

Maps, territories and managerial tools

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[French version: June 2015 - n°120]

Geographical maps serve as a metaphor to describe how managerial tools are used. Maps and managerial tools have in common that both of these artifacts present exterior objects (a territory / an organization or activity) by simplifying it so as to help people (travelers/managers) take bearings. Maps, since much more is known about them, provide us with a guide for imagining tools better adapted to management.

Though present everywhere in what organizations do and what managers say, managerial tools are still elusive, hard to define. Managers and academics of various stripes use different terms to refer to them: instruments, arrangements, techniques, machines, etc. Descriptions and analyses of these artifacts have adopted such a broad range of theoretical approaches that we must wander through all fields in the science of management. Mistaken for management itself, the managerial toolkit reflects not only this discipline's complexity but also the uncertainty surrounding it.

To better understand managerial tools, a metaphor can elucidate how they actually work.⁽¹⁾ Seen from this angle, a managerial tool functions like a geographical map. Just as the latter is an intermediary between a traveler and a territory, a managerial tool is an intervening factor between managers and the organization where their careers unfold. On the one side of the metaphor, maps and managerial tools are formal, simplified and abstract, "representations"; they are a "synopsis" (BERRY 1983). On the other side, the territory and organization are concrete, infinitely complex: they are the reality to be represented. The characteristic shared by these two artifacts is their simplified detour from reality.⁽²⁾ According to Christian Jacob (1992, p. 43), from most of the comments about maps cited herein have been borrowed: "*Whereas a*

panoramic view of the landscape presents us with an infinite amount of information (colors, plants, anecdotal events), looking at a map grasps at first sight what is essential: a schematic structure, outlines and limits, divisions and a set of relations. A map selects its object and disregards whatever distracts from the essential. [...] A map schematizes reality by categorizing it."

Thanks to a map, a traveler moves more swiftly toward his destination; a strategist positions troops at the right positions on a battlefield; and an emperor organizes his territory and protects himself from enemies. Like travelers in an unknown land, managers do not spend time exploring the organization's farthest reaches before taking bearings. Tools are there to help them find their bearings. The organization chart will help locate the right persons; the budget will help identify the organization's resources; the flow diagram will help follow an input until it becomes a sort of output; and the SWOT (*Strengths, Weaknesses, Opportunities, Threats*) matrix will help analyze the competitive environment. Thanks to these tools, the infinite complexity of the organization's territory is reduced to a few categories and benchmarks, which managers use to reflect, decide and act more effectively. This accounts for the advantages of using managerial tools in organizations: like geographical maps, they are tools of communication for conveying knowledge and remembering, tools for action.

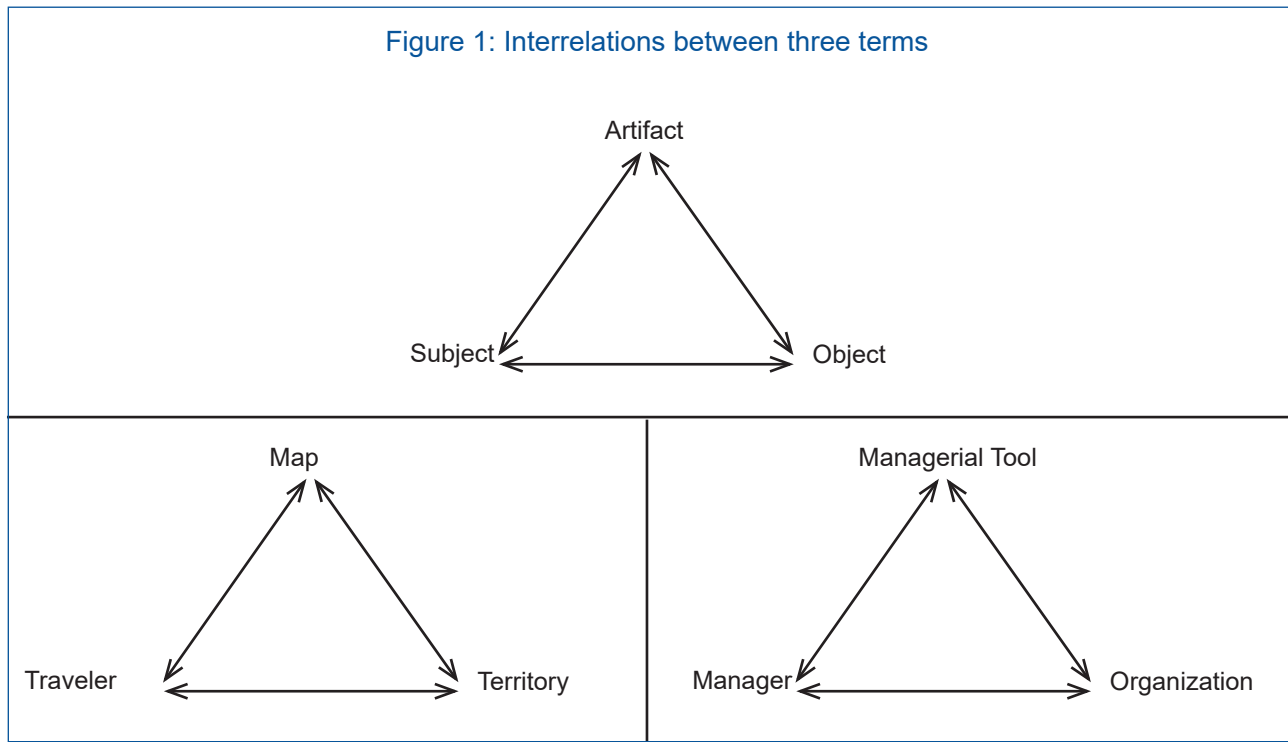
This process of intermediation involves three terms (Figure 1):

- a subject who, with his knowledge and ability to interpret, tries to understand a situation or act on an object to accomplish a thought-out action;
- an artifact serving as an intermediary (or a "detour") between subject and object;
- and an object, which someone is trying to know in order to "control" it.

⁽¹⁾ The translation of this article from French by Noal Mellott (Omaha Beach, France) has, with the editor's approval, completed several bibliographical references.

⁽²⁾ A map always portrays what it represents in miniature. Umberto Eco (1998) had fun imagining the paradoxes of a map drawn on a 1:1 scale. According to Jacob (1992), the difference between an impressionistic painting of a landscape and a geographical map of it is that, although both portray a place, the former tries to render it in all its complexity whereas the latter simplifies.

Figure 1: Interrelations between three terms



Like maps, which are simplified, codified representations of places that travelers want to discover, cross, come to know, managerial tools are simplified, codified representations of the organization (a real, concrete, organized activity) that managers⁽³⁾ want to know and/or act on. The detour through maps and tools is not inevitable: travelers and managers also have direct contact with the territory or organization to be explored, while retaining the eventuality of using the artifacts at their disposal.

Historians and philosophers have, for a long time now, studied maps. Thanks to this relative fascination with maps, managerial tools, too often invisible or elusive, can gain in visibility. Through this metaphor, a few of the invisible operations of managerial tools should come into sight. Each point discussed hereafter explores a characteristic in common to both maps and managerial tools.

Maps and managerial tools vanish in intermediation

An artifact stands for something real, but this reality tends to vanish out of sight of the persons who use the artifact to perform an action — as if the triangle subject/artifact/object collapsed into the pair subject/object (LORINO 2002), as shown in Figure 2.

Maps are paradoxical: they vanish as they are put to use *“in the visual and intellectual operations deploying their contents [...] We describe the topography and terrain, we name places and locate them in a geographical environment, we harness toponymic and geographical — all this more than we pause upon the abstract artifact*

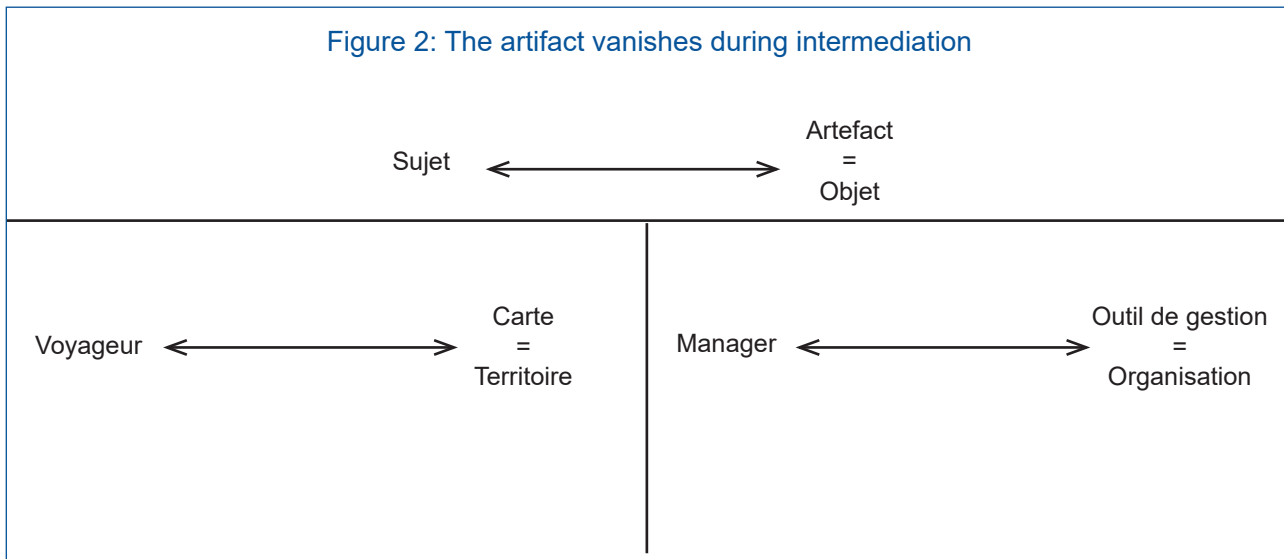
with lines, forms, colors and inscriptions” (JACOB 1992, pp. 29-30). The traveler looking for his way hardly has time to wonder whether the map being used is relevant.

The same phenomenon accounts for the relative invisibility of managerial tools. A manager who manipulates an indicator without pausing to reflect upon the accountancy method, terminology or even the mathematical operations used to produce it. He is imagining the organization, and making decisions derived from this artifact even as he is using it. A meeting on financial questions, for example, is neither the time nor place to raise objections about how to calculate the EVA (economic value-added). As Bourguignon (2005) has shown, managerial tools reify human relations by stealthily passing subjectivity off as something objective, no longer to be discussed. This reification accounts for the blinding power of such tools, since it stems from the fact that the tools vanish during the act of intermediation — whence a particular (and, therefore, partial) view of the organization, which, thus eclipsed, is nearly lost from sight to managers in the “heat of action”.

This creates an impression of reality: *“A map thus has a power, an ontological effect: it is the place where things are, and reality is everything on it”* (JACOB 1992, p. 52). In between the person drawing the map and the person interpreting it arises a “visual” illusion. For the cartographer, the map is a construction, an assemblage of data, a piece of work. For the user, it is a finished product, from which the scientific scaffolds have been withdrawn. This illusion obviously holds only if the cartographer and his work are endowed with socially recognized authority. A map benefits from a presumption of reality laden with know-how about a socially constructed world validated by consensus, tradition, or its institutional status. For ordinary users who do not know the secrets of its making, the map is a matter of belief or doubt. For the learned (geographers,

⁽³⁾ The word “manager”, as used herein, holds for any individual (or group) who uses a managerial tool.

Figure 2: The artifact vanishes during intermediation



map-makers, historians) however, it lends itself to criticism and deconstruction.

Managerial tools also benefit from this sort of social and institutional prestige. Consultants, experts, teachers, etc., do not deprive themselves of the authority vested in the tools, which are usually considered to be “true” (BOURGUIGNON 2010).

When a managerial tool vanishes to the point of becoming “the” reality in the eyes of those who use it, we can talk about “managerial technicism”. Often proceeding from an exaggerated belief in the rationality of the devices being used, managerial technicism occurs when a manager adapts his behavior to his tools instead of reality. We observe many an instance of this tendency in firms. Dujarier (2012) has written about “managers at a distance” who designed managerial tools for fields where, sometimes, they had never set a foot. Boussard’s phrase (2008) “illusion of control” refers to the impression that managers have of steering their organization when they are merely piloting a set of tools and fabricating myths of rationality (MEYER & ROWAN 1977).

Maps and managerial tools: How objective?

Since maps and managerial tools tend to vanish into what they stand for, how objectively do they present reality? Are they a “good” representation? Do they square with reality?

We are familiar with the function of maps as representations: they depict, as accurately and usefully as possible, an external, “objective” territory. The geography of the continents, now nearly fully known, is presented on maps. In the distant past however, navigators, by the happenstance of their travels, collected geographic and topological information for improving a kingdom’s maps: here, an unknown island; there, a possible Northwest Passage...

The parallel between reality and representation is less evident in the case of managerial tools. An organization’s territory does not stand out as objectively as a geographical territory. An organization cannot, we vaguely feel, be described with total objectivity, if for no other reason than the presence of people. The filter we choose for looking at this reality determines how we will see it, since tools are, in fact, “performative”. Comptrollers who scour accounts present a particular view of the firm. The organization chart delineates only formal, hierarchical positions whereas the decision could have been made to portray, too, informal influences. A flow chart draws a picture of the organization as a “machine” for turning input into output. Other managerial tools present the organization like an open system. These tools offer a view of reality that they then apply to it: a philosophy of management (HATCHUEL & WEIL 1992), beliefs and values (GILBERT 1998), a generic schema of interpretation (LORINO 2002).

As for maps, they seem fully objective; but are less so than what they seem.

First of all, a map does not just depict space, a geographical area such as France. There are also maps of trends, distributions and processes in relation to geographical areas. Some maps present seasonal movements of population; others, “a cosmological schema symbolizing the divine order of the universe” (JACOB 1992, p. 32). Maps are — in a slanting parallel with managerial tools — “a metaphor for describing human relations, power relations, hierarchical distributions inside a social group” (JACOB 1992, p. 32). To the point: maps choose what they want to show.

Managerial tools make exactly the same sort of choice. As David (1998) has pointed out, certain tools are more oriented toward “relations”; others, toward “knowledge”; and still others are “mixed”.

Nor should we forget that maps have been made of purely imaginary territories, like Middle-Earth in Tolkien’s *The Lord of the Rings*. In between what is real

and what is imaginary, some ancient or medieval maps warn explorers about obstacles and perils (floods, storms, sea monsters, etc.) or, on the contrary, promise marvels.

We catch ourselves dreaming of managerial tools for presenting the perils and marvels that the “wandering” employee might come across at the bend in the corporate hallway: the information system using an unknown dialect, a mysterious headquarters aloft in the clouds of legend, a room filled with welcoming colleagues where ritual ceremonies, strange for outsiders, are performed. But seriously, we can imagine maps for management that would present zones of uncertainty and of competence within the organization (CROZIER & FRIEDBERG 1977)?

In addition, geographical maps present a territory in a variable manner. The representation is more or less precise, more or less geometric, more or less figurative. Some “childish” maps amount to a few vague forms crossed by abstruse axes. Others, nearly illegible, are overwrought with pictorial symbols and numbers.

The same holds for managerial tools. Some budgets from the bookkeeping department necessitate advanced learning, overwrought as they are with information, signs and figures. In contrast, other tools adopt simple color codes (often red, orange and green — easy for anyone to understand) to draw attention to poor, passable or good performances.

A map chooses how to represent the territory in question. Even if it claims to be a “perfect” representation of France, a map inevitably draws attention to certain aspects (such as the road network) while minimizing others (such as the rail system). Far from passively drawing an objective “space”, map-makers spend time making choices — as much can be said about managerial tools, which reflect a particular way of looking at the organization. As Bourguignon *et al.* (2004) have shown, managerial tools are culturally marked; they do not all reflect a single conception of management and efficiency.

Maps and managerial tools: How much confidence to place in them?

Since maps and managerial tools represent reality — a representation, therefore, partly false — how much confidence should we place in them?

Before the invention of maps from satellites, which now leave little room for doubt about the obstacles on the traveler’s route, navigators had to trust their maps fully. According to Father François de Dainville (JACOB 1992), a ship barely escaped from sinking in August 1555 off Saint Laurent Island. It was (apparently) heading toward sandbars in the dark of night. The pilot had a map that did not show any sandbars in that location whereas a sailor had another map that depicted them. A quarrel broke out over the two rival maps. The captain was called to settle it. Given doubts and imagining the worst, he naturally concluded in favor

of the sailor’s map so as to avoid risking shipwreck. The pilot lost face, a map, but not his life.

Managers continually face situations of this sort. We have not yet entered the age of managerial tools by satellite... The compatibility between managerial tools is a recurrent problem in organizations, especially since such tools have proliferated (MAZARS-CHAPELON 2010). It happens more than once that two managerial tools set contradictory objectives or that a rule incorporated in one tool infringes on another rule. There is a problem of “intertextuality”, in other words: of coherence between the different “texts” that claim to describe the organization (DETCHESSAHAR & JOURNÉ 2007).

The trust pilots placed in maps enabled them to perform their duty. At a time when much of what maps represented was false, this trust could be disastrous. In the words of François Le Large, the 18th-century geographer of Louis XIV: “*This blind faith was a calamity for Western navies [...] for more than two centuries, the fleets of the princes of Europe groped their way through the vast ocean, naval maps were riddled with mistakes and rendered more harm than service to pilots... in a word, not only do flawed maps make more expenses necessary because [...] vessels take much more time for journeys than necessary; but also they rather often lead vessels to wreck by not portraying reefs at their actual location*” (JACOB 1992, p. 357). Given the body of evidence suggesting that managers (owing to technicism) place excessive confidence in their tools and given that these tools are partly “false” (or, at the very least, could be improved), the same diagnosis can be made of firms: companies have undoubtedly failed because of the blind faith placed in the tools used to manage business...

A well-known story told by Karl Weick (1995) throws light on this blind faith. A Hungarian reconnaissance unit was lost in the Alps during maneuvers in Switzerland. When the soldiers came back to base three days later, they said they had lost their way and thought they would die. Then, one of them found a map in his pocket. This calmed them down, so they raised camp and found their way back “thanks” to the map. Afterwards however, they came to realize that the life-saving map was not of the Alps but... of the Pyrenees! Weick told this story (oft repeated in the literature on organizations) to illustrate how artifacts enable us to undertake actions and how they influence cognition and “sense-making”. The veracity of this story is worth a pinch of salt however (ROWLINSON 2004), mainly because the anecdote comes from a poem by Miroslav Holub (1923-1998), a Czech poet. This story would have been more plausible (and more pertinent to managers) had one of the soldiers, upon realizing the mistake, deliberately concealed the map so as not to dishearten his comrades. Whatever the case, this enabling function of tools can be beneficial or disastrous. These soldiers could have lost their way and ended up dying because of an erroneous map.

Before satellites, when a land was still unknown, the first preoccupation of explorers was to list places as faithfully as possible, mainly in the quest to find safe

routes of navigation. The epic quest for the Northwest Passage brought many a ship to wreck. For example, the HMS Terror and HMS Erebus of the Royal Navy disappeared during Franklin's catastrophic expedition in 1845. Today's managers, like yesteryear's navigators, explore the organization and its environment with maps, incomplete or often false, lacking the necessary information. When a navigator discovered an unreported reef (and miraculously sailed around it), he would report it to the competent map-making authorities. Nowadays, managers try, likewise, to improve tools that clash with reality: poor indicators, erroneous information, the wrong parameters... all run up against reality in the field until the manager either proposes improving them or simply puts them aside.

We might have a dream that the science of managerial tools will some day attain the same level of knowledge as maps by satellite... but is that desirable? For the time being in any case, many areas have not been mapped; nor have all the unknown territories inside organizations been identified. As is well-known, managerial tools more easily take into account quantitative than qualitative, dynamic, aspects or processes.

Maps and managerial tools: The shadowy side

The choices made to represent reality but that distort it do not just come from errors or a lack of information about what is represented: they might also be deliberate. Geographical maps and managerial tools are crisscrossed with the ideologies, power games and manipulations concomitant with life in a group.

Artifacts are all the more effective insofar as the impression they make of being real enables them to lay claim to reality. A representation is a "*specular process, where the graphical device bespeaks the symbolic violence inherent in any model, the transformation of real space into a figure governed by the laws of reason and abstraction, the conquering possession of reality through its simulacrum*" (JACOB 1992, p. 44). A geographical map both describes reality and lays claim to it.

The oldest known map is on a rock in northern Italy, at Capo di Ponte, at a place called Bedolina, which overlooks a valley where a stream, the Oglio, wends its way. On it are figures, motifs, rectangular or circular, and lines joining them in a complicated way. This map carves a better, clearer picture of the land than the natural view, oblique and fraught with obstacles in the line of sight. But this rock map was not a mere lookout. For sure, the valley's inhabitants knew fully and empirically the land, the plain and the areas under cultivation.

So, why did the inhabitants of this mountainous area during the Bronze Age need to make a map? It was probably a land registry, ahead of its time. It vested rights and ownership at the start of a period when people were domesticating animals and settling, when an agricultural economy was emerging. "*The map was*

a tool for managing and regulating life in a group, for the community's social and economic activities. It might indicate, through its complex symbolism, the division of labor, plans for crops and their specialization, the system for irrigating the land and the prevailing laws, the bounds of the land allotted to families or groups of families" (JACOB 1992, p. 45). A carved representation of harvests might have formulated legal rights. This map was probably the group's tool for avoiding arbitrary appropriations of plots of land in real space.

As a representation of the organization, managerial tools, too, are a means for laying claims. They measure efficiency but also serve to control. An indicator for measuring the trend in business in relation to objectives also evaluates an individual's or group's performance. Consequently, it is as much a prescription as a description. It prescribes behavior patterns and mental schemata, which are to be abided by or resisted. A job description is both an information for managing occupational turnover and for prescribing the behavior to be adopted by persons as evidence that they have the expected qualifications. A managerial tool of any sort both describes and controls resources, finances, individuals.

"*Le semiological relation between the invisible territory and its cartographic image conceals a social convention and, too, a political choice*" (JACOB 1992, p. 353). Maps have always been subject to falsification for military purposes and national security. Soviet geographers recognized, in 1988, that most of the maps of the USSR in circulation since the 1930s had been doctored: certain towns were mislocated, scales were mixed, neighborhoods in Moscow were not depicted (such as the one with the KGB's headquarters on Loubyanka Square). In the West, maps left out military bases or nuclear installations. In the past, dissimulation borrowed quite inventive forms. In the 16th century, two German cartographers drew on their maps human figures, which supposedly formed a "visual shield" since the infidel Turks were under a religious prohibition against human images.

Only a critical eye spends time dwelling on the material aspects of tools and their function of intermediation. For Marxism (which seeks to bring to light relations of domination) and the sociological current flowing from Bourdieu (which seeks to cast light on symbolic violence), the proof has already been made that the apparent neutrality of managerial tools conceals their part in legitimating the social hierarchy. Boje and Winsor (1993) have criticized "total quality management" for concealing a neo-Taylorism underneath the vocabulary of "participation". Oakes *et al.* (1998) have shown how, in a Canadian museum, a "business planning process" tool manipulated people to make them believe they were choosing their own strategy, whereas the choice had been made in advance.

Managerial tools are also concealed and doctored to protect against "enemies" both inside and outside the organization (financial concealment and the "creative bookkeeping" so sensationally exemplified by the Enron scandal). By using a jargon barely understood by others, they sometimes deliberately leave certain parties out of

decision-making (BOLAND 1993). In the 17th century, R.P. Lubin described the situation of persons who lacked practice in reading maps: “*They read words they do not apprehend, they see unfamiliar lines and unintelligible figures. We should not be astonished that, when in a foreign land whose language they do not understand, they do not know where they are, that they wander astray when they do not know the way*” (quoted by JACOB 1992, p. 435). This remark fully applies to someone who, lacking an education in accountancy, faces the problem of deciphering a budget.

Implications of the map metaphor for the study of managerial tools

Let us spin the yarn of our metaphor a while longer by proposing a few knots to be untied by those interested in managerial tools...

The question of scale

Since these artifacts are simplified representations of reality, how much have they been simplified? A well-known problem in cartography is scale, *i.e.*, the ratio of the measurement of a real object to that of its representation. The choice of a right scale depends, of course, on users, since it should be adapted to their needs. A high ratio is needed for continental drift, whereas hikers will require maximal detail. Maps for navigators must take into account both the long distances on the high sea and the tiniest details along coastal areas. Likewise for sociodemographic maps, the scale differs depending on whether population densities for the planet or in a local area are to be depicted. The advances made by new technology let users change the scale at will (the topography adjusting in real time to the chosen scale) or even switch to a 3D ground view in Google Earth.

Oddly enough, the question of scale, so obviously important for geographical maps, has hardly been given thought in managerial tools. Nonetheless, managers need tools for representing activities at the right scale. If the scale is too large, they lose sight of reality in the field and will oversimplify it. For example, Dujarier’s (2012) “telemangers” used a single indicator to summarize a service’s annual activity (a widespread phenomenon in bureaucracies organized in divisions).

If the scale is too small scale however, managers cannot stand back to take in a broad view. When each service in a firm follows its own indicators, a “narrow” focalization risks thwarting the global coordination of services. The managerial toolkits that take shape naturally in an organization probably reckon with the problem of scale: to each hierarchical level corresponds its set of tools at different but appropriate scales. But this process is improvised. To the best of our knowledge, the literature on the managerial sciences has seldom analyzed it. To improve managerial tools, such considerations might eventually lead, like Google Earth, to developing dashboards that let managers change scale in real time.

The question of design

As we know, map-makers draw maps very carefully. Some maps are genuine works of art, figuring in collections or even exhibited in museums. “*Cartographers comply, of course, with conventions of the time, for example, those for nautical maps and for art with their lists of motifs and colors. Nevertheless, they enjoy considerable freedom in the overall arrangement of what is drawn, in the choice of motifs and, finally, in the performance of the related gestures*” (JACOB 1992, p. 241).

The paucity of attention paid to the aesthetics of managerial tools is amazing. These tools — often repulsive (Are you familiar with the EDP Apogee?) — do next to nothing to make us fall into contemplative daydreaming, unlike most geographical maps. If we are lucky, their design will be user-friendly. This paucity probably has to do with the rationality that the tool is to display. Is it not, however, possible to imagine “beautiful” managerial tools? That is not the main point I want to make however.

The cartographers’ graphic and aesthetic choices reflect an intentionality that “*determines the acceptance of the map, makes predictable the uses and impressions related by the representation of given areas: disturbing or reassuring, known or unexplored, reducible or not to empirical or geometric shapes, somewhat regular or purely random*” (JACOB 1992, p. 241). As much holds for managerial tools: owing to the graphic and aesthetic choices made, they reflect the intention to produce a certain effect on users who will then adopt a predictable behavior pattern. This intention is what De Sanctis and Poole (1994) meant with the concept of the “spirit of a technology”: users are expected to use a technology in a certain spirit, similar to a jurist interpreting the spirit of the law. This aspect merits study in the managerial sciences. It has seldom been probed, an exception being Suchman (2007) on “human-machine reconfigurations”. At present, we observe that the window-dressing of most managerial tools displays a graphically neutral aesthetics and an objective rationality. Bookkeeping tools, in particular, have a stark design, sometimes so stark that it bespeaks a sort of elitism, since they make no effort for helping ordinary people understand them. Dashboards are more recreational; some are even fitted out in colors, and more effort goes into making them accessible. As for tools on “quality”, they present lists of specifications or checklists, which seem to suggest that everyone has access to excellence. Powerpoint presentations have been studied from this angle: the impressions they make on those who watch them, thus shaping shape their views. More broadly, questions have arisen about the “genre repertoire” of managerial tools (ORLIKOWSKI & YATES 1994).

Much is still to be done to classify managerial tools by their graphic interfaces or material aspects, in which intentions are embedded. Research of this sort should adopt a pragmatic approach to systematically point out the practical, visual and intellectual, implications of graphic devices and their material aspects. It should also show how a tool determines certain body postures and head movements: accommodation and focus of the

eyes, chains of perception and of understanding, and the implied know-how, codes and conventions.

The question of resistance

Appearing to be neutral, maps “profit” from this neutrality to pass along an ideology. In reaction to this, the current of radical geography emerged, with David Harvey (1989) as its major representative. It intends to present another viewpoint, that of the people usually left out of intellectual discussions in the West. Its direct descendant, radical cartography, tries to decipher (in order to belittle) the processes of domination that, though not clearly visible, are at work. A salient example is the chronological series of maps made by Philippe Rekacewicz, a French cartographer and journalist, which show how the boundaries of the Palestinian territory have changed. This radical current has tried to place cartographical tools at the disposal of local peoples in order to help them advance their interests.

In the likeness of radical geography, critical management studies (CMS) propose alternatives to dominant managerial theories. The aim is to radically change managerial practices (ADLER *et al.* 2007). This current is deeply skeptical about the morality and about the social and environmental sustainability of prevailing forms of management. There is, to the best of my knowledge, no equivalent to radical cartography in the case of managerial tools, *i.e.*, for producing such tools and making them available to persons in the field so as to help them advance their interests. Whether desirable or not (a question I shall leave standing), this “radical” approach to management is innovative.

There are, however, examples of the misuse of managerial tools by employees (BOUDREAU & ROBEY 2005), but such cases are usually deemed to be anomies or unwanted acts of subversion. These “local appropriations” — shifts in usage, misappropriation or adaptation (MARTINEAU 2012) — are not well conceived and seldom put into actual use. Some authors have called for creating “open” artifacts, a form of local empowerment in the field: “enabling formalizations” (Adler & Borys 1996) or “design for unanticipated uses” (Robinson 1993). But apart from the foregoing, the only recourse open to alienated and dissatisfied users is sabotage of all sorts, such as: work-to-rule actions, diversions or “ritualized coupling”.

It would be possible to invent “open” toolkits. As in radical cartography, people would take part in producing the managerial tools they think relevant. Besides the advantage of this co-creation, such tools would come from the grassroots and be accepted more easily owing to their relevance.

Conclusion

The metaphor spun herein between geographical maps and managerial tools helps us better understand how the latter function. As a formalized representation of the organization, such tools are ultimately both restrictive and enabling to users. By simplifying reality, they enable us to stand back, to think, communicate and collectively

coordinate actions. But by doing this, they also allow for domination, reification and manipulation — their “original sin” and fundamental paradox. This should not stop us, however, from devoting thought to inventing new tools.

These two artifacts, maps and managerial tools, are nearly one and the same. Recall the Bedolina rock map: it was probably a means for managing the land at the disposal of the valley’s population, who needed to organize property and plant crops. In fact, there are so many parallels between managerial tools and geographical maps that we wonder what might tell them apart.

The difference, in my opinion, between maps and managerial tools has to do with what is represented. Maps try to represent a geographical or physical space. Even maps such as the ones representing GDPs or population movements still refer back to a physical territory. Managerial tools do not represent an organization’s “physical space”. The floor plans for evacuation hanging on the walls in corporate headquarters represent the firm’s physical space but are never considered to be a “managerial tool”. Such a tool represents abstract knowledge and relations (DAVID 1998) instead of aspects of the organization’s physical environment. Its defining characteristic is to materialize what is abstract. This passage from ideal to concrete — which is forgotten as it slips out of our awareness — has been the major focus of a critique of the sciences of organization and management. Owing to their estrangement from physical reality, managerial tools resemble more a subway map than an official map made by the National Geographic Institute in France. A subway map is an interesting cartographic invention precisely because of its freedom in rendering the geographical places depicted.

A final point: it is worthwhile asking whether managerial tools are always necessary. As the strong arm of the managerial sciences, and of consultants, they are, naturally, touted under all circumstances. However it is probably not always a good idea to equip all aspects of an activity with artifacts, since, as we have seen, the counterpart to the positive qualities of managerial tools is the harmful effects of such devices. The experienced traveler knows he must leave room for discovery, wandering, daydreaming, surprises, while bearing in mind his ultimate destination. Is this not what is to be expected of a talented manager?

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