MANAGINATION - A SOCIOLOGICAL APPROACH TO MANAGERIAL TECHNOLOGY

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Abstract:

The relevance of technologies in management and organizational analysis is well accepted in theory, if not by managers themselves. But the way technologies allow us to observe has not yet been explored. This is because many accounts of technologies neglect, if not the constitutive nature of technologies, then at least their observational potential. In particular, this article argues, technologies work by setting the scene of observation for the manager. In order to handle that challenge, management must be a matter of `managination`, that is, second order observation.

Keywords: management, observation, reproduction, steering, technology.

INTRODUCTION

Modern life is witnessing a proliferation of managerial technologies. The management of public organizations, in particular, is increasingly supported by an array of new technologies, which guide, distribute and accelerate the work of management. New accounting systems, values-based management, learning systems, project management, balanced scorecards, various HRM-techniques and organizational branding are only a few of the technologies that now pervade the public sector in many European countries. As a result, we have seen an increased focus on the manager's intentionality, rationality and sovereignty, which reveals an understanding of managerial technologies that builds on a functional-rational understanding of management (e.g. Alvesson and Willmottn 1996; March, 1994). Managers, it is assumed, must liberate themselves from the bonds of tradition, from local ways of thinking, and from the organizational system as such. Ironically, however, this instrumentalist discourse prevents researchers as well as practitioners from understanding the social and constitutive effects of the proliferation the very instruments they are studying or applying. It is our aim in this paper to offer a sociological corrective to this discourse.

If we depart from the rational understanding of management and emphasize the social consequences of technology it is not in order to construe them merely as instruments in the hands of strong managers. Our sociological corrective focuses on how technology instrumentalizes management itself. We therefore want to draw attention to the technologies that seem primarily to have an effect on management, not those that managers use to affect others. In so doing, we emphasize description over prescription and take a practical stance as opposed to a theoretical one. This sociological approach seems to be gaining favour among management scholars and has been developed in a variety of ways, each with its own research agenda. All are indicative of the huge social, organizational and managerial consequences of new technologies.

One consequence of particular interest within the public sector, however, is the fact that management itself is not depend on the familiar idea of fixed or central positions. As a result of the advance of a decentralized and liberalized public sector, management appears against a backdrop of diverse managerial technologies, which are applied by a multitude of organizational members including managers and employees. The challenge, then, is not to study managers, but how managerial practices emerge as local contingencies related to new and impending technologies within the public sector.

This concern was already brought to attention by the groundbreaking work of Peter Miller and Nikolas Rose (1990) on political power in advanced liberal democratic societies, which was inspired by the work of Michel Foucault on the relation between power and knowledge. Miller and Rose advocate an analysis of how 'technologies of government' constitute objects of politics: "before one can seek to manage a domain such as an economy it is first necessary to conceptualize a set of processes and relations as an economy which is amenable to management" (1990, p. 6). In practice, managerial technologies represent the potential of management and establish managerial contexts wherein such dimensions are organized and made accessible to corporate control. While they make a convincing case for their approach, Miller and Rose did very little to define technology, nor did they provide a precise framework for the analysis of management in relation to technology. Our concern here, then, is to identify the core traits of technology and show how these defining features allow us to observe the contingent formation of management practices.

This calls for a second order approach to observation (Luhmann 1984, 2002). A second order perspective is all about the study of how managerial observation is made possible by the technology being used. Observation is not just in the eye of the beholder; it is related to the various ways that technologies render fields visible, calculable and decidable in a rational

manner. Mintzberg illustrates the concept of observation in his playful characterization of benchmarking: "Benchmarking means that you compare your organization with others, who seem much better, so to ensure, you are second best – along with all the rest" (Mintzberg, 2001. p. 163). Not only does he stress the importance of technology for observation. He also shows how certain managerial practices evolve around particular technologies, that is, how internal domains of control might be guided by an ideal of external resemblance and how the decisions of management are framed within this cognitive difference. Technology, then, offers an opportunity to study the phenomenology of management; it allows us to investigate the emerging practices of management on the basis of observation.

In this article, the first ambition is to propose a systems-theoretical conception of *steering* and *technology* in order to understand how observation is shaped by technologies. The instrumentalization of management is contingent on particular technologies, while the character of steering, in particular settings, transforms the social scene of management and its reproductive features in a variety of significant ways.

In sociology, there seem to be two especially prominent approaches to observation. One seeks to glean emerging practices from observational categories or, put differently, to recognize the modalities of control that are produced when certain technologies are put to use (e.g. Clegg, 2004; Townley, 2004). The other seeks to comprehend the inner structure of technology, which is often neglected where the whole organization (or the intertwining of the totality of practices) is the theme of research. In this paper, we take the second of these two approaches, largely following the line set out by Joerges and Czarniawska: "As organized actions are externalized in machines, and as these machines grow more complicated on ever larger scales, norms and practices of organizing progressively devolve into society's material base: inscribed in machines, institutions are literally 'black boxed'" (1998, p. 372). But where they emphasize the

inscription of norms into technologies that condition action, we want to look at the way perceptions, too, "progressively devolve into society's material base" and come to condition observation. As with Joerges and Czarniawska's norms, however, two effects merit attention. First, each technical leap expands practically known and accessible matter, removing the limits of the once unknown and uncontrollable; and, second, the more managerial practices are inscribed into technologies, the more these social inscriptions of management multiply.

To be sure, these effects are in need of further development within sociological theory; but they also demand at fresh look at the core competences of managers. Whenever management finds itself needing to make strategic decisions in the selection and evaluation of managerial technologies, sociological skills become increasingly relevant. We therefore suggest that a sociological understanding of technology is by no means opposed to managerial action; on the contrary, it is part of the crucial ability to observe technologies as tools of observation. We want to call this ability 'managination'.

An exploration of this concept is the second ambition of the article. We find the absence of sociological approaches to technologies in indexes of management theory both conspicuous and alarming. Management theorists seem to believe that social norms belong to social scientists and that managerial and technical norms belong to managers. It is this clean division of the social from the managerial that we want to call into question.

The overall contribution of this article, then, is to present coherent definitions of observation, technology and steering within an existing sociological framework of technologies in order to show their sociological potential in the concept of "managination". Ultimately, we want to answer the following question: *How does an approach based on observation not only enable a*

fruitful understanding of technology but also penetrate into the heart (and art) of managerial decision-making?

THREE APPROACHES TO MANAGEMENT AND TECHNOLOGY

Our first task is to present a cumulative and comparative view of three dominant sociological research-programmes in order to specify our two-fold contribution, i.e., to offer an approach based on observation and to show how this approach by no means excludes managerial action. As we will see, all three approaches have been developed at the cost of severing those relations to managerial practice that could otherwise maintain the relevance of sociological theory for managerial practice. While we will be calling them sociological "approaches" to management, it is our contention that their most striking characteristic is their *withdrawal* from management, or what we will be referring to as the *instrumental perspective* for contrast.

Our exposition of these programmes will take place on a high level of abstraction. All three sociological perspectives are ways of analyzing management as an empirical phenomenon related to technology; their differences are outlined in the following table, constructed along three dimensions, which represent significant assumptions embedded in each approach. These dimensions are 1) the *concept of technology*, 2) the *understanding of management*, and 3) the *research interest.* This threefold combination of assumptions enables different studies to be performed. We will present these three research-programmes on their own terms and then propose our own approach. We call this an "observational" approach, not in order to suggest that the others are not based on observation, but in order to emphasize that ours targets the observations of practice that are made within practice itself.

 Table l Different perspectives on managerial technologies

	Constitutional	**Relational**	**Institutional**
Concept of Technology	Disciplinary domains	A socio-technical component	Institutionalized standard
Understanding of Management	Constitution of management	Distribution of management	Managerial legitimacy
Object of analysis	*Subjectivations*: Discursive constructions	*Translations*: Socio-technical constructions	*Imitations*: Symbolic constructions

A constitutional perspective: Technologies as objectifying machines

Like the instrumental perspective, the constitutional perspective stresses the repeatability, transferability and indispensability of technologies in relation to management. It suggests, however, that the analysis of management cannot be confined to the study of agencies and their interests. And the conclusion that is arrived at within this perspective is certainly not a matter of perfection, but rather a matter of (critical) reflection. In order to do so, the instrumental division between the technical and the social is dissolved in order to gain access to the social constitution on the basis of which managers are related to technologies of control. The sovereignty of the subject becomes the study of subjectification and factual objects become the study of objectification. As such this approach is a way to study management as emergence, not as a presupposed entity.

This approach pays attention to the particularities of technology, but often as a means to study the intertwining of different emerging practices. As such this approach draws upon the work of Michel Foucault (1983) and especially the notion of relays, assemblages or apparatuses--epistemological concepts that cover intertwining aspects. His concepts of subjectivation and

objectivation have been especially influential, illuminating a variety of aspects of modern organizations. Such areas as accounting (e.g. Hopper & Macintosh 1998; Hoskin, 1998; McKinlay & Starkey, 1998), human resource management (e.g. Mueller & Carter, 2005; Townley, 1993, 1998; Trehan, 2004), managing professionals (e.g. Cohen *et* al, 2004; Covaleski *et al*, 1998; Maravelia, 2003), and knowledge management (Du Toit, 2003; Gosain, 2003; Kleiner, 2003) have been objects of analysis. What seems to link these studies is a growing interest in a critical understanding of how the forms of knowledge and power in modern organizations emerge along with new forms of resistance. Townley, for example, argues that management simply needs a space to express itself because "before a domain can be governed or managed it must first be rendered knowable in a particular way. Ways of thinking about or perceiving a domain render it visible and, through this visibility, open to intervention." (1998, p. 193) In modern societies and organizations, technologies could be understood as objectifying machines that leave subjects open for intervention and control.

Much of this work is done with reference to techniques and technology. And it becomes clear that these concepts are interrelated in important ways. *Technique* is a performative practice. It is not necessarily a grand structure, but may be something as simple as a kiss. (A kiss performs and is repeatable as a performative practice.) On a larger scale, technique represents the level and pattern of action identified over time like the pastoral power that originated in Christian institutions (Foucault, 1983, p. 213-215). When Foucault refers to *technology*, however, it is not only a practice but a disciplinary arrangement that links action to the rationalized ideologies of society (e.g. Foucault, 1991). In particular, technology makes it possible to bring action from one context into another. In its application and concretization, technology is strongly related to Foucault's concepts of government, governance and governmentality as it specifies and highlights the particular disciplinary arrangement within each tradition. According to Foucault,

to *govern* is "to structure the possible field of action of others" (1983, p. 221), and this is exactly what technologies do.

The relational approach: "The Seamless web" of society and technology

The desire to study micro-processes brings us to the next approach. The relational research program is founded on the metaphor of a "seamless web" of, among other things, interconnected techniques, instruments and actors (Bijker *et al,* 1989). The Social Shaping of Technology (SST) and the Social Construction of Technology (SCOT) had emphasized the *construction and reconstruction* of technologies. The Historical Formations of Systems had looked at the *evolution* of systems, that is, the interlocking elements that obtain among physical artefacts, institutions, and their environment and thereby offered an integration of technical, social, economic and political aspects. Finally, Actor-Network Theory picked up on these cues and emphasized *self-transformation*, dissolving the hard and fast distinction between the technical and the social by turning the human and the non-human into "actants" on equal terms. Today, this approach has spread into a variety of fields that go well beyond the contexts in which it had been developed, especially those based on interdisciplinary studies. But Actor-Network Theory (ANT) in particular maintains the widest and most complex notion of relations as networks.

On this approach, the traits of the various managerial technologies fall into different categories. First, technology has a material dimension that implies an ability to establish durable relations. Second, a technology directs the intention and will of a managerial body because it works as a mediator between the heterogeneous actors that constitute the action network. Third, a managerial technology does not work in a social vacuum but needs other social beings (humans as well as non-humans) in order to perform as a managerial technology. It needs to become a

central actor, and thus a mechanism, in a network of actors. In sum, technology is both the effect and media of management, calling for an intimate analysis of micro-processes as opposed to an analysis on the level of discourse and formation, flirting with emerging structures on a more grand scale.

Within a network, it becomes possible to perform the act of management in a particular way. As Latour notes, what should be examined by social theory is the world-building capacities of social actors – a capacity that is built upon their position in durable socio-technical arrangements of heterogeneous actors (Latour**,** 1999, p. 20). The relevant act of sociological withdrawal from the instrumental perspective can be seen in the fact that neither the sovereignty of the manager nor the constitutive nature of technology is of any more importance than the rest of the network. Managing, then, is an emerging feature dependent upon the distributive and translational processes within the network. And the effects of the manager are extended, spread out and distributed through the arrangements of the network (Law, 1993, 1997). In a sense, this dispersion of effects makes managers themselves effects of the network rather than agents effecting specifiable changes. But that does not leave the manager entirely out of the equation. Managing is indeed possible, but personal authority as well as the social ordering, emerge out of the network, and have to be studied as such, i.e., as effects not causes. This was the basic insight of Latour's (1983) analysis of how Pasteur invented the first artificial vaccination not only by extending his laboratory into a network of farmers, cows, industry, politicians and journalists (enroll-ment) but also by the construction of alliances through persuasion, intrigue and rhetoric (interesse-ment).

The institutional approach: Technology as a dress code

The institutional approach originated from the work of Meyer and Rowan (1977) who, like other institutionalists, searched for an answer to a particular question: *Why are organizations so alike?* The social mechanism is called *isomorphism* and originates, according to DiMaggio and Powell (1983), from three different institutional forces, namely coercive, mimetic and normative pressures from the wider institutional environment. Within this research perspective, managerial technologies play an important role. They serve as rationalized myths of effective management and do not necessarily produce effective managers in an instrumental sense; they travel as institutionalized fads and fashions and serve as important symbols in order achieve and maintain legitimacy (e.g. Abrahamson, 1996). The relationship between managerial technology and organization becomes a largely ceremonial one when showing representatives of a wider institutional environment how this particular organization is managed by modern technologies. This provides additional empirical insight into how organizations and managers operate internally.

Here, again, the instrumental dogma of problem/solution is inverted, allowing us to observe the mechanism in reverse. Problems are developed only in order to demonstrate the necessity of the latest technological fashion, i.e., to give us a reason to adopt the new dress code (e.g. Sahlin-Andersson, 1996). This research broke new ground because it neither assumed the individuality of the manager (instrumentalism) nor the embodied nature of particular technologies (constitutional). Moreover, in contrast to the mechanisms of a network theory (relational), the symbolic value of technologies became the salient object of analysis. However, especially in the Scandinavian School of organizational research, neo-institutional theory has been laced with a flavour of agency (e.g. Czarniawska & Sevón, 1996). In this tradition, the introduction of managerial technologies in modern organization is not simply de-coupled from actually behaviour in organization. Rather, we are encouraged to understand the tweaking of managerial technologies and their translation into local practices (e.g. Sahlin-Andersson, 1996).

Discussion

Recall the table above. Here we have presented three sociological approaches to managerial technology in terms of the way they actually effect a *withdrawal* from managerial instrumentalism. By this means, we have been exploring different yet fundamental relations between management and technology and the (organizational) environment. The following diagrams can illustrate our results:

Figure 1 Different perspectives on managerial technologies

Constitutional

Human ←[Technology] → environment

Relational

Human ⇆ Technology ⇆ environment

Institutional

Human ← [Technology-environment]

Instrumental

[Human-Technology] → environment

The *constitutional* approach departs from instrumentalism as it emphasizes the constitutive effect of technology as opposed to the sovereignty of the subject. If anything, this approach is flirting with emerging structures to be studied. It asks: How does technology structure and objectify the relation between the manager and the environment. The *relational* approach offers a constructive development toward micro-practices. It asks: what supports the mutual production of technology and effects of management? Thus the exchanges and transformations that define the interstices between agent and structure become the creative, "seamless" mechanism of management. Finally, the *institutional* approach casts structure in the role of creative force, as it asks: How does the environment produce technological pressures that are imposed on the managers of the organization? What we want to emphasize here is precisely their *departure*, i.e., that which they take their leave from in order to proceed with the analysis, namely, the

instrumental approach. It asks: How does the manager produce the organization through technology? And it therefore installs, or tries to install, the manager as a creative force within the organization. Our argument is that we must recognize this approach if sociology is to be of any use to management. But it must of course not do so at the cost of abandoning itself as a distinctively *sociological* perspective. An approach based on observation seeks to fulfil this dual ambition.

Two introductory comments are now necessary. If we are to observe the relation between technology and management, what exact categories enable this observation? According to Luhmann (1984)**,** the observed cannot be left alone without the observation. So how can we claim these relations if the research-process does not reflect how it is constructed? This is a question of precision: it is unclear within the three sociological approaches to what extent technology might be a *managerial* one. In our proposal we offer the notion of steering to draw attention to calculation as an inherent trait of managerial technologies, but also to direct attention toward management as a reproductive practice. As to the latter, it is important not to fix the identity of a managerial process if the identity is considered an emerging one. Secondly, the three approaches do not specify management as the *singular* object of analysis, as the constitutional, relational and institutional approaches tend to observe management in a wider context: as objectified domains of control, as a distribution within networks, or as a set of institutional standards. Our proposed analytical incision, however, does not seek to ignore the organization in a wider context. The emphasis upon management allows vivid descriptions of the outside world as a product of managerial observation. It is a matter of observing how management observes the environment and, as a consequence, (re-)produces its own ability to relate to the environment. This emphasizes that the distinction between system (management) and context (organization) emerges when a particular technology is being put into use. Observation, then, does not belong to the eye of the beholder but is related to the various ways

that steering technologies enable observations and hence managerial communication to take place and the environment to emerge when spoken about.

As such, we now draw attention to the inherent structures of technologies that seem to give management its power. In so doing, we draw particular attention to the cognitive potential within technologies, that is, how they allow the manager to observe (and the organization to be observed) in a causal matter. In other words; we identify management as a singular object of analysis and observe how managerial observation is made possible by the technology that is being put into use.

Afterwards, we show the sociological potential of the proposed perspective by reference to modern technologies in the public sector. This leads us to our discussion of how the fundamentals of technology add what we want to call a "managinative" dimension to management.

FUNDAMENTALS OF MANAGEMENT TECHNOLOGY

What is needed is greater precision. We want to propose a system-theoretical approach with special emphasis on observation, technology and steering. The question is: How can we develop a concept of technology that is complex enough to understand the fundamentals of the technologies involved and yet simple enough to be used in a managerial context of action? In order to meet this challenge, we look at the fundamentals of technology and steering and refine this insight with the notion of observation.

Technology: A causal set up

It is interesting to note that the verb "organize" derives from the Latin word *organum*, which refers to "instrument". But *organum* in turn derives from the Greek word *organon*, which relates to implement, tool, musical instrument, organ of sense, or organ of the body (Hernes, 2004). The semantic connection, if not resemblance, between technology and organization, suggests technology as the formative power that allows organizing to take place and organisations to emerge.

But what does "formative power" mean? Continental philosophy has emphasized that technology relates to the term *techne*, which means "to cause" or "to give rise to in a causal manner". This basic conception is explored and developed by Heidegger in his writings on enframing, "*das Gestell*". His point is that modern life is anticipated by the mechanisms of *techne*. Where technology is involved, as is notably the case in modern society, we are bound to think, act and speak according to the law of causality. The art of "bringing forth" (*herstellen*), "productivity" or "creation", seems not to be an intentional one, but is structured by the presence of technology. This point is both profound as surprising: technology expresses a particular manner of modern existence. It is a basic feature of modern experience that penetrates the human will and the formation of social spheres, offering causality as a constitutive and formative mechanism (Heidegger, 1954). We are not above or within the reason of *techne*. The reason of *techne* is within us.

In sum, technology is the mechanism that allows managers to believe in calculation to such an extent that this belief guides the observation of management. In fact, technology dissolves the distinction between reality and fiction, so far as the fiction of cause and effect constitute the making of sense and the production of reality.

As a sociologist, Luhmann (1990) draws attention to technology along similar lines, drawing heavily on continental philosophy (Heidegger) and phenomenology (Husserl). From this systems-theoretical position technology is defined as "a selection of specific causes and effects" (Luhmann 1990, p. 228). What is important to note, is that this selection process is a causal set up which is basic to management. And this structure is an emerging one as a selection and connection between possible causes and possible effects is made. If we consider most HRM technologies, the ambition is often in various ways to establish a causal connection between the inner character of the employee and external objectives (e.g. McKinlay & Taylor, 1998; Townley, 1998). This is why feelings, needs and motives become so important. The interesting issue, however, is not to what extent it happens or not. The inside of the employee is unobservable anyway. The important aspect, seen from a managerial perspective, is that this particular technology structures the observation of management as it makes the inside of subjects visible as objects of control. Stated in a formula, *the technologies offer observation as calculation.*

Technologies are not innocent and neutral tools. They contain the possibility of defining the boundary between the self and an environment and hence a meaningful context for the practice of management. A comparison with scientific management provides another example. It seeks to compute the worker as a function of movements, while Human Resource Management seeks to investigate the opposite question: What moves the worker? This shift from the observation of "outer" to "inner" brings character to the fore and turns it into one of the most important objects of calculation (Townley, 1998). In both cases, the fiction of the calculation is a matter of which technology enables the selection and connection of causes and effects. This is not reductionism. A whole language, so to speak, has evolved to deal with this cognitive difference. At bottom, however, they are both concerned with the same question: How to turn single human resources

into organizational efficiency. In short, *technology offers contingent observations related to each technology.*

Steering: To minimizing a difference

How does steering help us to understand one of the most central features of technologies? The question is of vital importance as steering establishes the reproductive base of management.

Luhmann's definition of steering says, "All steering uses distinctions admittedly with the specific intention of reducing differences that are themselves distinguished." (Luhmann 1997, p. 45) This definition of steering draws upon an often-used metaphor: the steering of a ship. In maritime navigation, steering is based on the captain being able to make a distinction between the actual position of the ship and its planned course. This is what happens when the captain on a sailboat constantly moves the rudder from side to side in order to make corrections between the actual position of the ship and its planned course. The steering of the ship consists of constantly correcting the direction of the ship so that the difference between the course and the position is reduced. This concept is very much in line with Hughes (Bijker *et al,* 1989, p. 54), who states: "A crucial function of people in technological systems, is to complete the feedback loop between system performance and system goal and in so doing to correct errors in system performance". To recall Scientific management, this tradition with its time-technology enables the observation of the worker as a series of movements that can be compared to explicit standards as a difference to be minimized in order to achieve greater efficiency. With HRM, a whole new distinction to be minimized is brough to the fore, namely, that between character and performance. Both cases are a matter of technologies that enable the selection and connection of certain calculations. But, more important, they each provide the basis for steering as a particular

difference to be minimized. *Steering is the minimizing of a difference between calculation and deviation.*

Inasmuch as steering consists in the reduction of differences, it can be understood as a process and even a reproductive one. Technologies related to the field of HRM will provide a helpful example. On the issue of gender, economic and qualitative guidelines are established that are expected to result in equal rewards and opportunities for both sexes. The ideals inherent in the (perfect) calculation toward gender equilibrium work as a motor in the steering process because the nature of the ideal produces deviations along with a belief in its corrections. The interesting aspect is that steering is dependent upon the failure of the calculation. Too much machismo and too much femininity are both deviations according to the ideal of equality. Steering, in other words, takes us deep into the reality of management and shows us one of the core reproductive features within this discipline. Maintained as a singular point of observation, management is a discipline that reproduces the need for management only through the ability to observe deviations from the calculation, i.e., an equilibrium of opportunities that has not yet been achieved. Still more refined feedback procedures such as control, evaluation, learning and auditing are all considered legitimate techniques and also add to this reproductive process. They enforce the fiction of the calculation while observing deviations, which allow a continuous process of steering and hence the reproduction of management, in ever more refined ways. At its core, management is dependent upon the self-production of failures. Otherwise there would be no need for (increased) management and establishing management as the singular point of analysis indeed reconfigures the concept of resistance (McKinlay & Starkey, 1998, p. 8). As Foucault (1983) notes, we find resistance directed toward a hegemonic order that the technologies of management in this case are meant to execute. But it is exactly the managerial observation of a variety of resistances and other deviances from the calculated state, which is

the prime motor in the reproduction of management. Once again, this can be stated quite concisely: *steering is to be understood as the reproductive process of managerial action.*

Observation: An indication within a distinction

Our construal of steering in relation to technology as being all about distinctions draws upon Luhmann's reading of George Spencer-Brown, who puts it this way: "We take as given the idea of distinction and the idea of indication, and we cannot make an indication without drawing a distinction" (Spencer-Brown, 1969, p. 1). Once again a general comparison between technologies might be appropriate. As we saw, scientific management and HRM each contain the possibility of observing the boundary between oneself and an environment and enable the reproduction of management through the concept of steering. More specifically they offer a possible range of indications within a certain distinction. Scientific management allows for the indication of physical movements related to standards (movements/standards). HRM allows the indication of character related to performance (character/performance). Two types of reasoning evolve within these two traditions. HRM argues that the management of character leads to improved action. Scientific management argues that improved action eventually shapes character. Again, within the theoretical field and among organizations, a whole language, so to speak, which is related to the core distinctions, has undergone a remarkable evolution in two different directions, despite the fact, that they are both concerned with the question of how to leverage human resources to improve organizational efficiency. To sum up, *technology is the very distinction provided for observation.*

Technologies not only serve as an indispensable part of management, they each carry the possibility of different observations within them and as such serve as the reproductive basis for managerial decision-making. This calls for a second-order approach, which in this case is the

observation of how managerial observation is made possible by the technology being put to use. We have displayed the observational and reproductive mechanism of steering-technologies in the following table:

Table II: Second order approach

	Observation	Reproduction
Technology	Cause/effect	An ideal that directs action
Steering	Calculation/deviation	A difference that reproduces action

The suggested approach positions itself as a contribution maintaining management as the focus of observation. The point is that each technology constitutes a causal and reproductive set up from which management can be observed as the observation of oneself in relation to an environment.

On a highly generalized level, much empirical research shows how three environmental boundaries are re-constituted within the public sector due to an explosion of self-technologies in particular: 1) the boundary of the *citizen* 2) the boundary of the *employee* 3) the boundary of the *organisation* (Andersen and Thygesen, 2006).

The citizen

Being regarded as an active citizen includes the expectation that one is not merely a receiving object but an active subject. These expectations are clearly a matter of individuals practicing their freedom by assuming responsibility for themselves in relation to others; the latter being the community, comprising family, friends and associations, but also the public at large in respect to general issues such as integration, healthcare, justice, etc. When individuals assume responsibility for their own contribution, they are considered capbable of managing their own

freedom. At first glance, the integrating technologies are helpful and innocent, but their intimate and private effects increase the latitude of the administration to also include the citizens' relationships to themselves. New family contracts provide parents with the observations of themselves as a parents-to-be, that is, the capacity to distinguish their own family situation from a stable situation in order to minimize the difference and become a responsible parent. The object of steering therefore becomes the citizen's relationship to his or her own life. The unemployed individual must assume responsibility for employment; the student must assume responsibility for learning; the social client must assume responsibility for his or her own destiny; and immigrants encounter expectations that they must assume responsibility for in their own integration. As the Norwegian Minister of Health has stated: *we must all serve as our own Minister of Health* (Hydle, 2003).

The employee

Appraisal interviews are only one of many technologies designed for the self-management of the employees. It is a micro-technology and provides an intimate dialogical setup between managers and the employees; the latter are expected to show the ability, initiative and motivation to manage themselves. This technology provides employees with the observation of themselves as integrating persons, that is, their individual capacity to distinguish between internal incentives and external objectives (in order to minimize the difference between the two) is fore-grounded in the attempt to succeed in the organizational context. "Self" and "context" are thus left to the observations of the employees and their capacity for fixation. To a certain extent, the organization has therefore withdrawn from the employee. This withdrawal of rules, obligations and roles involves the insertion of a number of micro-technologies in line with the appraisal interview through which the employee is expected to be able to manage their own inclusion. One can say that this withdrawal has rendered the organization more attentive than ever. If the

organization no longer rules the employee with an iron hand, it is exactly because the employees are meant to embrace the organization of their own free will.

The organization

Public institutions are participating in the general trend toward self-management. The goal seems to be the strategic self-reference of the institution. One of the commonly accepted technologies operating on the level of the organization is the "quality system": managers seem to invest a great deal of energy in the technical applications of these systems. But the social aspects are rarely taken into account as this technology turns tacit knowledge into a sort of taboo; it proposes, instead, the ideal of explicitly standardised action in order to minimize the difference between the two.

We have illustrated the qualities of our analytic approach by focusing on three operative levels of technology which are formative for observation and which are in fact also the formations of three borders of identity: the organization, the employee and the citizen. We have discussed how these boundaries emerge and how each of the technologies produces perceived latitude for managerial action. This is also to recognize that the areas of control are no longer geographical locations, structural units or authorized positions, but are divided along the fractures of social existence, such as: "body and movement" (scientific management), "feelings, character and motivation" (HRM), "ideals of equilibriums" (gender), not to mention new boundaries emerging along organizational standards (quality systems), individualized incentives and objectives (appraisal interviews) and responsibilities among citizens (contracts). This sets the stage for a social formation of order that cuts across the public hierarchies, challenging the manager to observe along the lines laid out by the technologies that are in use instead of the pre-given formal divisions of the organization.

From empirical research we can see that instruments are hardly neutral. They establish the horizon of management; they are decisive for the strategies being conducted; and they offer the opportunity for steering so that managerial reproduction can take place. As such, they cannot be placed on a neutral efficiency scale. It is not possible to simply establish one instrument as being better than another because they both constitute the domain of the visible and condition how management is able to relate to the object thus seen. As a technology is adopted, other opportunities cease to exist. Management is able to act upon that which the steering technology enables management to observe. And as long as one is engaged in the steering process one is unable to see that which the steering technology fails to render visible. This is the point so far, which, admittedly, can be developed much further. We have not yet explored the way that many steering technologies pack several technologies together, thereby setting a multiple observational potential in play at once, which our simplified framework does not do justice. The purpose of nevertheless presenting them so categorically is to illustrate how decisive they are when it comes to the (self-)observation of management and the range within action appears meaningful. The technologies are all significantly more complex than we can depict here. The empirical examples of technologies each refer to a variety of instruments, and when we sketch a distinction, it might well only encompass only some of the existing variations. The message we have attempted to advance so far is on a programmatic level of analysis, introducing an approach based on observation. The point is that attention must be directed at steering technologies. That goes for both the sociological aims of interpretation and the managerial aims of decision. In particular, attention must be directed towards the places where regulation is withdrawn in order boost empowerment

"MANAGINATION"

How, then, *is it possible to manage the technologies of (self-)management?* In principle, this challenge deals with the observation of how different observations are enabled by a multiplicity

of technologies. In order to discuss this question, we suggest a reflexive turn toward "managination", that is, the move from management *by* technologies to management *of* technologies.

The four approaches we have covered above – the instrumental as opposed to the constitutional, relational and institutional – can be interpreted either as "managerial programmes of action" or as "sociological programmes of understanding". The instrumental perspective provides an action programme while the additional perspectives – constitutional, relational and institutional – when taken together to a great extent provide us with a refined sociological programme of understanding. The idea behind managination is to offer a combination of approaches. All too often, we are mired in a never-ending debate between management and sociology. That is, we are caught between action and understanding. We are not, of course, opposed to the explorative development of research. Our concern is with the dichotomy and we propose a combined perspective in order to expand the range of managerial action and reflexivity. This approach suggests sociological skills as core competences since management is bound to decide and evaluate the use of technologies. Precision demands that we use sociological understanding to break with instrumental action; but relevance demands that we also return to our object with suggestions for how to proceed. Otherwise, sociology offers not an *approach* to management and managerial technology but becomes merely another example of the pathology of *withdrawal*.

We want now to summarize our findings in three messages to sociologists who would contribute to modern managerial practice and managers who wish to gain the advantage of sociological skills.

First, observe observations! Observe the distinctions provided by technologies. And do so with a sensitivity for both the technologies in use and the technologies to be.

The former is a matter of post-implementation, which neither attends to the application and operation of a technology nor emphasizes the knowledge provided by it. As for the technologies of HRM, it is not a matter of how to operate the techniques demanded by the technology nor of dealing with the motivation-rate shown by this technology. While important, these managerial tasks are all a matter of first order management. A managinative approach, by contrast, asks: What is the observation (guiding distinction) provided by this technology? How does it create an environment of "character" to be acted and calculated upon? What feedback-loops set the scene for continuous steering toward this idealized state? As a consequence: How does HRM enable a language to evolve and provide the basis for further decisions?

The aim of the latter is a matter of pre-implementation, which leaves open the opportunity to reflect but also to decide upon the premises of our further decisions, using imagination. We know perfectly well that no manager can foretell the future. But all managers are certainly forced to do so, in order to turn fiction into reality, future into present, and contingency into necessity. In that respect, the power of imagination provides the manager with a hypothesis upon which to make decisions about which technologies to put into use, and a view of how these decisions are based upon the power of imagination and has to be observed in its full effect subsequently.

Second, observe the difference between technologies, whether those to come or those already upon you? The difference between technologies might seem exotic but management has always been a matter of differentiation, however much it may long for unity. But something paradoxical seems to be at stake then. If we accept that it is crucial to observe the difference between technologies then we agree upon a horizontal array of technologies that cannot be ordered in a vertical way. No totalizing, ultimate or unifying technology is available, because all

technologies can be unified in their own manner, thus allowing the whole organization to be observed. The difference between scientific management and HRM was only one of many examples. They generalize the organization in relation to management but they do it each and all in a particular way. The differentiation of technologies, then, turns out to be radically different from the notion of what parts make up the whole. Differentiation allows no "whole" to be present, because the "whole" is contingent to each observing part. The relation between "part" and "whole" is simply reversed. The observation of differences between technologies is meant to open up this organizational magic, explaining the polycentric features of public organizations. And this is certainly not a matter of what managers ought to say, ought to do or ought to decide. Instead, it is a matter of what managerial spaces emerge along with technologies and how they collide. Organizational clashes, on one hand, and cooperation, on the other, do not necessarily reflect personal conflict or cooperation. It is a matter of present technologies, of bringing them to presence. From a managerial perspective, then, other ways to observe cooperation and solve conflict are made available when the exact difference between technologies are the focal point of observation.

Third, observe the difference between new potential strategies related to technologies. Most theories of strategy view polycentrism as a hindrance. Strategy, in a classical sense, is about how to move the core of the organization from one point to another. But strategy tied to the notion of integration and unification is senseless if the organization is made up of a multitude of observations and derived communications related to each technology. The classical notion of strategy rarely recognizes this situation to be of strategic value. But each observation represents a strategic potential, which does not prevent strategy to take place. On the contrary, it multiplies the ability of strategic decision-making and hence the responsiveness of the organization. This is important when decentralization, liberalization and the growing rate of self-technologies are taken into consideration. But, unfortunately, the dictum that the whole is equal the sum of the

parts still seem to be the guiding observation, leading to a belief in an evermore abstract unification performed by totalizing technologies. This belief is productive in regard to the self-deception of management, leading to the belief in central management and a one-dimensional organization. But it is not productive in regard to strategy, as it focuses the observation of management on ever more abstract principles and leaves managers unfocused in regard to the full strategic potential of the organization.

The point of managination is the following: if the observation of difference disappears then management disappears. The art of management is a product of technology. It is left with a lot of decisions to make, but none of strategic importance.

Second order approaches

In line with this second order approach, Smircich & Stubbart (1985) advocated a theory of management anchored in an interpretive perspective. This perspective suggested that management should be reflected as a process of enactment, that is, enacted interpretations and knowledge. This stance on what could be called 'reflexive management' is also put forward in the Berg's (1989) discussion of post-modern management. He states that management essentially becomes a question of designing and monitoring coding systems (ibid: 212). Some years later von Krogh *et al* (1994) formulated ideas about what they called corporate epistemology, wherein they argued for ideas similar to those we have already looked at above but in a more theoretical way. Using the theory of 'autopoiesis' they stated: "the world is not a pre-given state to be represented, but rather … cognition is a creative act of bring forth a world" (Von Krogh *et al* 1994, p. 73). Weick (1995, p. 113-118) specifically takes up 'premise control', which he refers to as the control of assumptions and definitions that are taken for granted. Thrift (2005) makes an interesting contribution in his cultural analysis of capitalism. He argues that

spaces for management control in this context of emerging orders are constructed by infrastructural logics that frame the sending and receiving of the world (2005, p. 212). While we prefer to leave the discussion of capitalism on the side, we agree that managerial technologies are framers of precisely such systems of sending and receiving, and consequently, producers of what can be termed organization and environment.

We believe that these inter-related approaches are highly relevant to management today because they all suggest greater awareness of the premises of managing. But more steps have to be taken toward the art of management, which goes beyond an emphasis on second order management to highlight also the sociological tools that have the specific aim of managing the technologies of management. We have termed this type of management 'managination', playing on the associations of this word with 'management' and 'imagination'. We want to emphasize that it is not enough to suggest the observation of (enacted) interpretations, coding systems, premises or infrastructural logic. The manager would then simply vanish into reflexive withdrawal in the sociological attempt to understand, thereby abdicating the power of decision. "managination" is an attempt to escape from the pathologies of sociology as seen from a managerial perspective while at the same time eschewing the ideal of unification normally posited by management theory. It is a matter of bringing sociology into management and turning management toward sociology.

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