimes involving critical discussion but not harsh organizational conflict. That said, we also observe a sense of institutional capitalization through attempts at appropriating the "problem" of indicators. Efforts in clarifying such and such an aspect of performance indicators also involve efforts in putting forward the value of the actor providing clarification.

In a note in which the OST describes its contribution to a working meeting in early 2004, the role of the OST is emphasized, with reference to past cooperative efforts to produce indicators for science and technology policy (the "Cooperative" is an OST working group, joint with representatives of national laboratories, for the development of scientometric data and methods):

> "Concerning method, the experience of the Cooperative will be most valuable for the tasks of designing indicators and consolidating data at an inter-institutional level, especially with data derived from information systems. This work has proven useful for an acculturation to indicators, for the control of the quality of data, for the enrichment of extraction from information systems, and for mutual knowledge among institutions. The OST will be able to share this experience."

In a sense, from the perspective of the OST and of associated stakeholders in national laboratories, the implementation of the LOLF brought the possibility of pushing forward the position of scientometrics as a strategic policy tool. But, for doing so, scientometrics needs to be posited as a field of accumulated expertise: that is, as a set of devices that need being mastered and appropriated at a national or institutional level. As shown for instance in its technical critique of the use of scientometric instruments in the Shanghai ranking of universities (Zitt and Filliatreau, 2007), the OST favors an idea of contextual adaptation of scientometric analysis. The idea of active appropriation of data sources is crucial here. The OST elaborates most of its research and innovation indicators on the bases of external data provided by other actors such as the OECD, Eurostat or the DEP itself. But the OST nonetheless emphasizes its role as a "producer" of information, as it transforms these (more or less) raw data into meaningful and appropriate indicators. In the case of bibliometrics, the OST mostly exploits data from the Web of Science and from the associated citation indexes (Science Citation Index, Social Science Citation Index). It does not "own" this data, but it appropriates this information through treatment, adjustment and modification.

The use of possessive pronouns in reference to data and sources is interesting for the analysis of the emergence of relevant producers of quantification. In the following excerpt, taken from a note forwarded in early 2005 in which the DEP establishes critical assessment of ongoing proposals for the mission's indicators, the appropriation of resources for indication is stressed:

> "Currently there is only one single indicator among these which is described as being produced by the DEP proper. It is the part of the budget for research and development which is allocated to priority domains. In the present state of the implementation of the LOLF, those would be nanotechnologies and the life sciences. But this indicator cannot be currently calculated on the basis of our resources. Our survey on the budget for research and development, whose nomenclature corresponds to national and international needs for the description of scientific domains, does not permit the isolation of these two domains – which, incidentally, partially overlap too. However, other indicators refer, in part, to data produced by the DEP or to information that can be extracted from the DEP's own sources. It is for this reason, and also because of its capabilities in the construction and analysis of statistical indicators, that the DEP has proceeded to an examination of the entire set of indicators for the mission's programs, so as to verify their viability and relevance and to define the information needed for interpreting them."

The note puts forward objections to one list of 124 performance indicators circulated by the LOLF task force. In the rest of this lengthy document, the authors examine each of all these indicators, observing if they are available or not and indicating the actual or potential source and actor in charge of calculation. They also consider if each indicator is directly interpretable, and provide critical comments for each. For example, for one indicator which was expressed as "Percentage of the Mission's research budget allocated to priority domains of governmental action defined in interdepartmental committee (life sciences and nanotechnologies)" and linked to an objective of the program for Orientation and Command of Research which consisted in "Orienting efforts in public research and development toward priority domains of governmental action" the DEP indicates "DEP?" (with a question mark) as source and provides the following comment:

> "Are these two domains the only priority domains? How are "nanotechnologies" defined? What about the overlapping of both domains? The regular, current survey uses a European nomenclature and we cannot ask research institutions to use two nomenclatures. An ad hoc survey would be very expensive and impossible to do on a yearly basis."

The deployment of critical capacities is one possible feature of a trial of explicitness. Here, the circulation of a proposed set of indicators provokes the reaction of one party at stake, the DEP, which does seek at marking this artifact with its own expertise and its own sense of what a proper indication of the action of the state should be. We focus here our analysis on the issue of "priority domains" (nanotechnologies and life sciences) because it encapsulates an interesting feature of this particular trial of explicitness. The problem of "priority domains" also appears in the following excerpt:

> "On the question of the part of the budget devoted to priority domains, it should be first assumed that these priority domains do not change from one year to the next in the survey. Second, it is absolutely impossible to move the basic nomenclature of the survey, which is standardized at a European level. Third, the description of priority domains should be precise enough to avoid any ambiguity."

These sorts of concerns point to an idea of statistical neatness which corresponds well to the type of statistical work done at the DEP. Statistical time series are meaningful, within this perspective, if what they refer to does not change every year. Stability of nomenclatures and categories is crucial. In a sense, this line of thought runs partially counter the idea of spotting items (things to be referred to by indicators) that would change as policy "orientations" change. This form of reasoning is justified by already-existing constraints of calculation, especially by the fact that there already exists a stable, robust and expensive template for such surveys. An office for statistical surveys on research and innovation inside the DEP ("*Bureau des études statistiques sur la recherche et l'innovation*") indeed conducts a yearly questionnaire-based set of surveys on R&D investment and expenditures in public administration, state universities and national laboratories on the one hand and in the private sector on the other hand. This set of surveys constitutes the basis for the calculation of the main national statistical indicators on R&D, such as the DIRD ("*Dépense intérieure de recherche et développement*", i.e., Gross Domestic Expenditures on R&D), whose elaboration follows prescriptions from the OECD's Frascati Manual.

Drawing on Desrosières (2003), it is possible to see in this form of statistical conception a connection to a tradition of public statistics marked by national accounts systems, by a sector-based view of the economy, by macroeconomic concerns and by longitudinal analysis. It is also possible to identify here, to some extent, elements of a statistical tradition inspired by a linear view of innovation and by a much economized view of science, as pointed out by Godin (2005) in his analysis of the role of the OECD in the definition of science and technology indicators. The dissimilarities with the type of scientometrics put forward by the OST, although not imposing, are relevant. Bibliometric indicators, in this context, may be quite more prone to reasoning in terms of scientific priority domains. Calculations established on the bases of bibliographic databases or patent records rely on supple and discretionary query parameters and not on important resource-consuming surveys, which makes it more possible to focus on any subfield within the scientific literature or on sets of keywords. Moreover, as opposed to the kind of macroeconomic reasoning that national innovation statistics would tend to foster, such kind of scientometrics may rather be prone to thinking in terms of benchmarking and of microeconomic incentives, with an underlying idea of competition in scientific fields and with scientists considered implicitly as authorship entrepreneurs (Bruno, 2009).

There is no open conflict here on the type of statistical work that should be privileged in the process of accounting for the action of the state: on the contrary, a variety of statistical ideas is at work. But it is nonetheless interesting to notice how small questions such as the homogeneity of statistical templates in the face of odd events such as political priorities allow for the expression of contrasted statistical competencies. The actors at stake here (the OST and the DEP, mainly) insist, first, on the possession of valuable resources (surveys, databases, working methods) and, second, on what such resources allow them to do in terms of meaningful indication. The analyzed excerpts can also serve as evidence of the determination to put forward the working styles of particular professionals of statistical work, and also of the motivation to posit a particular working style as an obligatory passage point for the matter of stating what ought to be accounted for, statistically. The agency of the state in scientific activity is subject to explicitness and so is, by consequence, the statistical instrument of this explication, with some options rather siding with a macroeconomic view of the state and others more inclined to the independent monitoring of scientific and technological trajectories.

6. Third trial: on the action of the state and its effects

6.1. Critical semiotics of indicators

The implementation of the LOLF translated, in part, into the need to work out a variable but quite large number of quantitative performance indicators: about 1300 indicators set in total, far much more if one considers the myriad drafts that pullulated in ministries, in special-purpose offices and working groups, and in consultancy bureaus. The presentation of these indicators (in draft versions and, later, in more stable versions) provoked a considerable amount of reflection and critical comments on their soundness and their potential effects, but also on their messiness and, in some rare but noteworthy cases, on their surreal character (Brunetière, 2006). Many lines of thinking were present in these comments. One most notable was about the potentially perverse effects of the use of indicators upon the behavior of agents whose action these indicators were supposed to account for – an instance of the phenomena of target gaming identified by authors such as Christopher Hood in the case of British public services for instance (Hood, 2006). Actors called to an increase in the performance of the public action they deliver could actually rather shape their action so as to push for a better score rather than a better service (hence, for instance, a figure based on complaints filed in police services, which would be supposed to account for performance in attaining the objective of reducing delinquency, could translate perversely into a tendency to encumber the capacity of victims for filing complaints).

Another line of thought expressed in comments on indicators considered rather their meaning as such instead of focusing on behavioral consequences. What does this or that indicator refer to? Does this indicator really measure what it is meant to measure? Is what it measures an action of the state proper, or at least a consequence of this action? We retain here these sorts of concerns because they suppose indeed, in a way, a discussion or an argument about what the state is and does: a trial of explicitness on the agency of the state, in our terms.

We note that several sorts of definitions about what a performance indicator is or ought to be intermingled together in the implementation process. Some were rather intuitive; some were based on formal precepts for the categorization of indicators. Many LOLF-related guidelines carried out some straightforward typologies and explanations. But these were not interpreted always in the same way, sometimes not even expressed in the same way. Moreover, these were not completely equivalent to other current and widespread ways of categorizing performance indicators in managerial practices, such as the distinction between input, output and outcome indicators, now prevailing in “public value” literature (e.g. Cole and Parston, 2006; Poister, 2003). The text of the LOLF Act of 2001 puts forward the importance of accounting for the “results” (“*résultats*”) of the action of the state, but is not very explicit about whether this refers to the “outputs” of such action (that is, what a program does, its specific products or services), to its “outcomes” (that is, the effect of these products or services in the reality experienced by the public) or to both. Subsequent documents, such as one guideline for the audit of programs developed by a special-purpose auditing committee (CIAP, “*Comité interministériel d’audit des programmes*”), attempted at clarify this point (Brunetière, 2006).

One major template, which circulated widely in a variety of documents, memos and guidelines, promoted a threefold distinction between “final results” (“*résultats finaux*”), “quality” (“*qualité*”) and “efficiency” (“*efficience*”). Indicators of “final results” are meant to account for the impact of the action of the state in society (several terms such as “society” or “the economy”, sometimes “the nation” or “citizens”, are used to refer to this thing, the “public”, on which the action of the state has an impact); they thus account for what is termed “socio-economic efficacy” (“*efficacité socio-économique*”) and they correspond, also in LOLF-related parlance, to performance considered from the “citizen’s point of view” (“*point de vue du citoyen*”). Indicators of “quality” are supposed to measure the timeliness of the products and services delivered by the action of the state, their reliability, the reliability of their production process and the satisfaction they generate; they thus consider the quality of service (“*qualité du service rendu*”) and respond, again in LOLF-related parlance, to performance considered from the “user’s point of view” (“*point de vue de l’usager*”). Indicators of “efficiency” are called for to describe quantitatively the relationship between the services provided, also termed “intermediate results” (“*résultats intermédiaires*”), and the means used for providing them, that is, their costs: such indicators hence account for the “efficacy of management” (“*efficacité de gestion*”) and are meant to depict performance from the “taxpayer’s point of view” (“*point de vue du contribuable*”). Outcomes are recognizable, within this nomenclature, as final results (first type of indicators), whereas outputs correspond to intermediate results and are considered through the angle of their perceived quality (second type of indicators) and in relation with the costs they suppose (third type of indicators). Needless to say, despite its intrinsic cogency and soundness, this intellectual mould did not travel without transformation through the multiple reflections engaged by several actors involved in the issue of performance indicators, at least in the exploratory period considered here. In some cases, such actors engaged into clarification ventures of their own. In others, the trials of explicitness to which this or similar templates were exposed (questions where raised about whose action is a socio-economic impact responsible for, about who is exactly the user of a public service and as opposed to whom, or about what counts as the cost of a public service, and so forth) simply translated into the proliferation of local nuances and variations, and hence on the overall messiness of this semiotic cloud of indicators which envelops the state as a colossal attempt at accounting for the performance of its action.

Talking about a “semiotic cloud” is a way to insist both on the dynamic nature of this collective referential venture and on the fuzziness of the contours of the object this assemblage of indicators is meant to refer to, in parts and as a whole. It is true that, taken as a whole, this assemblage provides a rather nebulous image of what it is meant to cover: the state. We might even consider this as proof for this entity’s recalcitrance against explicitness or for its natural penchant for the elliptical – this is also perhaps an element of understanding of the historically recurrent characterization of the state as a monster, or as a nebulous referential montage (Legendre, 2005). The point here is not about getting any clue on how the state looks like once it has been made explicit (if at all), but about examining the tensions of trials of explicitness in the making. It is thus more about penetrating into the cloud and taking hold of its local thicknesses than about attempting to dissipate it.

6.2. Indications on science as a lever of the state

Our empirical material shows many instances of small semiotic hesitations emerging out of the construction of LOLF-related performance indicators in the field of science and technology. For instance, the issue of spotting out outputs and outcomes, and of clarifying the difference between both, is particularly relevant in this terrain. What kind of an action scientific research is? In some documents, public scientific research is considered implicitly as a direct action of the state: science (that is, scientific knowledge, scientific publications, science-based patents, etc.) produced by researchers working in national laboratories and state universities is some sort of an output of the action of the state, a public service, in a way. This product may, in turn, have effects (outcomes) on other types of things and activities outside the state, such as society or the economy (it may for instance increase scientific culture among the public or foster industrial innovation and productivity). In some other documents, however, science is considered implicitly rather as an object placed outside the state: what the action of the state produces are things such as policy orientations, research facilities, funding vehicles, assessment measures or performance incentives, and what this action provokes is an impact in the conduct and strength of national scientific research (which includes for instance the performance of the behavior of scientists, or their satisfaction). These implicit differences may correspond to a variety of factors, including ideology of the public service. They may remain inarticulate in most cases, even as they translate into numerical indicators (such as scientometric measurement of scientific production), but they need to face explicitness when they are put to the test of choosing between final results or quality of service, or between outcomes and outputs. It is our opinion, more generally, that calls for a neat distinction between outputs and outcomes in recent "public value" literature constitute a trial of explicitness that generates, in a performative fashion, a whole set of novel concerns, procedures and ideas of what the state is that did simply not exist as such beforehand. It also renders uneasy a more classical position for which the idea of the state would be based, precisely, on both things (outputs and outcomes) being indistinguishable.

Also, of course, explicitness of both indicators and objectives are tied to each other. As aptly put, with reference to the "work of rendering explicit" ("*travail d'explicitation*"), in an unsigned draft for an internal note on such issues, dated early 2004 and written on behalf of the ministry's department for technology ("*Direction de la technologie*"):

> "The definition of objectives for the field of research will call, no doubt, for a work of rendering explicit the meaning of such objectives. Do we aim at attaining results (e.g. curing cancer)? Or do we only aim at conducting the means (e.g. doubling the teams doing research on treatments)?"

We focus on one particular issue in relation to outcomes: the problem of the effects of science in the economy. The problem is not small and encompasses a wide range of concerns of government (Robson, 1993, 1994). It raised understandably a number of expectations in the context of the implementation of the LOLF. But a number of difficulties also arose. There were some issues, for instance, with one particular indicator termed "Leverage effect of incentives aiming at favoring firm creation" ("*Effet de levier des moyens incitatifs*" or, more completely, "*Effet de levier des moyens incitatifs publics mobilisés en faveur de la création d'entreprises*"). What does this indicator mean? Despite its obscurities as a physical metaphor, the notion of "leverage" (or of "leverage effect"), intervenes in the technical naming of a number of diverse phenomena. The expression "*effet de levier*" is often used in French, rather intuitively, in reference to an idea of magnifying the force (or the economic return) of one initial effort (or investment). In a more technical sense, corresponding to the financial notion of "leverage" in English, it introduces the external character of the initial effort (which is borrowed from or given by an external party) and a subsequent notion of indebtedness. The notion can then refer, more concretely, to a practice of speculative investment of borrowed funds or to an estimation of the relation between initial external funds and final return on investment. The indicator under scrutiny here corresponds to a ratio whose terms are the revenues of high tech startup companies, on the one hand, and the amount of funding received by these companies from state offices for innovation or national incubators. We note from the outset that this indicator tallies a perspective for which translating publicly funded technological innovation into economic wealth means fostering commercial enterprises and encouraging risk-taking, entrepreneurial conduct.

In the DEP's comments and objections on proposed indicators (the same document from which an excerpt was cited in the preceding section), the following opinion is defended (the ANVAR, "*Agence nationale de valorisation de la recherche*", was the name of the agency in charge of sustaining innovation in small and medium enterprises):

> "Some indicators do not seem to be fully relevant: one is for instance the funding from the ANVAR. The earnings-funding ratio for a firm can only be a good indicator if we consider earnings limited to the innovation project funded by the ANVAR. Otherwise, we could end up presenting as a result of the ANVAR's action the effect of favorable exchange rates in exports, independently from the effects of the assisted project. Similarly, the amount of patents is not a good indicator for valuation. One patent in use among ten firms is worth more than ten patents filled but not used."

The comment targets the indicator referred to above, but also another one on patents filed on behalf of national laboratories and universities ("*Nombre de brevets en cours (dépôts et demandes) dans les établissements universitaires*"). In this excerpt (as in many others) is raised the issue of the interpretation of indicators. More precisely, this and similar remarks point to the fact that what an indicator "means" or "indicates" (i.e., its object, or what it is an indicator of) is not exactly what it directly refers to, but rather something that can be expected from that – hence, the idea of indicators as proxies, in very much the sense put forward in a pragmatist theory of signification (e.g. Kockelman, 2005). Of what an indicator pointing to the number of filed patents is a good indicator of? It is for sure a good indicator of the pace of the activity consisting in filing patents, and probably a good instrument for the assessment of actions intervening in such activity, such as writing a patent document or processing a patent record. But the destiny, so to say, of such an indicator is to go beyond this primary reference. It can be, for instance, to indicate the pace or intensity of the transfer of knowledge from university to industry. But, of course, as this opens up mediations between the indicator and what it indicates, there is a space for argument and reflection on the interpretants (to use a semiotic concept) that allow for this indicator to signify.

The first indicator, "Leverage effect of incentives aiming at favoring firm creation", raised some degree of enthusiasm among proponents of performance indicators. It was perceived as an element in which to ground the appraisal of the attainment of the objective of impacting the economy – its competitiveness, more precisely. One phrasing of this objective was the following: "To contribute to the improvement of the competitiveness of the national economy through the diffusion of technological innovation" ("*Contribuer à l'amélioration de la compétitivité de l'économie nationale par la diffusion de l'innovation technologique*"). This indicator was indeed retained as such, with slight variations, at a later stage of implementation (the corresponding objective varied in wording, incidentally replacing "through the diffusion of technical innovation" with "through the transfer and valuation of research results and the support to innovation in enterprises"). But it is nonetheless interesting to note that objections were raised at some point by both the DEP and the OST as to the clarity of its signification: for them, the path for the interpretation of this indicator was too long, too mediated. This objection thus exemplified some sort of a statistical resistance to the proliferation of inference: too many things interfered in the identification of a measure of the responsibility of the action of the state, fostering potential errors in the attribution of agency. In the minutes of a meeting of a working group on performance indicators dated early 2005 there are traces of this issue:

> "For the record: the non relevance of indicators linked to this objective was already made explicit by the DEP. The OST confirms that the yearly measurement of the leverage effect of incentives is not relevant from an economic point of view."

The DEP and the OST seemed to agree also on patents. Patents were considered as good proxy for a measure of the industrial ventures of scientific work, but quantity was poorly interpretable. A ratio (that is, a relationship in which to hook the appraisal) was preferred. In a 2004 synthesis of proposals from a working group on performance indicators, jointly annotated by someone from the DEP and someone from the OST (both executive-level personnel), we can read remarks such as: "The part in European patents is an excellent indicator, simple and robust, and available on a yearly basis". In another part of the document, but also on a point about patents, the OST adds an appropriation tag: "The OST possesses the two relevant databases, INPI and OEB, and can work according to the rules of patent bibliometrics ('market share')". This is in reference to the French ("*Institut national de la propriété industrielle*") and European ("*Office européen des brevets*", that is, the European Patent Office) patent data repositories. A contrasting, handwritten view appears at that point in the document, however. Someone (presumably from the LOLF task force at the "*Direction des affaires financières*" or from the "*Direction de la recherche*") has drawn a line from the "indicator" section of the page to the item for which the indicator should stand for, "Efficacy of valuation policy" ("*Efficacité de la politique de valorisation*"), and written, in the margin of the document, the following: "Patent fees are a better indicator" ("*Les redevances sont de meilleurs indicateurs*").

As we see, although criteria can be stabilized on the statistical robustness of an indicator (or more generally on the interpretability of its process of signification), the space of indication remains open to hesitation, variation and discussion, as the very idea of an indicator being good at indicating something depends on a work of clarification (a work of explicitness) in which competing views may be at work; competing views of science, of the economy and of the state. It would be interesting (although not part of our task here) to attempt at identifying dominant views in the finalized shape of the semiotic cloud that envelops the state, at least in regards to the topic of national science and innovation. The limited "paper trail" that we have tackled in this section shows that one prevailing feature of the agency of the state is that of having an effect on this construction called "the national economy" through the angle of competitiveness, and that the crucial vehicle of this effect is the translation of science and technology into innovation with economic return. But it also shows that this trial of explicitness is quite demanding insofar it interrogates the boundaries of the action of the state and the sliding divergence between "conducting the means" and "attaining results" (as suggested in the unsigned note quoted above).

7. Conclusion: at stake with implementation

When research in accounting stumbles upon the intricacies of implementation (in public sector reform or elsewhere), the pragmatist stake often alluded to as Actor-Network Theory proves particularly useful in understanding the drifts and translations these processes are made of (e.g. Arnaboldi and Azzone, 2010; Pipan and Czarniawska, 2010). We expect our contribution may offer a complement to this and comparable perspectives. When managerial principles get implemented, especially in the context of New Public Management, the analysis should not stop at signaling the proliferation and circulation of notions of "performance", "transparency", "efficiency", "objectives", "results", "rationalization" or "modernization" – these notions are indeed quite hollow before they face the test of practical explication. A focus on the situated, generative trait of these trials serves well the task of understanding empirically what happens throughout implementation.

The notion of "trials of explicitness" corresponds, in part, to the very mundane idea of being called to make an explicit statement about something that was initially formulated in rather loose or general terms. This idea finds its place, in particular, in moments of implementation: of a rule, of a measure, of a reform, of an algorithm (e.g. Muniesa, 2011). But the notion does also face the more philosophical requirements of explication ("*explicatio*"), a concept that conveys of course something of an idea of unfolding, of deploying, of opening up (opening the fold, the "*pli*"), as opposed for instance to an idea of folding, or of complicating. Siding with the Deleuzian blend of pragmatism that has often inspired the philosophical side of Actor-Network Theory (see Jensen and Rödje, 2010; Harman, 2009), we consider explication not quite in the sense of the deployment of something that is already there, implicit, waiting to be clarified. Explication is not exactly about the presentation of the prefigured, the application of the ideated or the realization of the potential. Explication is rather about the actualization of the virtual: that is, about expressing something, provoking it in variable, conflicting, unanticipated manners, putting it to the test of becoming an actual configuration, an actual event (Deleuze, 1990, 1994). The mundane idea of explicitness rather sides, in our view, with this philosophical alternative. A call for explicitness rarely translates into the unproblematic unfolding of a one single program, a plan, a code or a detailed set of instructions that may have already been settled in an implicit or latent form. On the contrary, a call for explicitness often translates into the emergence of grey areas, the discovery of new problems and, sometimes, the development of controversies about what is exactly what is to be made explicit and how. Accounting, information systems, management and quantitative measurement are areas in which this feature of explicitness is perhaps most remarkable.

Explicitness is a difficult condition to be in, and this applies in particular to large and cumbersome entities such as the state. Calls for transparency in the appraisal of governmental and administrative action such as the ones originated by the implementation of the LOLF in France did force state practitioners to engage not only into technical discussions on the types of devices that would allow for a fine description of the state but also into considerations on what the state is and what it does. The notion of "trial of explicitness" serves the purpose of apprehending such moments of struggle and hesitation in which what is at stake within the implementation process needs being clarified. We have focused here on three of such trials. We have first seen how debates on the definition of the content of one particular "program" (a newly introduced category to refer, in an actionable way, to what the state does) operated as a trial on the political (or, alternatively, economic) understanding of the notion of management at work within the reform and, more generally, on what it is for the state to imprint a direction or an orientation. We have then observed how the need for quantitative indicators called for a clarification on the type of statistical work that would better serve the notion of performance implied in the process of accounting for the action of the state. Finally we tackled an example of how the proposal of one type of indicator opened the problem of the agency of the state, that is, of the extent to which such indicator indicated indeed the action of the state or its effect.

Taken as a meaningful ensemble, the three trials of explicitness we have chosen to focus on here allow for the characterization of one problem which appears relevant to us: namely, the problem of the "action of conducting" as a characteristic action of the state. The state "conducts" or "is conducted" but also "has a conduct" and these – quite elliptic – aspects are subject to explicitness. In the three trials that we have analyzed, the topic of the political will of the state and of its capacity in the orientation of reality is at stake, and so is the accountability of its own conduct. The signaling of directions set by the state in the conduct of science, the identification of relevant bodies of statistical practices for the measurement of this conduct, and the designation of this conduct's extended effects in the public world are addressed in a manner that make the problems of the agency of the state visible, but that also calls for solutions of a managerial style. The implementation of the LOLF is thus an occasion to work out a managerial concept of the state. But, considered as a trial of explicitness (or as a set or trials of explicitness), this exercising of the state as a managerial entity opens up the question of the state's intention and of the achievement of this intention. In a context in which tensions in the conduct (political or economic) of science emerge in the face the demons of performance, as is the case in today's France, attention to trials of explicitness can serve a better understanding not only of the types of realities that these tensions provoke, but, more importantly, of their terms and strength.

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