Reprint of “Sensitive translations: Sensitive dimension and knowledge within two craftsmen’s workplaces”☆

Laura Lucia Parolin a, Alvise Mattozzi b,∗

a University of Milano-Bicocca, Italy
b Free University of Bozen-Bolzano, Italy

KEYWORDS
Actor-network theory; Body; Corporal knowledge; Craftsman; Design; Innovation; Semiotics; Sensitive knowledge; Tactile knowledge.

Abstract In our paper we address the issue of the relations between knowledge and the sensitive dimension by taking into account and comparing the contribution to the production of a chair deployed by two craftsmen working within the Italian design furniture industry sector.

Relying on an ethnographic account of their work, we have been able to describe in detail the way in which the interaction among the bodies of the two craftsmen and those of the artifacts they contribute to develop takes place and gives way to innovation.

By taking into account the role of bodies and the sensitive dimension we outline a contribution to Actor-Network Theory and its theory of knowledge.

Indeed, in this article we propose a model of working knowledge in order to account for corporal interaction on the workplace. In our model there are two axes to describe the interactions among bodies. In the first one interaction moves from detail to the whole. In the second, interaction moves from an engaged position to a disengaged one. In so doing, we are able to draw a space of corporal knowledge. The craftsman’s skill lies in his/her capacity to move within this space and to let knowledge grow while moving within it.

© 2013 Elsevier Ltd. All rights reserved.

Introduction

“We need it soft but supporting.”

This request was addressed to a contractor supplier for the seat of a new model of a chair. It was made by the person in charge of the putting-out for a famous Italian furniture brand.

The statement came after the transfer of a few artifacts—a prototype of the chair, some CAD blueprints, several CAD files.

How did the supplier succeed in satisfying this request? What tools and competences are needed to comply with it?
How did he manage in putting together the verbal request with the artifacts at hand? What kind of knowledge was involved?

In order to carry out the task, the supplier had to put into play his senses in full contact with the artifacts, by mobilizing his body in an interaction with the body of the future chair.

And how can we account for these interactions?

Our article will answer these questions by taking into account the work two craftsmen carried out to develop a chair. We will address the issue of “bodies, senses, and knowing” through the analysis of these two cases.

In order to answer the previous questions, we adopted an Actor-Network Theory framework which allows us to assess the mutual mediations among different bodies. Thanks to such framework we will explore a way to consider the body which differs from most of the approaches developed within social and human sciences that dwelling on Merleau-Ponty’s work, focus on the human body as the main — if not the only — source of experience in the world. We succeeded in introducing a different approach by considering the mediating role of artifacts through which the sensitive dimension is distributed.

By taking into account these mediations, we will show how innovation can surface through them.

Bodies at work

Rediscovering the body in organization

In recent years, increasing attention has been paid to the body in organization and management studies. Such attention is the outcome of a more general shift toward materiality within organizational studies (Berg, 1997; Bruni, 2005; Clegg & Kornberger, 2006; Fox, 2000; Gherardi, 2000, 2006; Orlikowski, 2002, 2005, 2007, 2010). Previously, as Orlikowski (2007: p. 1435) has underlined, they “overlooked the ways in which organizing is interrelated with the material forms and spaces through which humans act and interact”.

Besides the issue of corporeality, the shift has given rise to a different perspective on artifacts. The latter are no longer seen as mere bearers of symbolic meanings (Gagliardi, 1990). As for bodies, there has been an increasing awareness of embodiment in organizing; it places the dimension of corporeality and sensuality at the forefront of organizational analysis (Gagliardi, 1996; Hassard, Holliday, & Willmott, 2000; Martin, 2002; Strati & Guillet De Monthoux, 2002; Strati, 1992, 1999, 2007).

The mentioned shift as well as the focus on the two specific issues of artifacts and bodies are connected to the concept of socio-material practices, through which there has been an endeavor to overcome the dichotomy between the social and material worlds by concentrating on practices within organizations. Practice-based studies (Gherardi, 2000), focusing on the constituent socio-material practices which characterizes organization, have clearly contributed to the mentioned shift, addressing our attention on corporeality and sensuality in organizational analysis (Gagliardi, 1990; Hassard et al., 2000; Strati, 1992, 1999, 2007; Yaklhef, 2010).

The body — both at work and in organizational life — is no longer perceived as the neutral agent of an instrumental action, but rather as the locus of sensorial mediations, sensitive knowledge, and the inscription of embodied professionalism. Accordingly, feeling, seeing and perceiving are themselves ways to act in the world, and, at the same time, inscriptions of the world on the body.

The reference theory most widely used by scholars pressing for the recognition of the role of corporeality in organizational studies is phenomenology (Strati, 1999; Yaklhef, 2010), especially through the work of Merleau-Ponty (1962, 1964, 1968). According to the phenomenological philosopher, human experience depends on the possession of a body: it is by means of our body that we experience and learn about our world. Our corporeal dimensions are a common feature which enable human beings to share the experience of experiencing. As Yaklhef (2010: pp. 410–411) writes:

The human body (including the mind) is regarded as the medium for experiencing and having access to (the practical and social) world. The concept of “body” is understood in the sense used by Grosz (1994 [ . . ]) in which one can say that there is “no body as such; there are only bodies — male or female, black, white, brown, white, large or small — and the graduation in between”, stressing the specificity of various bodies, which gives rise to different forms of embodiment. Furthermore, the concept of body refers neither to an idealized platonic reality, nor to a merely physical or biological entity. It is rather, an active producer of culture, at the same time being a product thereof. Characteristic ways of sitting, gesturing, dancing, walking, showing one’s anger and moving are culturally defined. In our interaction with our environment, our body exchanges cultural and social elements, this implies that culture flows from the environment into our body, as well as from our body to the environment (Hayles, 1999).

From this viewpoint, there is no distinction among acting, thinking, and perceiving (Yaklhef, 2010), or among acting, knowing and learning (Gherardi, 2000, 2006).

We will reconsider the shift toward materiality we just outlined by taking into account the interrelatedness of artifacts and bodies within organizations, especially in relation to organizational learning, knowing and innovation.

Knowing with our body

Interest in our body — as outlined in the previous paragraph (Section ‘Rediscovering the body in organization’) — has become quite popular in organizational literature also thanks to the success of the social perspective of learning (Lave & Wenger, 1991) within the more general debate on organizational learning (Brown and Duguid, 1991; Fox, 1997; Gherardi, Nicolini, & Odella, 1998; Nicolini & Meznar, 1995).

Within the literature about learning and the role of our body in organizations, attention is addressed to the nature of the learning process as a generative path to knowledge, inseparable from a situated practical involvement. According to the approach outlined above, experiential learning, sensorial perception, and esthetics become crucial factors for the understanding of organizational phenomena (Strati, 1999). Bodies at work are those which, as gendered, have inscribed on themselves the differences attributed by a gender symbolic system (Gherardi, 1995; Hancock &
Tyler, 2000; Kanter, 1977); bodies at work are those that perceive, that use their senses to read the environment in order to carry out tasks and to interpret an organizational setting.

Strati (1999) provides a good example of the importance of our body and of our sensitive knowledge in the analysis of work and organization:

(...) Through the window I could see three workmen stripping the roofing tiles from a small building. (...) The workers had apparently ignored every safety precaution, although the roof sloped steeply and the building was two storeys high. (...) I was struck by the movements of one of the workmen. Although plump to the point of obesity, he moved up and down the roof with surprising agility. He was obviously in charge because he was gesticulating orders to the others. (...) He went to help him, hanging onto the rope with one hand to descend the roof, hauling himself up with the rope to ascend, on some occasions even grabbing the chimney stack. Once he had reached the other workman, he took over, almost pushing him out of the way. When the meeting had finished and we were going off for lunch, I stopped in the yard to exchange a few words with the roofing workers, who were now sitting among the debris eating their sandwiches. I spoke to the stout man who seemed to be the leader and asked him: “But how do you do it?” He laughed, the others joked and nudged each other. He then stamped his feet and, as if he was speaking for all of them, told me that the secret lay in feeling the roof through your feet as if they were fastened to it. You have to set your legs firmly, not make a false move with your upper body, and pay close attention to noises, because they tell you what is happening (...) “once you’re up there, you feel immediately if it comes naturally to you.” If not “you’d better find a different job.” And then, declared the leader, “you see immediately” if someone knows how to stand on a roof. All the rest comes with time, but not the knowledge of how to stand on a roof, because that is something that “is taught badly”. It is something that “must come by itself”, without getting it into your head that you cannot do it or that being on the roof only means “being in danger” (Strati, 1999: pp. 89–90).

Thus, sensitive knowledge is what passes through our sensorial faculties. Our body incarnates this type of knowledge, which, according to Polanyi (1958), cannot be formalized: it precedes language and reflections on experience, it is pre-reflective. Our body incarnates knowledge-producing processes, which are activated through its relationship with the world. Polanyi (1958) uses the term “tacit knowledge” to denote the kind of knowledge that cannot be explained or rationalized through language, thus emphasizing our body’s cognitive ability. Corporeal abilities cannot be adequately explained by the use of words and detailed explanations. It is difficult to convey our knowledge of how to stand on a roof. Reference goes to Polanyi’s (1961) example of our ability to ride a bicycle. Although we might describe keeping one’s balance as an effort made in order to counteract the force of gravity, the description cannot be used as a guide for practical purposes. This tacit dimension of knowledge is related to the body in which we live, in the sense that a “peculiar combination of skillful doing and knowing is present in the working of the organs of our senses” (ibid.: p. 461, cit. in Strati, 1999: p. 95). Similarly, the passage from Strati is rich in describing both the ability and the competent practice of standing on the roof, connected with the sensorial quality of the worker’s body difficult to formalize in instructions. As Bruni and Gherardi have underlined (2007: p. 105), it is the same kind of problem musicians faced in the moment in which they explain how to perform a vibrato, or doctors have when they show how to palpate a patient or read an X-ray. Such knowledge resides in our body, it is perceived through our body, and it is with the help of our body that it can be transferred. By the use of gestures and discursive practices, an expert practitioner can describe/underline a detail to a novice (Gherardi & Nicolini, 2002; Goodwin, 1994) and show its core importance. In a relationship between experts and novices, both language and body are used to attract attention, (Gherardi & Nicolini, 2002; Gherardi, 2006) to show what is important, or to highlight a detail on a sensorial or perceptive scale. The centrality of the community of practice in constructing and transferring practical knowledge becomes evident (Lave & Wenger, 1991).

The excerpt by Strati (1999: pp. 89–90) enables us to grasp how, in organizational settings, our body is not only an agent of instrumental actions (picking up material and throwing it down into the yard); it is also the embodiment of practical, sensorial knowledge fundamental for the activity of clearing a roof (while being anchored to the roof, hands free so as to be able to work). In this way, he redefines the very concept of an instrumental action in organizations, and asks to what extent it is useful to focus our attention on codified, formalizable learning to understand what happens in organizational contexts. This is the kind of attention to our corporeal dimension we find in practice-based studies of learning and knowing (Gherardi, 2000, 2011). If we start from Strati’s (1999: pp. 89–90) example, we can see how specific types of practical and esthetic knowledge are inscribed in our body (Strati, 1999). They are developed in professional contexts by partaking them in a community of practice (Lave & Wenger, 1991). Our body is built in working practice: we learn to keep an eye on the environment, our senses are refined, we are socialized into educating specific perceptive and sensorial faculties relevant to the activity in which we are engaged.

But all these things are possible also thanks to the presence of artifacts as many authors have pointed out, and as Fox (2000) has underlined by rethinking community of practice through ANT and Foucault, and vice versa.¹

Educating our senses through professional practice

Through education, our body gets disposed to recognize details and nuances, plies of the material world (Bessy & Chateneyraud, 1999), and to give relevance to tactile, visual, auditory, olfactory and gustative sensations that are meaningful for our professional practice and knowledge. Such sensitive education of our body — here meant as the

¹ As we will see, our approach is similar to Fox’s one (see n. 9).
locus of practical knowledge — occurs mainly through the socialization process developed through a practice and/or a profession (Lave & Wenger, 1991).

Once embedded in a professional practice, also thanks to the contributions of those who focus our attention on the significant elements (Gherardi & Nicolini, 2002; Goodwin, 1994), we learn to perceive what is relevant for the same practice. For instance, we learn how to feel the roof through our feet (Strati, 1999) or how to distinguish the sounds that signal danger (see below; Dejours, 1992): it is our body, once it has been made sensitive to professional perceptions, that steers our perception and structures our understanding of the environment.

It is through a professional and skilled vision, as Grasseni (2009) suggests, that our body (forged by a profession) conveys not only ideas and beliefs, but also configures them. Grasseni (ibid.) draws on Goodwin’s work on the “professional vision”, described by the latter (Goodwin, 1994) as a socially-organized way of seeing and comprehending. Goodwin (1994, 1997) analyses the discursive practices used to give shape to events and illustrates how this professional ability pertains to a professional community. He shows how and why a “professional vision” is a social and cultural activity oriented toward knowledge tasks performed within a particular profession. Goodwin (1997) describes, for example, how the definition of a color (such as the “blackness of black”) is not provided by an objective sensual faculty as a universal human property; rather, it is the outcome of a complex social process, the one that includes discursive practices and highlighting gestures that refine our vision as a professional tool.

Goodwin (1994, 1997) is very keen on giving relevance to highlighting practices, enacted through discursive and gestural activities that help us focus our attention on those elements of reality relevant to our profession. These highlighting practices are the means by which a professional community selects, from a very wide range of sensorial perceptions, the ones that are pertinent to a professional activity. Following his approach, we can also consider the interpretation of a situation or of an event as part of a kind of professional knowledge that relies on the attribution of meaning, through codification and highlighting practices, to something that is at first inseparable from an undifferentiated flow of information (Weick, Sutcliffe, & Obstfeld, 2005).

But his studies (Goodwin, 1994, 1997) lead us to pay attention and take into consideration the role of artifacts within said learning processes, too. Indeed the assumption underlying the concept of “professional vision” is that the interpretation of an event is not a mental and individual process; it rather comes about through discursive practices historically structured within an actual community by the effective use of certain artifacts, as the color tables used by archeologists (Goodwin, 1994). It is by this example that Goodwin shows how an archeologist and a farmer see different things on the same plot of land.

Our visual sense — in Goodwin’s case or, in more general terms, any of our senses —, considered as the practical knowledge of a profession, is educated through processes of situated learning and is distributed among humans, artifacts and systems of material and linguistic classification in use on the workplace.

Interpretation is, therefore, an ability embedded in the professional practices of a given community. It has as much to do with relations among subjects as it does with artifacts that contribute to professionalize our sensitive dimension.

Tuning sensoriality

Our body and senses are shaped through an immersion in the practice that educates sensoriality and perception by refining our capacity to discern the meaningful details for a specific practice of an environment. Nonetheless, the manner in which this happens is not linked solely to the capacity of bringing details to the fore; it is also a consequence of the forms of immersion that make it possible to “tune” to the flow of sensorial stimuli. In an analysis of the role of the body in working activities, Dejours (1992) has resorted to the concept of metis or “practical intelligence” in order to explain sensoriality — on this occasion auditory — in the control room of a large industrial plant. According to him when our body is destabilized in a certain situation, it starts, configures and accompanies the deployment of “practical intelligence” which is a corporeal intelligence. In order to explain the process through which our body acts according to “practical intelligence”, Dejours (1992: p. 28, our translation) uses the example of a petrochemical plant he observed: while the machinery is “in cruise regime”, the workers who supervise the plant from the control room usually play Scrabble.

This unusual practice in the workplace, where supervision should be constant, causes the workers anxiety, and generates a sense of guilt. They conceal this everyday practice and the table is quickly cleared as soon as they hear that a supervisor is getting close to the control room. Managers are aware of the practice of playing Scrabble during the working hours: not only do they disapprove, but they try to stop it, without, however, applying any sanction (…). When the plant is running at a certain steady speed and is well-regulated, the workers become bored. This state of inactivity irritates and vexes them up to the point that it stresses them. Scrabble proves to be a convivial pastime, played close to the control panel that relaxes them. But by playing Scrabble, the workers are doing much more than that might seem. From time to time, Scrabble requires a moment of reflection, and a break between turns. This allows the one or the other to get up, go to the control panel to adjust performance or pressures. After which the worker returns to his seat at the game table. Every so often a worker gets up from the table to intervene in the process. As a matter of fact, the workers are constantly “listening to” the process while they are playing. They listen to the sound, the vibrations, the periodic alarms, and the rumble of the machinery until they notice an abnormal noise or a lower-frequency vibration amid the background noise with which their bodies are impregnated (…). His body reacts, and the worker gets up. Thus the workers are listening to how the machinery are running while they are playing.

2 But this applies to all trained senses.
Auditory supervision is not a simple listening operation to be performed, and only long experienced workers manage to acquire the skill. All the operators in the control room take part in the auditory supervision of the plant, albeit with various levels of ability. This method of auditory supervision is not explained — in fact, it cannot be formalized. It is learned in contact with older workers. It is necessary to learn how to tune oneself to the flow of sounds produced by the plant. If a worker listens actively, thinks about what he is doing, and concentrates on the sound, he will not be able to hear. Either he will no longer hear anything or every noise will become suspicious, so that he can no longer direct himself, and very quickly falls prey to anxiety. What strikes the author is that if the operator pays attention to his duties, he cannot make use of his perceptions. Production in cruise regime requires the worker to relax in some way; that he, too, enters a relative state of repose. In this particular case, this happens quite smoothly thanks to Scrabble, its rules, and its artifacts (as the table on which the game is played and the tiles). That is how workers achieve physical and sensorial attunement to the process, and that is how they are unhesitatingly able to identify anomalies which interrupt the flow.

The role played by mediations in deploying corporeality and sensitivities

The foregoing examples have enabled us to show that a sensitive dimension does not depend solely on our body, because besides being situated, it is distributed among other bodies — especially, as Goodwin’s (1994, 1997) and Dejours’s (1992) examples illustrate — among artifacts and devices.

But it is not just a body among bodies: by taking part in different articulations a body and its parts are also faceted and diverse, hence multiple. Accordingly, we consider one body to be multiple (Mol, 2002), and, as such, not given or a priori, but always acquired and rearticulated on the basis of the various relations that affect it. Thus each body through the interaction with certain artifacts — i.e. other bodies — increasingly learns to be more and more sensitive.

The role of artifacts in articulating our sensitive dimension and our very body and the ways in which the latter can, thus, be affected, have been clearly shown by Latour (2004: pp. 206–207) in an example drawn from a study by Genevieve Teil (1998, cit in Latour, 2004) on the training of “noses” for the perfume industry through the use of a “malette à odeurs” (odour kit).

(...) The odour kit is made of series of sharply distinct pure fragrances arranged in such a way that one can go from the sharpest to the smallest contrasts. To register those contrasts one needs to be trained through a week-long session. Starting with a dumb nose unable to differentiate much more than “sweet” and “fetid” odors, one ends up rather quickly becoming a “nose” (un nez), that is, some-one able to discriminate more and more subtle differences and able to tell them apart from one another, even when they are masked by or mixed with others. It is not by accident that the person is called “a nose” as if, through practice, she had acquired an organ that defined her ability to detect chemical and other differences. Through the training session, she learned to have a nose that allowed her to inhabit a (richly differentiated odoriferous) world. Thus body parts are progressively acquired at the same time as “world counter-parts” are being registered in a new way. Acquiring a body is thus a progressive enterprise that produces at once a sensory medium and a sensitive world. The key element that I want to underline in this brief description is the kit itself, the “malette à odeurs” which plays in the hands of this specialist the role of the de facto standard. Although it is not a part of the body as traditionally defined, it certainly is a part of the body understood as “training to be affected”. As far as progressive sensation is concerned, the kit is coextensive with the body. The specialist has bottled up contrasts in a systematic way. Through his kit and his ability as a teacher, he has been able to render his indifferent pupils attentive to ever more subtle differences in the inner structure of the pure chemicals he has managed to assemble. He has not simply moved the trainees from inattention to attention, from semi-conscious to conscious appraisal. He has taught them to be affected, that is, affected by the influence of the chemicals which, before the session, bombarded their nostrils to no avail.”

All this takes us very distant from Merleau-Ponty and phenomenology from which we began our theoretical introduction. As we can see, following our walk-through, we meet, in the end, the pragmatic approach proposed by Bruno Latour and Annemarie Mol, which does not assume what the phenomenological tradition does, namely the fact that “one is and acts in a world”. As Deleuze and Guattari (1996: p. 175) suggest, “one is not in the world” but “one becomes together with the world”, as shown by Latour (2004) in his excerpt on the “odour kit”.

Our approach

Our intention is then to account for such becoming where the multiplicity of bodies is irreducible. In order to do that, we cannot but attempt to describe the various mediations that gradually articulate a situated sensitive dimension, a situated interaction among bodies, as outlined in the researches around taste by Hennion and Teil (2004) (see also, Hennion, Maisonneuve, & Gomart, 2000; Hennion, 2001, 2004).

3 These issues have been also explored in psychology through studies on “flow” or on the “optimal experience” (Csikszentmihalyi, 1990; Nakamura and Csikszentmihalyi, 2002), at the center of which there is the need to create an ordered experience from a disordered situation.

4 Note that this example has also been considered by Gherardi (2009). But the way in which she reports it results in a marginalization of the “odour kit” and its role. The latter are left on the background, while attention is focused entirely on “the body as the tool and primary source of the relationship with the world, as well as the source of sensitive knowledge; language as a means to interpret and describe sensitive knowledge, and the collective dimension of the elaboration of situated discursive practices” (ibid.: pp. 540–541).
As Hennion and Teil, we will too take into consideration relations among bodies and the way in which reflexivity emerges within such relations. We will, as well, take into consideration the way in which one actor makes her- or himself sensitive to the objects with which s/he interacts, up to disposing her- or himself to be carried out, to be taken (Hennion, 2001), by these objects. Since we will not deal with amateurs but craftsmen, we will also view the way in which they are able to withdraw from the engagement with the objects they are interacting with and consider them from a distance. It is by considering these recurring movements that we will try to account for how the various elements which Hennion (2004) considers for esthetics practices — community, devices and conditions, bodies and objects — get connected. And, still by following Hennion and Teil (2004: p. 526, our translation), we will try to actually “render their own competences to the actors” we considered in our study (see below). We will especially take into account the competences of the objects that take part in the situations we have observed.

All that should allow us to account for how innovation emerges through relations among bodies and the micro-practices they are engaged in. In order to do that, we will try to describe in detail the sensitive interaction between the body of the craftsmen and the bodies of these objects. We think that, in this way, we will bring Hennion and Teil’s approach a step further by actually “attending” first to the associations out of which (an object) is made” (Latour, 2005: p. 233), and, at the same time, we will set our approach slightly apart from that of Hennion and Teil (2004), which is very careful and wary in dealing with the properties of objects (Hennion, 2004).

Through our analysis we will address some of the issues Gaggiardi (1990), Sennet (2008) and Ingold (2007) raised, from a perspective that is not theirs. Gaggiardi (1990: pp. 19–20) introduces the “construct” of “sensory mappings” and explains that they “become active in the interaction between our senses and the artifacts of the organization”, being not “in the mind, nor even in the body, but coming into operation in the interaction between the senses and a culturally and/or physically characterized setting”. They are related to the basic need of mapping reassurance/threat features of the environment. We think that, by taking into account how craftsmen make themselves sensitive to the artifacts they interact with, by “let(ting) oneself be soaked through by the sensory”6, we should be able to outline “sensory maps” or, at least, the framework through which sensory maps are drawn. As for Sennet (2008) and his attempt to account for craftsmen innovation skills by pointing to a dialog between concrete practices and thinking, between hand and mind, we to actually account for such dynamics without resorting to the mind/body dichotomy. As for Ingold (2007), through his call to take into account materials rather than materiality, with reference to human beings “swim(ming) in an ocean of materials (…) of the most diverse kinds (which) undergo continual generation and transformation” (ibid.: p. 7), and through the relevance he attributes to the description “of the properties of materials” (ibid.: p. 14), he outlines a field of research which is also ours, and which is, instead, somewhat left aside by the pragmatic sociology of taste by Hennion and Teil (Hennion, 2004: p. 140).

In order to address a possible description of the “properties of materials”, Ingold relies on James J. Gibson’s (1979) ecological approach to perception. In order to elaborate our descriptive categories, we will, instead, rely on semiotics, and especially on Greimassian semiotics (Greimas & Courtès, 1983) — thus coherently following ANT’s developments (Akrich & Latour, 1992; Hennion et al., 2000: pp. 179–180; Latour, 1992). We will be able to draw the relations to which objects take part and to account for the different sensations objects dispose, thanks to a model of the actual interactions among bodies. This model is based on a Latourian rereading of the semiotic of the body as elaborated by Fontanille (2004). It assumes that a body can be schematically described as made up by a core, an internal structure — muscles, in human bodies —, and an envelope — skin, in human bodies. It also assumes that bodies interact mainly through actions of pressure-penetration and envelopment. Thanks to such model, we will be able not only to take into account the strength and the resistance of actants 7, but also to describe these “trials of strength” (Latour, 1987) (and of tenderness) in detail, by actually providing actants with a body (Fontanille, 2004).

With regard to the sense of taste, specifically in relation to wine, Hennion and Teil (2004: p. 535, our translation) have shown that, when dealing with the sensitive:

the issue concerns certainly, more than ever, the contact with the object, but with an object that opens, that becomes plural. Between a stacking of musical notes and an artwork, between the physical wine and the tasted wine, we proceed through layers, we move forward through a series of mediations, we do not fluctuate back and forth a binary dividing line. Tastes invite us not to move away from the object in order to seek their real causes elsewhere, but to rethink the object we have before us as a possibility, an attempt and temptation, and not as a sum of various parts.

---

5 Actually Hennion (2004) considers them for taste and amateur practices. We will extend them also to professional craftsmen practices, which, as we will show, comprise a relevant esthetic dimension.

6 Here Gaggiardi is quoting a personal communication by Fulvio Carmagnola formulating in this way the Kantian concept of “passive intuition”. This way of understanding “passive intuition” is very similar to Hennion and Teil’s idea of letting oneself being taken, carried away, by the senses. The main difference, to which we subscribe too, is that for Hennion and Teil, it is not an intuition, in the sense that there are a lot of mediation allowing for “soaking” and it is a practice, not completely passive.

7 We consider semiotics mainly a descriptive methodology (on the issue see also Mattozzi and Piccioni, 2012). Hence, our underlying semiotic approach, as well as references, are different from the one used by Hancock (2005), even though we share some of his concerns in relation to accounting for the esthetic dimension.

8 Fox (2000), by reconsidering “the community of practice theory” in the light of Michel Foucault and ANT underlines that certain practices can be seen as power/knowledge relations with materials where force is exerted onto materials. We think that our model can help to account for those relations.
Extending their considerations beyond taste, this is what happened to the two — but they are more than two — protagonists of our study, that will be soon introduced, as well as to us, as researchers.

The research

In order to account for the “becoming with the world” (Deleuze & Guattari, 1996) we mentioned (see above), we shall report two examples taken from a field study carried out by one of the two authors of this article (Parolin, 2010). This study drew on the multi-sited (Marcus, 1995) branch of ethnography to examine the production chain in the furniture-manufacturing district of Brianza, north of Milan. The initial objective of our research was to outline the network of relationships within the district, through a detailed description of inter-organizational working practices.

The idea was to investigate manufacturing managed by enterprises together with contractor suppliers of the district, in order to understand if there were manufacturing processes that, taking advantage of the shared territory, were based on forms of collaboration. During the explorative phase, the researcher succeeded in getting in contact with the production department of one of the leading firms in the furniture sector of the district. Within this context she could follow for several days the production manager and some of his closest collaborators while they performed their activities. The researcher spent most of her time together with one of the persons responsible for the production while he visited contractor suppliers who were asked to devise and implement some solutions for the production engineering of some semi-finished parts of new products that the company was launching on the market. According to information given by the technical office, these contractor suppliers had been involved since they were able to elaborate new solutions to the technical problems raised by the existing prototypes.

With the idea of following the development of a new product from its design to its production in series, the researcher had negotiated the field with the company’s management, but authorization had been denied. Once faded the opportunity of a research that could follow in a longitudinal way the genesis of a new product, the researcher focused on two of the contractor suppliers she met in her explorative stage; nevertheless these were the ones that were seen as the most crucial for the new required technical solutions. She tried to understand the nature of their collaboration with district enterprises, both through a reconstruction and through the direct observation of several processes of the semi-finished manufacturing.

The two episodes here proposed tells the story of the development of certain technical solutions elaborated for a new chair model, as for how the researcher was able to observe and reconstruct them during the course of her interactions with the involved actors — they lasted from April to May 2008. In this context, observation was conducted on the work of two craftsmen involved in the development of a new chair model that we shall call “Calepina”. Contractor suppliers were involved in defining the new artifact through their work on a semi-finished product. In other words, the company, in the person of a member of the technical staff responsible for purchasing, asked the craftsmen to develop — and not merely to manufacture — semi-finished versions of Calepina “in the way they best thought”. This proposal was made during a face-to-face interaction where the technician illustrated a series of different artifacts that made up the project for the new model (rendering images, a CAD object, and prototypes). The two suppliers were involved in the development of various parts of the new Calepina chair: one, whom we shall call Carlo, worked on the seat, while the other, Giovanni, worked on the development of the frame. Both craftsmen, however, had to come to terms with Calepina as a total concept, albeit in different ways.

A dialog between the two authors of the present article started following a previous publication on this specific field-work (Parolin, 2010). The dialog has focused on how to take into account the details of the sensitive dimension (Pink, 2009) deployed in the articulation of the two artifacts but it especially focused on how to account for the given details. From this dialog, first a presentation at a colloquium7 was carried out and then, on the basis of that first experience, the present article was produced.

Episode #1: Carlo and the seat

When the person responsible for the production first met Carlo, he showed him the blueprints of the renderings and a prototype in wood covered by plastic material. He explained that the seat of the new chair would be assembled on a metal structured covered by leather. It is within such context that the person in charge of the production asked Carlo to make the chair seat “soft but supporting”. According to the information given by the production technical office, Carlo’s involvement responded to the need for new articulations of the semi-finished product, and especially of the seat, since the way it was assembled in the company according to the design did not satisfy the production technicians.

Carlo produces semi-finished, plastic (polyurethane) products for local firms operating in the furniture sector. His specialty is mixing chemical compounds directly instead of using standard blends usually employed in polyurethane foam. This validates his professional skill as an industrial chemist, which comes from his long-standing experience in one of the most important chemicals companies in Europe. His experience enables him to experiment with a wider range of combinations of compounds and sensorial renderings. As Carlo said: “They assessed the following characteristics: soft at touch but also at sitting, but with a structure that should be stiff in leather and able to support the weight of the person. While the prototype had a wooden seat structure, the request was to make a soft seat but resistant enough to support the weight of a person without showing notable flexion.” Carlo was given the task of combining two features of the seat — “softness” and “support” — which are, as the use of the adversative conjunction “but” shows, considered somewhat incompatible. As outlined by its designers, the

---

the polymer layer was placed between the two parts. Following this observation, it was found that the polymer layer could also be used as a filler to improve the comfort of the seating system. The polymer layer was found to be soft and resistant to deformation, which allowed it to absorb impact and reduce the transfer of energy to the sitting person. The polymer layer was also found to have good adaptability, which allowed it to follow the contour of the sitting person. However, the polymer layer was found to be incompatible with the metal grid and the plastic foam materials. Therefore, it was decided to use a combination of these materials, which resulted in a seating system that was able to provide comfort and support to the sitting person.

As we can see, the use of adaptability became increasingly important. The hardness of different types of metal still did not allow the seat's body to envelope the user's body, so that the chair would not stand the overall sensation that the person in charge of the production was looking for. Carlo, then, started to think about eliminating metal completely. He introduced a cloth in the mold, a felt which absorbed the plastic material in the hope to reach that degree of support necessary to hold the sitting. The combination of felt and resin to support a structure was not new to Carlo, nor to the technicians of the company. They had already used it and saw other people use it with other products. But felt, in these case, was used directly in the mold. Unlike metal, the cloth absorbs certain resins, but it does not entirely lose pliability. As we can see, the third was an attempt to abandon the metal grid in favor of a more adaptable material, the idea being that it would be possible to give stiffness and support by using particular resins and polyurethane mixes. This new configuration seemed to offer a level of support that would be sufficient for Carlo to do without the metal core. The new degree of the object's resistance to pressure and of its adaptability would now depend on the relationship between the plastic materials and the capacity of absorption of the cloth being used. Carlo needed to conduct several tests on materials in order to find a seat for the chair that was sufficiently resistant and adaptable to support a person's weight. After various tests he chose a special kind of felt, which is thick-textured. This proved to be an effective means by which to deliver the overall sensation he was looking for.

With the aid of an extremely adaptable body that could be gradually stiffened, Carlo changed his strategy: instead of trying to relieve the hardness and rigidity of the metal, he decided to stiffen the softness and adaptability of the cloth with foams and resins. Hence this was the configuration that, by completely recasting the body of the seat, was stabilized and became the final version, giving also way to an actual semi-finished product innovation, usable by other chairs models.

### Episode #2: Giovanni and the internal structure

Giovanni, another craftsman-supplier, was engaged in making the drop of the covering along the leg of the Calepina “soft yet taut”. Giovanni is not an upholsterer, he works metal. And, indeed, Giovanni was asked to contribute to the chair’s development when it was not yet a stabilized “thing” (Parolin, 2010; Storni, 2012) by rearticulating its metal structure in order to comply with what could be seen in the renderings. Carlo, as we have previously seen, worked on re-articulating the seated body with regard to the relationship among the materials that made up the Calepina seat. In order to achieve this, he turned his attention to the relationship between the user’s body and the new artifact through the translation of tactile sensations related to the pressure exerted, as much as to the envelopment felt by a sitting body. Hence, for Carlo, the most significant sense was touch.
Giovanni, on the contrary, privileged sight. For Giovanni, it was a matter of acting on the structure of the chair and of focusing his attention on the relationship between the structure and the covering materials in order to articulate the visual yield of the Calepina. But, as we will see, sight was not the only sense involved.

Together with the prototype – what Giovanni would call “a sort of structure” – the person in charge of the production provided rendering images that were used by Giovanni as visual support to develop the metal structure. The rendering images were the means used to outline the visual performance of the new artifact. On examining those images, Giovanni identified certain inconsistencies between the visual rendering and the structure provided by the prototype. According to Giovanni, the structure of the prototype would not stand the image provided by the rendering. More specifically, the rendering showed a “soft yet taut drop” – as Giovanni himself would define what he saw – in the covering along the leg. But he realized that a frame like the one he had in his hands would not allow for a similar drop effect in the upholstery. The upper section of the leg required a more abundant covering which would have created creases and plies. Indeed, a soft, full covering in a malleable material that would change shape locally, like leather, would cause creases corresponding to the empty spaces at the junctures of the metal structure. As we can see, by comparing the CAD rendering of the chair with the “sort of structure” that he had in his hands and before his eyes, Giovanni was able to understand that a structure like the one he was considering would not stand the configuration of the chair as depicted in the renderings.

Giovanni’s primary skill was to discern a possible outcome of the chair as a whole merely by looking at its internal structure and reflecting on how it would interact with the covering. The skill was based on the knowledge of the behavior of the internal metal structure interacting with the leather covering applied to it. This knowledge about two bodies (or, eventually, two elements – the core and the envelope – of a single body) was basically embodied: Giovanni did not have the covering material with him, but he was nevertheless able to construct a tentative narrative of the interaction of the latter with the former. In this way, as a professional, he was able to think metonymically: he could visualize the as-yet undeveloped whole from its parts. In order to produce such visualization, the metal structure was considered as a set of empty and filled spaces. Thus, thanks to his professional vision, Giovanni was able to see that the interplay of voids and plenums in the actual structure in relation to the quantity and quality of the covering would cause the upper part of the covering to pucker. This outcome was in complete contrast with what he had seen in the rendering, which was, as said, a “soft yet taut drop”.

It was this embodied knowledge about other bodies that enabled Giovanni to see how they might behave, and to understand how this behavior would differ from the one illustrated in the rendering which was, in turn, based on a synesthetic sensitivity. He succeeded in translating visible elements into tactile ones, and vice versa. Indeed, he was able to contrast “softness” – a typical tactile quality related to the consistency of a body, as we have seen with Carlo – with “tautness”. The latter is a quality mainly related to the behavior of a body in relation to other stretching bodies, or to an envelope – the “skin” – of a body in relation to a core or internal structure, which stretches it - as it happened in this case. “Tautness” as the result of stretching is related to straightness, whereas “softness”, since it involves the gradual strain of a body, is related to curves, folds and wrinkles.

In Giovanni’s discourse, “softness”, despite the fact that its synesthetic properties are always in contrast with “tautness”, had two separate meanings: in one case, “softness” actually opposed “tautness”, while in the second it modulated the latter in the second – “soft but taut”. In order to rearrange the internal structure of the chair, Giovanni had to manage these two different meanings: by avoiding the first “softness”, which would spoil the “tautness” of the drop, and by allowing the second one in order to modulate it. In one case, “soft” was related to local strain, while, in the other, it related to a gradual overall modulation of the curve of the upholstery. Giovanni had to rearrange the structure of the chair by taking the two senses of “softness” into account in order to manage them: preventing one, while allowing the other; preventing the upholstery from locally interrupting the straight line of the drop, while allowing it to modulate the straight line of the drop in its whole. That is why Giovanni took the interplay between voids and plenums into account: they altered the upholstery locally.

Starting out with these considerations, Giovanni attached an additional piece of metal to the structure that reduced the hollow gap on the corners. By placing extra plates between the tubular sections of the chair and the legs, the issue related to potential sagging and puckering in the covering was solved, thanks to the support for the covering provided by the plates placed over the interstitial spaces. Other ways of rearranging the interaction between the structure and the covering, like stretching the covering more, were not considered by Giovanni, since they would not allow the softness of the drop of the covering. However, the articulation stabilized through plates between the tubular sections created new issues relative to the relationship between Calepina’s metal structure and the leather covering it, also making the manufacturing process more complicated. Indeed, the application of flat surfaces like plates required special care when applying the solder, because soldering introduces residual material that might be seen or felt under the covering. This kind of re-articulation would therefore also produce local strains caused not by voids, but by plenums.

Giovanni tackled the issue raised by the residual material coming from the soldering process by exploiting the tubular nature of the metal structure. In place of plates that joined the structure’s corners, Giovanni added inserts of the same tubular form as the ones used in the structure, which were flattened at the ends. In this way, the tubular nature of the materials employed, when placed on top of each other, allowed for the creation of hollow spaces where the residual material from the soldering process could be positioned without interfering with the properties of the covering.

Discussion: working with a corporal knowledge

As we have seen, the two episodes we have introduced involved men’s body at work in the development of semi-finished artifacts related to the new Calepina chair. In Carlo’s...
episode, the most closely-involved sensoriality was touch, while Giovanni worked predominantly with sight. Thus, we described the two cases by taking detailed account of the mediation processes performed by corporeality and sensitivity. In our opinion, the interest of our description lies not particularly in how closely we studied the episodes, or in the details that we have provided, but in the comparison that it elicits. It is through comparison that we can go beyond the extremely local and idiosyncratic nature of our descriptions. Indeed, our concern is less with the extent to which the situations that we have described can be generalized, than with how they can be compared, between themselves and with other situations. Through comparison we identify the elements they have in common, and are more widespread, and others that are more specific, bound to the definite situation, and cannot be found elsewhere.

Therefore, in order to account for what is at stake in this special issue, namely body, senses and knowing in organizations, and not just Carlo’s or Giovanni’s individual situations, we will compare them with each other as well as with other episodes in literature.

We could compare the two cases on many levels and from many points of view. We have chosen only two aspects that are strictly related to the themes of this special issue: one is more related to the specific situations the two craftsmen dealt with; the other is more related to the way they managed their activities.

Three configurations of softness

As for the first aspect, we shall compare the three ways in which “softness” was articulated in the two situations. Indeed, both situations were concerned by softness; but softness displayed different properties that emerged within the flow of the activity. Thus, softness is indexical. Nevertheless, we are not so interested in noting what is today a somewhat well known, if not a banal, finding — namely, indexicality. Rather, we are interested in accounting for such indexicality by describing how softness changes part of its meaning according to the situation in which it is articulated. Only through this description we can also account for the competences of the two craftsmen that comprised sensitivity to these changes and the ability to manage them and cope with them. In this way we want to account for the embodied professional knowledge performed within the working activity that is exteriorized — translated and transferred — onto the artifact through its articulation.

As for Carlo, first of all “softness” is a quality he has to render compatible with “support”, knowing that “softness” has to do with the property of straining when undergoing pressure. In a second phase, Carlo rearticulates “softness” by distinguishing, on one hand, a global strain, more related to “support”, since something “supporting” is something which does not strain under pressure; on the other, a local strain that allows the seat to follow the user’s body. For Carlo, then, softness is a complex property related at the same time to local as well as to global strains.

Giovanni has to do too with these two kinds of strains, but in his case they are kept apart and one — local strains — has to be prevented, while the other — the global one — has to be allowed. Thus, as we can see, we basically have three configurations that are related to softness: one global, one local and one that keeps them both together. Only through the interaction with other bodies the two craftsmen were able to become sensitive to these configurations. And by becoming sensitive they were also able to manage them in relation to the specific articulation they wanted to achieve, and finally produced innovations.

Bodies, relationships and activities

As for the second aspect through which the two episodes are compared, as well as the two cases with others present in literature, we can right away highlight the fact that the way in which Carlo and Giovanni took part in the actions and managed them, allows us to elicit two axes that outline the way in which knowledge is performed and developed through corporeal interaction. On one hand, we have seen a continuous shifting between specific elements, parts, details and the whole artifact. On the other, we have seen a continuous shifting between an action that considers the object from the outside, from a detached position and point of view, to an action carried out by both bodies, the body of the craftsman and the body of the artifact. As for the latter both bodies are engaged in it together.

Within literature related to design, these issues have been already tackled by, for instance, Yaneva (2005) who noticed that architectures shift between two separate ways of interacting with a building — which are nevertheless maintained simultaneously. These two ways enable architects to move constantly between different views of the artifact, while they are working on a project. It is also through such a movement that architectural innovation takes place.

We will exemplify the two shifting by resorting to Giovanni’s episode first, and to Carlo’s episode second. Giovanni was asked to work on the internal structure of a semi-finished product, but his gaze read the totality of the artifact. Such totality would emerge as the relation between two bodies, the body of the metal structure and the body of the covering which, nevertheless, would eventually become — and were also seen as — a single body composed of a core and of an envelope. Thus, for Giovanni, the relationship between the internal structure and the covering is, at the same time, the detail on which action is required through specific interventions, as well as the whole that creates the context for his own actions. But Giovanni did not just take into consideration elements of the body and the body as a whole. He focused on much smaller details as the joint between the leg and the frame of the seat and, at the same time, he was able to see the role of these details within the whole because, as we said, he could put them in relation to the behavior of the covering. Unlike the researcher, when he looked at the metal structure on his workbench, he saw it as an assemblage of full and empty spaces that would interact with the covering as a whole. Giovanni’s knowledge was partly embodied — he did not have the leather covering with himself, but knew its corporeal behavior —, and was partly distributed among other artifacts. First of all he considered “the sort of structure” itself, but also the renderings that would provide an image of the whole to which he had to tune the internal structure, as if with the covering. His professional vision was not only able to distinguish the details of an
environment (Goodwin, 1994; Grasseni, 2009) and to learn even more details, by becoming more and more sensitive (Latour, 2004) to that very environment, but he could also build connections among different dimensions and figurations of the artifacts, thus connecting parts with the whole. All this has been carried out, as we said, thanks also to his synesthetic sensitivity.

When Carlo observed the corporeal properties of the various elements of the seat in order to develop a whole made by different relationships (first through a juxtaposition, then through an interpenetration and, finally, through an integration), he acted like Giovanni on the relationships between the corporeal properties of the materials. However, his focus was on the sensorial experience of the seat: that is, the object of his work was not an inanimate artifact, but rather the relationship between body and seat. If we consider the two materials that provided softness, Carlo achieved the latter with reference to a whole yielded by the relationship between his tactile sensoriality and the object itself. Carlo’s re-articulation of the concept of softness worked on the relationship between the body of the seat and his body in order to develop a “seat + human-body” object able to give a more integrated sensorial experience (“softportability”). Such integration of the competences of the concerned materials (metal grid, and then felt, as well as foam and resins) was then a way to rearticulate not particularly the relationship among them, but between the user’s body and the chair’s body. For Carlo, in fact, there was no such artifact as a “chair seat” separate from the sensorial experience of the user (and therefore from Carlo’s body as the locus of this experience).

Carlo’s attitude toward Calepina reminds us of the way in which Hennion and Teil (2004) describe the hedonistic experience in relation to an object as “letting oneself be taken by the whole”. This behavior is characterized by an active listening process that allows artifacts to express themselves (as wine does when tasted), and that holds different properties and sensorialities together. However, Hennion and Teil’s example seems to suggest a sharp distinction between the practice of interacting with the wine-object (the set of analytical features that can be identified by acquired tasting techniques analogous to musicology for music) and the appreciation of wine as a job: what they call the practice of hedonistic tasting — that is, the relationship with the object of the wine (rather than with the wine-object). Hennion and Teil (2004: p. 535) explain the difference between wine-object and the object of wine through a comparison with music listening. As you do not love music by listening to short excerpts in order to guess what they are, you do not love wine by tasting ten different wines, one after the other, in order to take some notes and then spit them out. The experience of being immersed in a musical composition with the esthetic, emotional, or moving effect that this may evoke to the listener is a completely different thing: “Just as with listening to a symphony, (wine tasters) have defended what they refer to as ‘hedonistic tasting’. In the same way, comparison, the virtues of which are evident to all, when it comes to perceiving parts, becomes an obstacle when it is an issue of letting oneself ‘be taken by the whole’”.

What instead emerges from the cases we have introduced — particularly evident in the case of Carlo — is that the two craftsmen shifted constantly from one type of practice to the other. Carlo moved constantly from an immersive experience of the “chair + human-body” assemblage to a more detached interaction. The latter allowed the rearticulation of the relationships among the various bodies used to re-specify softness—passing from their juxtaposition, to their interpretation and, finally, to their integration. Indeed, from such detached position he would look at, and test from a certain distance, the interactions among the elements that made up the seat. The immersive position was, instead, a sensorial fruition process that incorporated his body into the object itself.

For Carlo this movement meant he should continuously enter and leave the object of his action with his own body. He plunged himself into the hedonistic fruition of the work, let it express itself on his body, let himself be articulated by it, and then he returned to act onto the relationship among the various bodies which made it up, looked for adjustments to be made among the elements that transform the immersive experience itself. To return to the musical example used by Hennion and Teil, it is as if Carlo were a composer who worked, hands on instrument and pen on the score, moving continuously between the position of hedonistic immersion in the flow and a different position where, through the repertoire of analytical elements (tools and categories like pace, pitch, voices, rhythms, styles), he intervened on the parts and on their reciprocal relationships, and rewrote the composition. It is thanks to this continuous movement between positions that the esthetic effect, the emotion, and the transport that a symphony may evoke, is made. And it is through this continuous movement in and out of the activity with the object, through different kinds of appreciations, that Carlo was progressively able to act on the sensorial effect of enfolding the body the Calepina chair achieved.

A model of knowledge work through corporal interaction

As we said at the beginning of this paragraph, the two situations we described elicit two axes through which we can describe the interactions among bodies beyond what happened in Carlo’s or Giovanni’s workshops. On one hand, as Giovanni’s example showed, the interaction moves from the detail to the whole; on the other, as Carlo’s example showed, the interaction moved from an engaged position of the actor — Carlo completely involved in finding softness — to a disengaged one — Carlo evaluating the configuration of the padding and thinking about a possible re-articulations.10

We think that these two axes outline what we could call “the space of the corporeal knowledge” (Fig. 1). Knowledge grows by shifting from one axis to the other and by switching from one end to the other of one of the two axes. The skill of a craftsman lies in his/her capacity to move within this space and to let knowledge grow while moving within it (Fig. 1).

10 As we already mentioned in n. 4, the issue of the engagement in an action together with the artifact taking part in the action is at the center of researches on “flow” (Csikszentmihalyi, 1990; Nakamura and Csikszentmihalyi, 2002). This is a field of research we still have to explore carefully, also in order to understand its compatibility with our model, which, nevertheless, takes into account also forms of disengagement.
It is through these movements that knowledge does not just grow, but it also emerges as new that is when the innovation can occur.\textsuperscript{11}

Conclusions

We started our article by focusing our attention on a growing body of literature which pay attention to the role of bodies and sensitive knowledge within the organizational settings. The majority of these works assume Merleau-Ponty’s (1962) reflection and, more in general, phenomenology as the main theoretical reference (Strati, 1999; Styrhe, 2004; Yakhlef, 2010). Thus, following a tradition which assumes “phenomenology [as] one of the most prominent influences in organization theory” (Styrhe, 2004: pp. 105), these works have been able to give relevance to bodies not just as agent of instrumental actions, but also as embodiment of practical and sensorial knowledge, and of embodied professionalism. Nevertheless at the end of our introductory walk-through about bodies, knowledge and organizing, we have been able to outline a different conception of the body which does not rely on the Merleau-Pontian idea of a (self-)centered human body as pivot of all perceptions. We were able to retrieve such different conception of the body – or, better, of bodies – by looking at researches taking into account the role of artifacts in knowing and sensing, going then beyond approaches that take into account only the interactions between human bodies (Brown and Duguid, 1991). Through our walkthrough bodies have, little by little, emerged as situated, distributed and always within a process of becoming. Thus, bodies have emerged as multiple (Mol, 2002). More in detail:

- “situated bodies”: not fixed, but always reenacted through the situation to which they take part;
- “distributed bodies”: not confined within the skin of a specific human body, but always constituted through other human and non-human bodies;
- “becoming bodies”: not a given which interacts with the world, considered to as a given, but as something that is affected and transformed by other bodies;
- “bodies multiple”: not as a body in the world, but bodies becoming with the world or, better, with other bodies.

In so doing, we assumed Deleuze and Guattari (1996) and pragmatism rather than Merleau-Ponty and phenomenology (1962) as our main theoretical references. But we think we have been able to reconfigure the issue of bodies in relation to management and organization, not following a theoretical debate, but lead by empirical exigencies and by consequential methodological requirements regarding description and accounting. Such exigencies and requirements came out from the approach we have followed, namely ANT (Latour, 2005). At the same time, we detached ourselves from the way ANT has been often used within the organizational debate in relation to the materiality of organizations (Bruni, 2005; Czarniawska & Herses, 2005; Orlikowski, 2007): our aim was not just to take into account non-humans, but actually to account for their corporal and sensitive qualities and, in so doing, accounting also for the corporal and sensitive qualities of humans. All that has been possible thanks to what we consider an enrichment of ANT, through which we were able to endow actants with a body (Fontanille, 2004; Mattozzi, 2010). Such enrichment has also allowed us to draw, but at the same time to detach ourselves, from the ANT approaches to the sensitive dimension (Hennion, 2001, 2004; Hennion et al., 2000; Hennion & Tell, 2004). We hope to have shown that the perspective on bodies we have proposed, by requiring to take into account the various mediations through which bodies are reenacted, constituted, affected, transformed and translated, provides an insight and a grasp of the details of the corporal interactions. Such insight and grasp allow to describe corporal interactions carefully so as to be able to account for knowledge emerging from these interactions — and to account also for eventual innovations emerging from these processes. We deem that such perspective is especially suited for organization and management studies, not only because they deal more and more with situations filled with artifacts, hence other bodies, which are not human ones, but also because the relevance this perspective can have in accounting for embodied professionalism. We also think that such perspective is suited for organization and management studies because it is not just a dive into the idiosyncratic deepness of details, but – as we have shown – allows comparison and even the emergence of a more general model, through which even more comparisons are possible. We think that the two episodes we presented well render the becoming and the multiplicity of bodies: we have shown how a body becomes sensitive to softness together with another body becoming soft, or how a body becomes sensitive to soft tautness together with another body disposing more and

\textsuperscript{11} We have to clarify two points: (1) disengagement does not mean a disengagement from the overall course of action or situation, but a disengagement from an action carried out together with the other body; (2) disengagement does not imply a disembodiment, since it is possible only through the presence of other bodies. Thus the exercise of the sight, which is the sense most often used for such kind of shifting, is possible because there are other artifacts which allow to exert vision from a certain distance and from a detached point of view — the drawings and renderings provided to Giovanni, in our case. We therefore do not think that sight is in conflict with other senses which would be “more embodied” or that sight would be more cognitive. It is just a sense — but not the only one — which is often used within and in order to obtain such disengagement. We want to finally point out that we can claim that shifting is in any case embodied because we have a distributed conception of the body: the latter does not necessarily refer only to a human body contained within more or less tangible envelopes.
more soft tautness. As we have shown, such a process does not involve the four mentioned bodies, but also other ones, present within the situation or just recalled from other situations. We have also pointed to the fact that such becoming follows two basic coordinates through which a continuous movement is performed: from detail to the whole and back, and from engagement to disengagement and back. Working and creating presuppose such a movement, through which knowledge is, little by little, accumulated and transformed and through which innovation can emerge. Each shift from part to whole or from whole to part, from an engaged position to a disengaged one or from a disengaged one to an engaged one, allows for a continuous re-articulation of the knowledge accumulated in previous shifts, but also allows to transfer — to translate — such a knowledge onto other bodies, thus articulating them with it, and hence creating. Creation is bodies made translatable.

Acknowledgments

The present paper is a collaborative effort by the two authors. If, however, for academic reasons individual responsibility is to be assigned, L.L. Parolin wrote Sections Introduction, Rediscovering the body in organization, Knowing with our body, Educating our senses through professional practice, Tuning sensoriality, Case #2: Giovanni and the internal structure, Bodies, relationships and activities and A model of knowledge work through corporal interaction. A. Mattozzi wrote Sections The role played by mediations in deploying corporeality and sensitiveness, Our approach, Case #1: Carlo and the seat, Three configurations of softness, and Conclusions.

We wish to thank our unknown reviewers for their critiques, comments and suggestions that helped us to improve our paper and clarify several points; the editors of this special issue; the person in charge of the production of Calepina and the production manager who made this study possible by creating the contact with the two craftsmen; the two craftsmen who shared with us some of their secrets; Anny Ballardini, for having patiently help us in proofreading the whole document and translating various of its parts.

The initial research and fieldwork was funded by a grant awarded by the Department of Sociology and Social Research of the University of Milano-Bicocca to Laura Lucia Parolin. Proofreading and translations have been possible thanks to a research fund made available to Alvie Mattozzi by the Faculty of Design and Art of the Free University of Bozen-Bolzano.


