Moving towards appropriability of academic knowledge: a post-actionalist perspective

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Abstract:

Based on recent contributions in managerial research, this article aims to suggest a new perspective for appraising and developing knowledge usability by studying the processes underlying its production: appropriation. The underlying problem is the following: how can the academic community help a community of practitioners appropriate knowledge it produced, co-produced or stimulated? First, a preliminary analysis is put forward as regards management sciences and the concept of knowledge 'actionability'. Some limitations are raised (1.). Then, the authors suggest to move from an 'actionability' (rather coherent with a classic vision of management sciences linked to the "sciences of the artificial") to an 'appropriability' perspective (2.). Lastly, the specificities of both perspectives are discussed (3.). Some limitations of this new vision are also pointed out, especially from a psychological standpoint.

Key-words:

Management sciences; actionable knowledge; appropriability of knowledge; epistemology; methodology.

Management science represents a new discipline in the field of the social sciences. With its first contributions going back less than a century, it has not yet acquired the legitimacy of sociology or psychology, or of such "hard" sciences as biology or physics. It is faced today with two very different difficulties, both linked to the respective communities of the practitioners and the academics.

The first difficulty concerns the process of assimilating / accommodating academic knowledge by the practitioners. For the practitioner, assimilating knowledge consists in translating, transferring academic knowledge so as to viably integrate it into his work routine and transform it into action. Accommodation is the degree to which the practitioner transforms the new academic knowledge by using it, and to what extent it affects his mental schemes.

For pedagogical and sometimes political reasons, this assimilation/accommodation process does not seem to function well and the productions of management research rarely reach operational managers. In the first place, one can suggest that the interests of academics and practitioners do not coincide, the separation of both communities being thus desirable. Indeed, researchers may be more interested in pursuing a *" line of inquiry "* than in matching the concerns of practitioners and improving the efficiency of managerial practice (Kelemen and Bansal, 2002). The reason why many theories look trivial to practitioners lies in the process of theory construction, which favours validation rather than usefulness (Weick, 2001). Another possible explanation is the dominant writing conventions of management research, which makes it difficult for practitioners to grasp the theoretical insights of academics and evaluate their relevance to management practice. This leads Kelemen and Bansal (2002) to the conclusion that bridging the relevance gap between academics and practitioners raises mainly issues of style not substance. This resonates with Weick's contention (1995) that managers recognize the value of knowledge produced by academics to the extent they are able to identify with it.

Besides, the intended audience of most research is the academic community itself rather than *" the dual community of scholars and practitioners "* (Starkey and Madan, 2001), giving birth to an *" incestuous closed loop within which researchers talked only to each other "* (Hambrick, 1994).

The second difficulty is more scientific and addresses the academic community more directly. It concerns the usability of the knowledge produced. According to Schön (1983), *"actionable knowledge"* is knowledge that can serve the purpose of action. The concept of actionable knowledge has also been widely used and defined by Argyris (1993, 1996a). For him, the aim of any theory of managing is to produce generalizations that are actionable by managers in the organization's daily operations. In turn, as managers use such generalizations, it enables them to test the external validity of the academic corpus. For a theory to be actionable, it must inform the decision-makers about what is likely to happen under given circumstances but also tell them how to create the right conditions for such an action[i]. Managing can thus be defined as creating intended consequences. From this standpoint, most modelling tools seem to be the result of the observation of action rather than at the origin of it.

The two difficulties of communication and validity are linked. Knowledge that is too unclear or with no action leverage will certainly be non-operational or difficult to transfer to practitioners.

The aim of this article is to suggest a new perspective for knowledge usability by studying the processes underlying its production: appropriation. The issue we want to deal with is the following: **how can the academic community help a community of practitioners appropriate knowledge it produced, co-produced or stimulated?** This questioning leads to two issues:

- How can the academic community frame its production so as to facilitate the appropriation process?
- How can it make the knowledge developed by a community of practice[ii] appropriable by another community of practice?

In a first attempt, we will define appropriation as the process that consists for scientists in producing knowledge useful for action for an exogenous community or to transfer a practical knowledge from one community to another. More broadly, appropriation is the process that consists in producing useful knowledge, which can result in successful or unsuccessful trajectories. In the last case, knowledge has finally no practical or rhetorical value in view of the intentions of the community under study.

Here, we present an appropriative perspective, which takes more into account the lasting of the process and some political aspects that the 'actionability perspective' do not really integrate. The aim is to give the academics some landmarks that can help make the product of their research or any other knowledge more useful, more easily understandable and more legitimate to the managers. The appropriability perspective emphasizes the emancipatory obligation of social science towards organizational members (Kilduff and Kelemen, 2001). From this perspective, the concept of appropriation is tantamount to that of acculturation as evoked by Barley and al. (1988: 27) *: "Acculturation is therefore the process by which the beliefs and practices of one community diffuse across the boundaries of another and subsequently alter the second community's practices and interpretations"*. This is also reminiscent of the concept of *" perspective taking "* as defined by Mohrman and al. (2001: 359) : *"a recognition of knowledge, values, meanings, assumptions and beliefs from a different community"* which implies interpretive and specific social processes. It is also to describe some possible research trajectories each linked to a specific appropriative project. **An appropriative project can be defined as a research**

project implementing a coherent set of theories, methodologies and tools so as to produce more or less gradually a type of useful knowledge for a given community of practice.

The first part defines the key concepts (management sciences, actionable knowledge and appropriability) of the problem whose main stakes and mechanisms are then developed. The third part presents the grounds of an appropriative perspective that might bring solutions to the problems. Lastly, we discuss some potential limitations of the appropriative perspective we worked out.

PRELIMINARY INFORMATION ABOUT MANAGEMENT SCIENCES AND KNOWLEDGE ACTIONABILITY PERSPECTIVE LIMITATIONS

Drawing on Simon's work (1969), Mohrman et al. (2001: 358) claim that organizations are *"artifacts designed to achieve the purposes of their creators "*. Thus, most researchers posit management mainly as a science of design ("science of the artificial"), stressing the need for theories and research useful for knowledge creation rather than *ex post* rationalizations. From this viewpoint, Romme (2003) argues that organization studies should include design as one of their primary modes of engaging in research. The idea of design, stresses Romme, does not draw on a representational view of knowledge (organizational phenomena are empirical objects endowed with intrinsic properties; the aim of science is to test propositions derived from general theories) but *" involves inquiry into systems that do not yet exist "* (p. 558). Consequently, **the aim of a design approach to organization studies is to produce knowledge that is both actionable and open to validation**[iii] (not in the sense that this knowledge is deemed true but that it can help users make sense of existing management situations and change them into desired ones). Hence*, "Everyone designs, who devises courses of action aimed at changing existing situations into preferred one "* (Simon, 1996: 111)[iv].

So scientifically speaking, management science is both at the crossroads of numerous “natural” and “artificial” sciences that simultaneously integrate various processes and various works in other fields of the social sciences. **But according to many researchers, its logical aim would ultimately be to make organisational knowledge "actionable"**[v], to design comprehensive and normative tools but also, according to Martinet (1990) to provide modelling tools for users faced with ill-structured situations.

From our point of view, if we stick to an actionability perspective, there are four types of actionable knowledge, which reflect the evolution of the companies’ decision-making processes[vi]. They can be determined by using two axes.

One (F1) that characterises **the cognitive processes implied in the decision-making.** They can either be substantive, based on an algorithm, or procedural, based on heuristics. According to Le Moigne (1995a: 133), a heuristic approach is *“a formalised problem-solving process based on the great likelihood that this process will result in a satisfactory solution”*. An algorithm is *“a formalised problem-solving process whose convergence has first been formally established and which therefore is certain to yield the solution to the problem.”*

The second axis (F2) represents the **company’s legitimacy distribution**. In some cases, the system is made up of a multitude of coalitions leading toward a collective consensus. In others, there is a group of key dominant users who lead a majority of individuals with few marginal resources, little or no group awareness and no collective project. Among the social peripheral processes presented along F2, it is therefore possible to distinguish between organisations with more unilateral and deliberate processes and organisations with more cohesive, collectively negotiated processes.

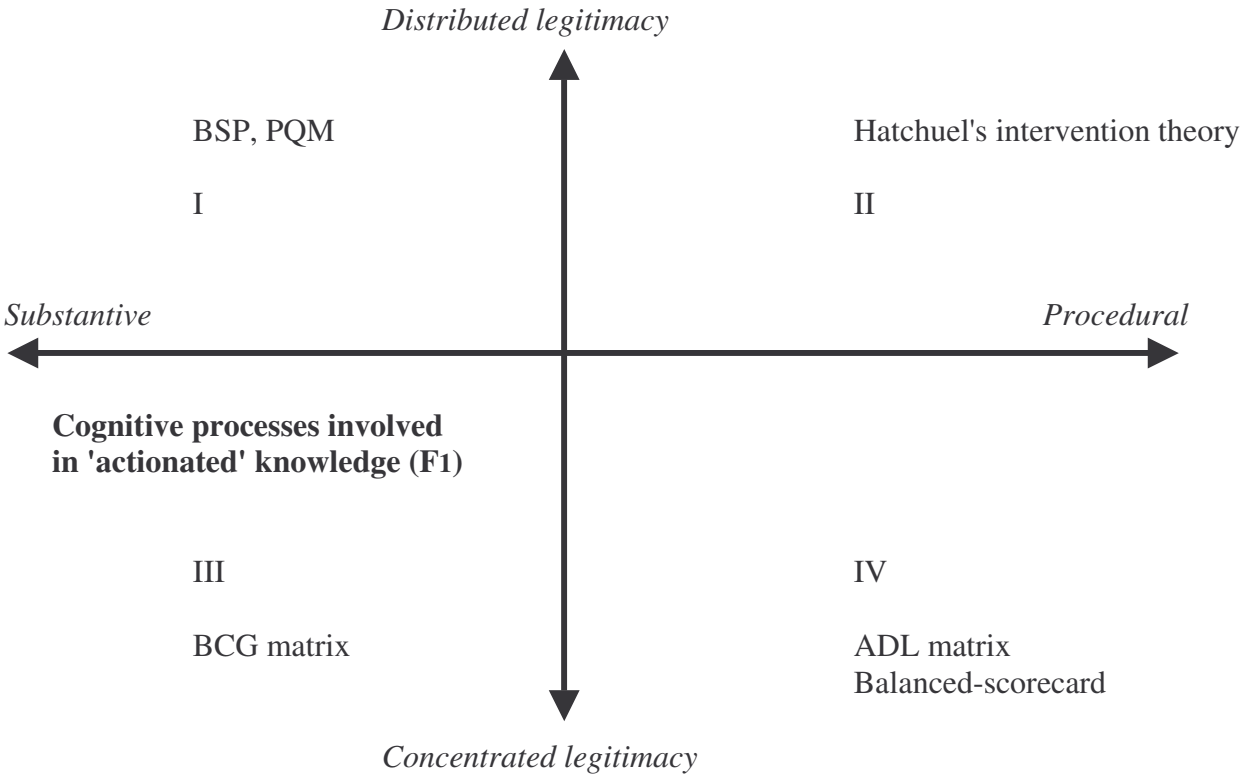


Figure 1: Types of actionable knowledge

Cases III and IV correspond to unilateral and deliberate processes. **Action results from the decision**. The social processes follow the cognitive decision-making process and are not supposed to be an issue. There is immediate usability. This is the decision-making paradigm described by Roy (1993). To give the example of strategic management, the user will choose a BCG matrix (case III) or an ADL matrix[vii] (case IV) to boost the management of his company's portfolio of activities (see Johnson and Scholes, 1997). In the case of production management, a manager will use a PERT system or any decision-making tool that can help him rationalise the decision process. The boundary between III and IV is due to the decision-making criteria as well as their multi-dimensional nature. What they have in common is their relative easiness of implementation.

Cases I and II involve emergent and negotiated processes. **Decision is in action.** The actionability of knowledge can be defined by both cognitive and sociological means[viii]. The action process is collective. The problem is not so much the decision-making but the organisation of coherent and convergent socio-cognitive actions. Moidon's (1997) and Hatchuel's (2001) works and the intervention-research working modes of the management research center at l'"Ecole des Mines" in Paris[ix] reflect this possible combination of social and cognitive processes. The appropriation of the management tools is analysed through their effects on the organisation and their contribution to the social construction of reality. Action is considered more important than inconsistent decision-making processes. The organisation takes on a more complex and flexible dimension. Information systems planning methods as BSP or PQM[x] presented by Lincoln (1991) correspond to case I. The author's approach is based on determining key success factors and designing monitoring schemes based on an emerging process. Decisions are made and key factors are determined at the end of various transversal forums.

Hatchuel's intervention theory (1994) and Chanal, Lesca and Martinet (1997) "Recherche ingénierique" on the other hand belong to the case II category. It has to do with meta-heuristics, it is a reflection upon how to produce locally actionable knowledge. In such cases, the social and cognitive contexts are extremely complex. There are many contradictory projects within the organisation. The cognitive processes are based on open and iterative mechanisms. The form of reasoning used are more procedural than in case I, probably because actionable knowledge is co-produced with the users.

At this stage, after the cartography we have just achieved, we can go a bit further and adopt a critical stance as regards the actionability perspective.

As March (2000a, 2000b) points out, there is a lot of confusion surrounding the notion of actionable knowledge and the so-called *" relevance gap "* between the academic and the user communities. Indeed, actionable knowledge is frequently confused with prescriptive statements, solutions to immediate problems, diffusion of the last cutting edge best practices. As Starkey and Madan ironically say, quoting Jerry Porras : *" Executives are experienced enough to understand that best practices come and go and that the only thing that really lasts is the conceptual underpinnings to current best practice "* (2001, p.7).

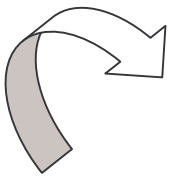
March also states that the logic of consequence has become a cultural stereotype in most of academic research, which expresses an aim to order reality *ex post* but can hardly inform decision *ex ante*. He therefore suggests that the traditional and rational perspective on decision theory that emphasizes consequential choice be supplemented with a theory of collective action based on a logic of appropriateness and rule following. This logic is driven not only by the will to pursue desired consequences but by questions of identity.

Furthermore, from the 'actionability perspective', the value of a knowledge is linked to its ability to better inform the decision making process. K. Weick vigorously questions this assertion: " *Where is it written that " decision making " is a given in human existence ? Whose job is it to think outside the box and suggest that thinking about human existence as a series of decisions may be less fundamental than thinking about existence as the search for meaning by means of sense-making ?* " (2001, p.71)

The second part will focus more on the relationship between the management sciences and their users, which is the next step towards the proposal of an appropriative perspective

BRINGING TOGETHER RESEARCHERS AND OPERATIONAL USERS: FROM ACTIONABILITY TO APPROPRIABILITY

The word *"appropriation"* has two possible meanings, *" the act of making usable"* or the fact of *"making something belong, become our property"*. It is therefore more encompassing than the notion of actionability. The actionabiliy of knowledge is grounded both on the knowledge itself and the processes that support it. The question that remains is how can the knowledge produced by the management scientists or by any other community be appropriated by an exogeneous community? This question can be declined in four directions as described by the following table:



	ACADEMICS	**PRACTITIONERS**
ACADEMICS	**'Scientific appropriation'** [AC1→AC2 or A1→A2] *Problem 1: How managerial knowledge developed by AC 1 can be appropriated by AC 2?*	**'Appropriation as an implementation'** of academic development [AC1→CP1] or a co-production of knowledge[AC1←→ CP1] *Problem 3: how CP 2 can appropriate knowledge produced by or co-produced by AC (in interaction with CP 1)?*
PRACTITIONERS	**'Formative appropriation'** [CP1→AC1] *Problem 2 : How managerial knowledge developped by a CP can be appropriated by an AC?*	**'Appropriation of best practices'** [CP1→CP2] *Problem 4 : How managerial knowledge produced by CP 1can be appropriated by CP 2 ? How the AC can facilitate the whole process?*

- **Table 1: Four appropriative directions.**

Legend:

A: academic member

AC: Academic Community

CP: Community of Practice

In our analysis, we will focus on the classic AC-CP appropriative direction. Especially as regards management scientists' actions of facilitation, we will ask which principles can be raised to leverage the appropriability of a given knowledge.

First, we contend that **reflexivity** has to be built into the research process, whatever the appropriative project is. The distinction between mode 1 research (which refers to the traditional mode of knowledge production) and mode 2 research[xi], exemplified by Gibbons and al. (1994), followed by Kelemen and Bansal (2002), suggests that reflexivity should not only rely on a reflection upon the research design employed but should also account for the point of view of all stakeholders involved in the research process[xii]. Thus, from an appropriative perspective, one should treat practitioners not as *" cultural idiots "* but as *" ordinary theoricians "* capable of reflexive distance from their day-to-day practice. As Boland et al. (2001) point out: *" managers may be theorists as well as pragmatists … they are constructors of their own knowledge as well as users of knowledge created by others ".*

Beyond reflexivity, management scientists must also take into account the level of **interpretability** of their work. There is often a wide gap between the reference system of the management academics and the practitioners (Beyer and Trice 1982; Shrivastava and Mitroff 1984; Bruce and Peyton 1990). Research has shown that scientific work and its usability is more likely to be accepted if it matches *"the organisation's system of references and its context"* (Morhman et al. 2001: 360). Following Calon and Latour's theory of network sociology, the academics have to "translate" their work into "another language" (Calon, 1989), producing intermediary objects between their world and that of the practitioners in order to balance the overall network. Thus, academics must pay attention to the " accessibility " of their production, that is to say their " style of writing " (Van Maanen, 1995). Interpretative flexibility requires empathy i.e. a capability to incorpore others' beliefs, feelings and emotions. This can better be achieved through

socialization (Nonaka, 1994), shared face-to-face experience that enables interpretation processes (Rynes et al. 2001). This process can also be facilitated by the use of figurative knowledge, such as analogy or metaphors as Boland et al (2001) suggest: "*In such figurative knowledge, intended meanings are ambiguous, and knowledge content is left to readers' interpretation*". Indeed, individuals learn the practices of a specific community by engaging in language games, joint action and efforts to surface shared beliefs (Lave and Wenger, 1991). According to Nonaka (1994), the metaphor is the best means of converting implicit knowledge (knowledge linked to actual professional experience) into formalised explicit knowledge. It can therefore be used both ways to translate the language of the operational users into that of the academics and conversely. This translation theory is strongly linked to Hatchuel' s principles of intervention research (1994). Indeed, for him, "*all those involved in research should be concerned by the necessity of making themselves understood*" (Hatchuel, 1994: 68) if they aim to produce work that can be appropriated by the practitioners. This is what he called the "isonomy principle".

Usability is also a fundamental landmark in appropriation. How then can it be defined in the context of the appropriation of academic knowledge? As suggested by many academics, we suggest to look at the problem from the users' perspective. A piece of knowledge can be qualified as useful for a given operational unit if it reinforces their mastery of the various management situations they have to face. This instrumentalist approach does not aim to describe the reality but aims to improve our mastery of the world, thus following in the footsteps of such American pragmatists as Dewey (1967), who encourages us to turn away from the Greek philosophy of discovering and unveiling a pre-existing reality and distinguish between the descriptions of the world and of ourselves which are useful and that which are not. In that philosophy, theory and action are very closely linked. From this point of view, a *" good theory "* is a plausible theory, unpacking unexpected connections and aesthetically pleasing (Weick, 1989).

Beyond reflexivity, interpretability and usability, a fourth criterion is also likely to be inevitable to leverage managerial knowledge appropriability: **disturbance**. Management science, in its ideal-typical form, intends to reveal the general patterns and forces that shape and explain the *" real "* world. To reach this goal, the production of knowledge has to be protected from the researcher's personal bias and subjective influences. The search for *consensual objectivity* i.e. a high degree of agreement between peers or between academics and practitioners, guarantees the validity of organization science as an ideal-typical mode of research. It also implies the use of specific research methods such as controlled experiments that can safeguard the research setting from the disturbances of the practice setting (Romme, 2003). We contend that, cognitively, academic knowledge must disturb the organisational processes so as to reactivate them. However, a consensus must be found in order to implement the new processes and artifacts produced. For Berry (1999), the ability to disturb is certainly one of the necessary conditions for the production of knowledge. For him, it is hard to learn anything about an organisation without first disturbing it. Schön (1983), advocating a mode of knowing that can inquire into and transform one's own practice by developing reflection-in-action, emphasizes that this mode is initiated by an experience of surprise.

Last, the whole research device can not but stick to a **consistence** criterion. For the knowledge produced to be rationally and socially acceptable, the researcher has to make sure of its internal consistency. Thus, the absence of major contradictions in the foundations of a model or a managerial tool, the general harmony of artifacts regulating the interaction between the researcher and the client organization, are necessary conditions for coherence to emerge. This implies that the researcher must carry out epistemological work that focuses both on the knowledge produced and the process of knowledge production itself.

Parallel to this analysis on appropriative criteria, some temporal landmarks can also be suggested as regards practitioners-academics knowledge appropriations. Indeed, how can the practitioner

understand the managerial knowledge (co-)produced by the academics in management science (heuristics, algorithm, meta-heuristic…)? We may refer ourselves to the sociological studies of Giddens (1979, 1984, 1994) to analyse the interaction between the academic and the practitioner using his three-layered model. According to him, three time cycles are simultaneously at work in any kind of structural process (Giddens 1994: 28):

-The time span of everyday experiences
-The lifespan according to Heiddegger, which goes from birth to death
-The "long" time span as defined by Braudel, which corresponds to the lifespan of institutions

We suggest that the interaction between the academic and the practitioner and exchange of knowledge follow the same three kinds of temporal levels: the institutional level, the meso-social level and the micro-social level.

To conclude on these first two parts, it can be said that (co-)developing academic knowledge towards practitioners primarily consist in:

- **Choosing a level of research** (institutional, meso-social or micro-social)

- Choosing an epistemological positioning which is often the result of the researcher's training and theoretical research rather than a deliberate decision.

- Defining an appropriative project.

On the last point, it seems that four basic appropriative projects can be followed:

APPROPRIAT-ION PROJECT	OBSERVATION	MAIEUTICS	ENGINEERING	SYSTEMS DEVELOPMENT
Academic vision of appropriation	**Appropriation is postponed.** It follows the research process, which is mostly based on understanding or clarifying management situations using academic criteria.	**Immediate appropriation.** The academic helps the practitioner make sense of the management situation and develop his own heuristics for future understanding using his own rules. Iterative appropriation as well. Possible do distinguish total from partial maieutic: - Total: see rogerian methodologies. - Partial: see Girin (1989) and Schein (1987).	**Progressive appropriation.** The aim is to develop cognitive heuristics that can be gradually integrated by the practitioners. Artifacts are co-produced by academics and practitioners in order to analyze, criticize or invent models of collective action.	**Progressive appropriation.** The academic (with a strong and explicit axiology) co-develops various action heuristics, which are integrated into the process of organisational change. The aim is to transcend the existing management system or devise a new one.
Practitioner's status	Passive	Reactive	Proactive. Practitioners and academics are engaged in a community of inquiry.	Proactive. Practitioners and academics are engaged in a community of destiny.
Academic's status	Neutral	Facilitator	Expert-facilitator	Agent of change. A quasi-practitioner
Social sciences concerned	Natural sciences, psychology and cognitive sciences	Organisation theory, strategic management, sociology and psychology	Natural sciences and sciences of the artificial. Science of design.	Natural sciences and sciences of the artificial. Science of design.
Corresponding methodologies and theories	Experimental methods, survey methods, case studies	Non-directive interviews, rogerian's methodologies, participant observation, institutional analysis, clinical research (Schein, 1987, 2000), methodological opportunism (Girin, 1989), action-science (Argyris, 1993), action-research (Lewin, 1946).	Intervention Research, Operational research; "recherche ingénierique"	Participatory action-research (Park, 1999), actionalism (Touraine, 1993)
Presence of a need for change	Inexistent	Implicit, impediments to learning and change have to be surfaced	Strong, direct and cognitive	Very strong, direct, socio-cognitive, linked to researcher's axiology
Main appropriative principles	Coherence	Interpretability and reflexive potential	Usability and reflexive potential	Usability, disturbance and reflexive potential

Table 2: Different types of appropriative projects in AC→ CP direction

Observation is a sequential appropriation project. The practitioners are passive in the process of knowledge acquisition, which does not mean they are passive in the research process itself. The various experimental methods used in information systems (See Desanctis et al. 1989 or Desanctis et al. 1992) are typical of this first type of appropriation project. The more we move toward the right of the table, the more reflexive the practitioners become on the knowledge produced by the academics. We move from auto-produced knowledge (total or partial maieutics) to knowledge production (engineering) to the ultimate step of co-production (development of management systems).

Appropriation is easier when the artifacts are produced by the practitioners themselves (total maieutics at the micro-social level). It is worth noting that appropriation may be complicated or facilitated depending on the project and the structural level at which it takes place. Thus, an appropriative project linked to the development of management systems will probably be more easily appropriated at the institutional and meso-social level than at the micro-social level. On the other hand, the "total maieutics" project will be more easily appropriated at the micro-social level. Indeed, the knowledge produced at that level will be local and contextualised, making it difficult to extrapolate at the institutional and meso-social level. Conversely, an "observation" project, which focuses on global concepts will be more easily appropriated at a more general level than at the micro-social level.

DISCUSSION

FROM ACTIONNABILITY TO APPROPRIABILITY: RESPECTIVE SPECIFICIES AND SOME LIMITATIONS OF THE MOVE

Finally, actionnability and appropriability perspectives as regards managerial knowledge can be described by the following table:

	ACTIONABILITY	APPROPRIABILITY
DEFINITION	Actionable knowledge aims at creating intended consequences by informing decision makers about what is likely to happen under given circumstances.	Appropriation encompasses both the act of making knowledge usable and becoming an individual's property.
VISION OF MANAGEMENT	Management as a science of design, a "science of the artificial" (Simon, 1969).	Management as a theory of collective action (Hatchuel, 2001) or a "science of creative action" (Lorino, 2002).
NATURE OF MANAGERIAL KNOWLEDGE	An **exogenous technology**. Its utility is intrinsic to its features and that of the sociotechnical context.	A **socio-cognitive scheme** (the manager's one), i.e. a set of cognitive routines linked to social life. It's related value is linked to the very process of appropriation.
LOGIC OF KNOWLEDGE DIFFUSION	Replication in an organizational setting. Tool is an enabling factor.	Re-invention both in an organizational and institutional setting. Tool is at the same time habilitating and constraining.
MAIN CRITERIA OF JUDGEMENT	Relevance	Emancipation (by means of reflexivity, usability, interpretability, disturbance, coherence).
FOCUS	Content	Process
THEORETICAL ROOTS	Argyris (1993, 1996) and Schön (1983), Cyert and March (1963), Simon (1947, 1969).	Giddens (1984), Weick (1995, 2001), Lorino (2002), Ciborra (1997, 1999, 2000), Alter (2000), Orlikowski (2000).

- **Table 3: An actionnability-appropriability comparison.**

Lastly, we believe that appropriability really represents a way to overcome some limitations linked to the notion of actionnability (see first part), especially its mechanistic connotation. Nonetheless, the 'appropriative perspective' has also its own limits.

An obvious limit of appropriability relates to the psychological field. Indeed, even if the appropriative perspective, for the sake of consistency, boils down to cognitive and political aspects, it puts aside managers' psychological profiles and their implications as regards some potential 'drifts'. Two famous characters in French literature epitomize the difficulties and dangers of any appropriative project. They both appear in the play *Lorrenzacio* (de Musset 1834). The scene takes place in Florence in 1537. The town had recently signed a peace treaty with Charles V, emperor of Germany. The latter, with the Pope's complicity, empowered Alexander of Medicis, a member of one of the City's oldest families. The Duke is young and leads a debauched life. He reigns over the town by means of terror, neglecting both the people and Florence's other families. Everybody hates him, but less than his cousin, his damned soul: Lorrenzo de Médicis, maliciously nicknamed Lorrenzacio. In addition, another family, the Strozzi, tries to preserve its status. Two characters play a dominant role in this family : Philippe, the father, and Pierre, his impetuous son.

The former is an intellectual. He qualifies his statements by means of different standpoints, analyzing problems either from a sociological perspective (*"When will the common folk have learnt enough to stop their daughters laughing while their parents weep? ", Act II, scene I*), a philosophical one (" Is corruption one of Nature's laws ? Are our so-called virtues the clothes we wear only on Sundays? ", Act II, scene I), an historical one (*" You are insulted so you kill: you have killed so you are killed. Soon hate puts down its roots. Sons are cradled in the coffins of their forebears, and whole generations spring from the earth, sword in hand ", Act II, scene V*) or a political one (*" Do you know what makes a republic? the craftsman in his workshop, the labourer in his field, the citizen in the marketplace the life of a whole community and in god's justice the simple happiness of men. ?", Act III, scene 2*). Action, when taken into account, is always suggested in a wise and structured manner (*" But you've reached no firm decision? made no plan? taken no precautions? you're like children playing with life and death. Matters like this have shaken the world Thousands of grown old thinking such thoughts which have caused*

numberless heads to roll at the feet of the executioners! Providence itself is dumb with terror and, fearful to intervene, leaves it up to men to bring such projects for fruition. ", Act III, scene II). Even when his daughter's reputation has been tarnished by the Duke's words, his analysis is so intense that it impedes any form of action or revenge (*" If you had not spread the word, for Louisa, for all of us, things would be simpler now! Can't a virtuous Strozzi ignores the jibes of a Salviati? Must those who lives in a marble palace know what obscenities the populace has written on its walls? who cares about the comments of a man like Julian? Will my daughter find it hard to find an honest husband? will her children respect her less? will I, her father, think of it, when I'm kissing her good nights? What have we come to, if any insolent braggart can make men like us draw our swords?" Act II, scene V*). Even when he feels that action becomes necessary, Philippe remains passive, noticing that his " *vengeance has grey hair* " *(Act II, scene V).* Only his motivations linked to his personal analysis of the political situation in Florence will bring him to action in a cautious and distant manner.

Pierre, his son, is the opposite. The way he expresses himself and appraises the situation are both linked to the action itself. He can't help behaving instinctively (*"You will think of it, Leon. And speak of it too. You see, I'm itching to chop off his hears. Who has he slandering this time ? Us? my father? by the blood of Christ, I've no love lost for that Salviati. ", Act II, scene I ; " Any festering sore can be cured if you lance it.. ", Act III, scene II*). His analyses are always factual (*" just like a bloody priest! here am I, hopping with impatience, and you hesitate for words! a spade is a spade, by heaven, and a word's a word. God has nothing to do with it! ", Act II, scene I*) and short-term oriented, focusing on his sister's scorned honour. Pierre always sticks to common sense, far from the expert logic. He is not aware that power cannot be changed without putting forward alternatives.

The following table sums up the main features of the two characters:

	PHILIPPE	PIERRE
World vision	Broad Long-term oriented	Narrow Present-oriented
Decision motives	Multidimensional Aims at breaking common-sense	Factual. Philippe's son follows his instinct He respects common-sense principles
Role in collective action	He rationalises and gives sense to action He simply follows action without any personal investment	Sensemaker. Melts into collective action

- **Table 4: Two epitomes of appropriation patterns**

One can easily guess the risks linked to appropriative projects corresponding to these two archetypical characters. As regards the father, the tools, models and concepts worked out by researchers will strengthen reflection and impede any initiative (over-appropriation). As regards the son, the bias towards action is so high that the cognitive break and the impetus given to double-loop learning will often be impossible. At best, tools, concepts and academic models will be put aside, i.e. integrated in an *ex post* rationalization of action (under-appropriation). The researcher, coping with one of the two archetypical characters, will probably have to make use of pedagogical devices in order to define an appropriative project. Forthcoming research has to be carried out so that appropriative factors can be adapted to each profile.

Beyond the applicative limitations we have just raised, we also think that the appropriative perspective suffers from some methodological weaknesses. First, it is not operationalized to the same extent as the actionability perspective. Thus, the instrumentation of socio-cognitive schemes is still a work in progress. Then, the actions of facilitations that can be undertaken for the building or refinement of these schemes (games, meetings, training, organizational

arrangements…) are still under-conceptualized (as regards some global integrative variables) and operationalized.

However promising it may be, there remains much research to be carried out on the appropriative perspective.

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[i] For instance, there is a large research field dealing with the relevance of trust in managing strategic alliances but the field has received little attention on how to create trust.

[ii] We refer to the term "community of practice" as originally developed by Wenger (1998), i.e. a community made of people sharing common understanding of problems and willing to develop on a free basis common language, concepts, tools, so as to enhance their knowledge of situations.

[iii] Romme (2003) has specified the fundamental components of research as design: 1) each management situation is unique just as its context, requiring therefore a unique approach; 2) research as design draws on purposes and ideal solutions which helps focusing on essential aspects of the problem situation; 3) systems thinking is applied so as to make sure that each situation is embedded in a larger set of problems, thus allowing for greater generability.

[iv] However, some researchers, such as Hatchuel (1994, 2001), have developed a different perspective on the actionability perspective that moves away from the decision paradigm. While acknowledging that the firm is constituted as an artifactual collective action and should not be conceived as a natural phenomenon or an anthropological fact, he positions management science as the science, which can produce knowledge *" enabling a company to set its own aims "*. Consequently, the essence of management research would lie in *" understanding, inventing and criticizing models of collective action "* (Hatchuel, 2001: 36). Thus, the purpose of management science would be to conceive the modelling tools for collective action.

[v] A point we will at length discuss in the next part by putting forward an alternative to the actionability perspective.

[vi] We believe that the concept of 'decision-making' is completely consistent with the actionability paradigm.

[vii] Or an MCK matrix or Kaplan and Norton's (1997) balanced-scorecard.

[viii] Here, action and cognition are conflated (See Lorino, 2002).

[ix] Hatchuel posits the design of artifacts and models of collective action (the so-called intervention-research) as a third mode of knowledge production, besides the "laboratory" and "field" model. The main characteristics of intervention-research can be summed up as follows : 1) knowledge production and action processes are conceived not as separate but simultaneous processes; 2) the aim of research is to surface hidden properties of models of collective action, criticize them and whenever possible contribute to invent new ones; 3) management issues have to be opened up to internal debate and involve all stakeholders of the research process.

[x] Business System Planning (BSP) and Project Quality Management (PQM).

[xi] Mode 1 research refers to the traditional way in which academic research is carried out in organizational studies. Its aim is to construct or test propositions derived from general theories or laws. Issues that are central as well as criteria of relevance are defined by academic peer review. Thus, the knowledge produced is mainly codified and abstract, opening the way for theoretical replicability. Its modes of diffusion rely heavily on institutionalized disciplinary channels. By contrast, mode 2 research is transdisciplinary in nature, aims at producing useful knowledge and gaining insights into a particular context whatever its level (industry, government, society…). Thus, mode 2 research implies a shift away from the search for general statements towards modes of inquiry that contextualize results. Knowledge, both tacit and codified, is co-produced within networks of academics and practitioners, the latter being engaged at all stages of the research process.

[xii] According to Schein (2000), reflexivity is the process by which a researcher anticipates the consequences of his intervention while interacting with the client organization.