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# Understanding organisational gestures: Technique, aesthetics and embodiment

Yoann Bazin\*

ISTEC, 12, rue Alexandre Parodi, 75010 Paris, France

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## KEYWORDS

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Artefact

**Summary** By defining gestures as recognisable patterns of recurring oriented body movements, this article aims to offer a conceptual framework that accounts for the features of organisational gestures. Viewing them as routines of bodily movements is proposed, and technique, aesthetic and embodiment will appear to constitute their three generative dimensions. This article participates to the corporeal and aesthetic perspectives on organisations and enriches the literature on routines through an extension to gestures and embodied artefacts. Choosing a field study that is embedded in the repetitive lines of factory production will offer a challenging context to observe the inclusion of an aesthetic dimension within every gesture and leads to discuss dynamics of learning, control and elegance.

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## Introduction

For more than a decade, corporeality has become an important and institutionalised approach to organisations (Casey, 2000; Dale, 2001; Hassard, Holliday and Wilmott, 2000; Shilling, 2003). Indeed, even in our modern, computerised and digital era, no professions or organisations function without bodies and gestures. Third-sector employees are still using their hands, eyes and feet, negotiators still must meet face-to-face on occasions, managers often must 'get their hands dirty' and craftsmen are far from disappearing. Even industry workers need some degrees of liberty between prescribed actions and actual practices. Considering these

realities, the Taylorian attempt to reduce organisational gestures to purely fixed, standardised body movements is clearly out-of-date. Indeed, the corporeality of bodies has imposed itself, and a strict cognitive approach is now known to be incomplete at best; thus, understanding gestures in modern organisations becomes essential for scholars as well as for managers. Gestures involve body movements, repetition, appropriation and tool uses; thus, focusing on them is, *de facto*, fully inscribed in a corporeal approach to organisations, populating them with moving, feeling, sensing, hurting, enjoying, tiring, and resting bodies. Consequently, this article aims at answering the following question: what are the specific features of gestures within the context of organisations?

The 'gesture studies' are predominantly structured around several main approaches (Bernstein, 1926; Efron, 1941; Jousse, 1974; Kendon, 2004; La Barre, 1947; Leroi-Gourhan, 1965; Mauss, 1934), which offer strong but often

\* Corresponding author. Tel.: +33 622343189.  
E-mail address: [yoannbazin@yahoo.fr](mailto:yoannbazin@yahoo.fr).

isolated accounts of specific aspects of the notion. Moreover, because 'gesture' remains a fairly common noun, many scholars do not even bother with a definition. For example, McNeill (2000), even though he elaborates further, clearly states on the first page of his book that: "the word 'gesture' needs no explanation" (McNeill, 2000, p. 1). Therefore, we must propose here a starting definition that is enriched by these enlightening fundamental studies before building a conceptual framework.

Based on these considerations, gestures are first defined here as recognisable patterns of recurring oriented body movements. Then, this article integrates these main elements by conceptualising organisational gestures as routines of bodily movements. The perks for bringing closer gestures and routines unfold in two directions. First, building on the existing literature on organisational routines, and more precisely on Martha Feldman's analysis (Feldman & Pentland, 2005; Feldman and Rafaeli, 2002; Feldman, 2000), allows for an integrative framework of organisational gestures. Indeed, exploring this conceptual framework leads to describing gestures under three different dimensions: technique, aesthetics and embodiment. Considering how technical and teleological aspects of routines have already been widely and rigorously discussed, other dimensions of gestures, which have often been forgotten, will be emphasised here. There lies the second, and most interesting, perk: offering a more corporeal, sensorial and aesthetic viewpoint to organisational routines. This 'gesture perspective' imposes the centrality of bodies and knowing in the actual practice of everyday routines.

From that perspective, using factory production lines in an empirical study appears to be appropriate. Indeed, exploring the aesthetics of sportive and artistic gestures seems fairly trivial. Instead, finding beauty, tool mastery, corporeality and a sense of elegance along the repetitive line of industrial production shows how much the aesthetics and embodiment dimensions of gestures are as fundamental as their technical efficiency. By studying three books that were written by factory workers (Hartzfeld, 2002; Linhart, 1981; Navel, 1979), four main topics will appear: corporeality, learning, controlling and aesthetics. This perspective will lead to discuss the notion of elegance as a degree of mastery at which the technique and aesthetics occasionally merge as well as the role of embodiment in the use of artefacts and the importance of organisational control regarding gestures.

### Gestures: between techniques and aesthetics

The concept of gesture has been studied through eclectic accounts of different aspects of the notion: Mauss (1934) on the body, Leroi-Gourhan (1965) on tool uses, Heath (2002) and Kendon (2004) on communication, Bernstein (1926) on motion control or Jousse (1974) on mimicry, for example. With the intent of building a theoretical framework, we first offer a definition that integrates these aspects: gestures are recognisable patterns of recurring oriented body movements. Next, we explain how the notion of routine can provide a strong conceptualisation of organisational gestures that leads to three main dimensions: technique, aesthetics and embodiment.

### Defining gesture: a recognisable pattern of recurring oriented body movements

#### Oriented body movements

When talking about gestures, the first element involved is a living, corporeal body. Indeed, in the Latin etymology, *gestus* corresponds to a movement of the body and, although the whole body is not directly involved, it is impossible to truly understand a gesture by isolating the hands, feet or fingers from the other parts. A gesture cannot be reduced to a simple sequence of body parts in motion; it must be embraced as an undividable whole, not as a set (Jousse, 1974). To Mauss (1934), gestures are specific functional actions that always imply movements; even what he calls "techniques of rest" are active, precisely defined and fulfilling a function: squatting down, sitting, stretching out. What he detects here is the fact that gestures are always oriented towards something. A gesture is not a random sequence of body movements, chaotically set in motion. It has an orientation, but not in the sense that it requires an intentional, well-defined purpose but rather that it unfolds in a direction. According to Clot (2002), gestures operate under functional relationships that give sense and purpose to actions. Therefore, in every gesture, there is an idea of a result, a goal to achieve. This goal can be a clear, explicit, measurable objective, and it can be an emergent and vague idea, a pre-conscious intention waiting for an occurrence to be articulated. However, a gesture does not emerge as soon as a body moves towards something; it is the regularities that several actors share and recognise that make a gesture.

#### Recurring

A gesture is not random or isolated in time and space; it is a recurring occurrence. It emerges through its own reproduction, several times by several actors. Recurring does not necessarily imply a strict replication but instead implies the acknowledgement of sufficient similarities, and it is this re-production that allows gestures to be transmitted and, thus, to exist. Inspired by Aristotle's consideration that "human is the most miming animals", Jousse (1974) found all gestures on *mimèmes*, describing them as: "things that are played, again and again, and that we can record" (Jousse, 1974, p. 50). However, only imitating does not build an ability to perform in different contexts and gestures that must be appropriated by the apprentice. The more that an apprentice practises his/her gestures, the less his/her brain must focus to perform it; it becomes one of his/her reflexes, one that s/he partly shares with his/her model (Bernstein, 1926). Consequently, gestures are recurrences that are embedded in a collective context in which actors will alternately be copying and be copied. Clot (2002) differentiates *collective gestures* that are shared realisations (professional gestures, for example) and *the gesture collective* that has a part of an appropriation by and for actors. He considers that every profession has its own referential of gestures that are characteristic of its practice. Therefore, a gesture is not a simple outcome of someone's habit; it is the mastering of recurring adaptations around a gesture of reference (Bernstein, 1926). Thus, it is understandable and recognisable for other actors; it has a meaning in the sense that it refers to a specific signification within a community (Kendon, 2004). It

can allow actors to communicate and materially enact something, i.e., a disease (Heath, 1986; 2002), belonging to a community (Efron, 1941) or conveying a message (McNeill, 1985). This meaning is rooted in something common and stable that emerges through recurring performances, a reference for these oriented body movements: a pattern.

### Recognisable pattern

Through the on-going process of imitation and recurrence in actors' gestures, a pattern emerges. This pattern shapes an external gesture, a model that Leroi-Gourhan (1965, p. 36) calls "operative programmes [that] leave the actor outside". Bernstein (1926) compares these 'external programs' to roles in a play that guide actions and describes them as "standards of movements" (Bernstein, 1926, p. 221). In the present paper, they are defined as patterns, stable references that enable actors to develop their own gestures, both appropriated and understandable. Yet they remain "shaped by the cast of past gestures" (Leroi-Gourhan, 1965, p. 40), guided by internal and external interaction forces, "like dogs are guarding the herd" (Bernstein, 1926, p. 222). Moreover, this pattern is embedded in a collective set of references, in a system constituted by shared gestures, beliefs, rituals, values and myths. Gestures always express the belonging to a community (Efron, 1941). Therefore, gestures are part of, and based on, a tradition. As Mauss (1934, p. 5) has said, gestures are "the ways in which men, society by society, in a traditional fashion, know how to use their bodies". To him, recurrence and imitation are not sufficient to explain gesture transmissions; a tradition is required. This approach will provide a necessary cultural basis for its unfolding (La Barre, 1947). "In the traditional frame, the individual inscribes his/her own variations and draws a feeling of existence as an individual in the margin s/he benefits, while enjoying the safety offered by his/her integration in the group" (Leroi-Gourhan, 1965, p. 59). There is a traditional background behind gestures that provides a meaning and renders them recognisable and understandable; they carry a sense both for the actor and the others. Thereby, for Kendon (2004), gestures are utterances, phrases of action that are recognised as gestures that non-verbally communicate specific messages. Many studies have focused on the meaning carried by these 'visible actions', which are shown and understood by others through their performances (Heath, 1986, 2002; Kristeva, 1968; McNeill, 2000).

### Conceptualising organisational gestures: routines of bodily movements

I have previously presented a set of notions that evolve around the concept of a gesture: bodies in motion, repetition, goals and objectives, meaning, communication and language, tradition and recognition, transmission and appropriation. Within organisations, gestures will be performed in a specific context that emphasises constraints of repetitive enactment and efficiency. In this way, conceptualising gestures as organisational routines fits especially well because it has been widely viewed as repetitive courses of action that are triggered by recurrent stimuli (Cyert & March, 1963; March & Simon, 1958; Nelson & Winter, 1982; Stene, 1940). Feldman and Rafaeli (2002, p. 311) define

organisational routines as "recurring patterns of behaviour of multiple organisational members involved in performing organisational tasks". Feldman and Pentland (2003) integrate four main elements into this approach: repetition, a recognisable pattern of action, multiple participants and interdependent actions. At this stage, it can be considered that seeing gestures as routines offers a strong conceptualisation for gestures within an organisational context. According to Feldman and Pentland (2003), organisational routines are generated by the interplay of two inseparable aspects: the ostensive and the performative.

### Ostensive

The ostensive aspect of a routine shapes our perception of what the routine is; it is an "abstract pattern that participants use to guide, account for and refer to specific performance of a routine" (Pentland & Feldman, 2005, p. 795). Although a gesture can be codified as a standard operating procedure, it can remain in a tacit form as well. Moreover, there are no requirements for this ostensive aspect to be unified or homogeneous among the organisation because it also exists through the subjective understanding of the multiple actors who are involved. Therefore, the ostensive script of any gesture can depend on the role or point of view of each practitioner, gaining an apparent organisational objectivity only in the alignment of their subjectivities. This approach echoes to Blau (1955, p. 23), according to which the rules behind bureaucratic procedures "must be abstract in order to guide the different courses of action necessary for the accomplishment of an objective in diverse situations". Thus, gestures do not have to be codified or explicitly expressed; their meaning and recognition is based on an abstract inter-subjective realisation that constitutes their ostensive aspect. However, because rules are resources for actions, they cannot fully determine the gesture in action (Giddens, 1984; Polanyi, 1958; Wittgenstein, 1958), and the patterns orient the body movements but are always insufficient to fully define how the gesture should be performed. Although oriented and sometimes codified, a gesture cannot be reduced to its script, and according to Feldman and Pentland (2003), the ostensive aspect of these organisational routines must be enriched by a performative aspect.

### Performative

Organisational routines are stable patterns, but they are also concretely performed. Performances are "the specific actions taken by specific people at specific times when they are engaged in an organisational routine" (Feldman and Pentland, 2003, p. 101). Building on the ostensive aspect of routines, actors find appropriate courses of action that are inherently contingent and locally relevant. Multiple variations, interpretations and adaptations are required, allowing for a specific gesture to be performed under continually renewed constraints. Actors must interpret their actions "in order to make sense of what they are doing and, though their choices of how to proceed appear automatic or mindless at times, there is always the possibility of resisting expectations and doing otherwise" (Feldman and Pentland, 2003, p. 102). Although the distance between the pattern and actual

gestures can be substantial, there is an interaction; there is a constant interplay between the ostensive and the performative aspects of gestures. Therefore, organisational gestures, similar to routines of body movements, always are, to some extent, improvisational (Feldman, 2000). A *bricolage* is constantly at stake behind the performances of every gesture, coping with the situation and using to best advantage the resources that are at hand (Levi-Strauss, 1962)

## Artefact

One of the strengths of the literature on routines is the inclusion of artefacts in the analysis, which are clearly differentiated from the ostensive aspect. Artefacts are the "physical manifestations of the organisational routine" (Pentland & Feldman, 2005, p. 797), which is often confused with the abstract pattern. Artefacts are deeply linked to routines as much as they are linked to gestures. As Leroi-Gourhan (1965) states: "the instrument only truly exists in the gesture that makes it technically efficient" (Leroi-Gourhan, 1965, p. 35). Artefacts integrate the ostensive aspect and constrain performances but they also truly come into existence through them. It is their continuous interaction, rather than their separate characteristics, that constitute routines and, thus, gestures.

## Gesture dimensions: technique, aesthetics and embodiment

This section shows how the conceptual framework based on organisational routines accounts for the three central dimensions of gestures: technique, aesthetics and embodiment.

### The technique of the ostensive

Practicing gestures in an organisation is often accompanied by a will to identify the best pattern of movements to replicate it. This activity will then constitute a reference, a strong recommendation for actors on how to conduct their actions. From this perspective, the pattern becomes a norm, consequently applying a logic of compliance in which any gap constitutes a fault. The pattern imposes an indisputable way to accomplish goals that has been primarily clarified and institutionalised at intra-, inter- or supra-organisational levels (i.e., the working habits of a team, organisational best practices or professional standards). Here, the acquisition of a gesture is achieved through repetitive and normative exercises, which is similar to the never-ending scales in the learning of musical instruments. A gesture is considered through replication and technical evaluation. In Greek, *tekhnè* corresponds to the prescribed efficient course of action that results from the know-how of craftsmen, as opposed to *praxis*, which is the actual action (Aristotle, 1990). In modern societies, technique tends to be based on a normative scientific rationale that is oriented towards an improvement in the production methods (Habermas, 1968). Therefore, in this dynamic, both the form and the result of organisational gestures must be achieved in compliance with the model. This approach does not imply perfect stability through space and time; as with DNA in biology, replications can generate mutations and variations. However, the ostensive

aspect encompasses an idea of stability that gives gestures their formal existence within organisations. It is from this similarity between recurring body movements that a gesture can emerge and be recognised. Therefore, similar to in other routines, there will always be, in any given gesture, an organisational process aimed at its formal definition and its technical efficiency.

### The aesthetic of performances

As organisational routines, gestures cannot be reduced to technical objects that are replicated through time; they are also performed. Thus, not in opposition but in complement, gestures are also concretely enacted. In this dynamic, the aim will not be limited to the achievement of a specific task or a specific goal; instead, the aim will involve an ability to cope with the constant flow of new constraints faced by the actors. Through their performances, actors explore this 'improvisational' aspect of gestures and appreciate the elegance of finding new ways to relevantly execute these body movements, almost without thinking. This arrangement echoes to the many studies that have been conducted on this aesthetic dimension of organisations (Dean and al., 1997; Gagliardi, 1992; Linstead and al., 2000; Strati, 1999; Thompson and al., 2001). Additionally, in a complex and uncertain environment, mastering a gesture calls for a sense of aesthetics in perceiving the specific situation that is faced, in feeling the multiple adaptations that are required, and in executing the appropriate gesture (Strati, 2003). There is an aesthetic knowledge of gestures that "comes from practitioners understanding the look, feel, smell, taste and sound of things in organisational life" (Ewenstein & Whyte, 2007, p. 692) and that encompasses language, dress code, manners, style and body shapes (Thompson and al., 2001). However, this aesthetic dimension does not exclude formal expertise; it enriches such expertise with spontaneous and seemingly unmediated judgements, recognitions and skills of the expert (Dreyfus & Dreyfus, 2005; Schön, 1983). This aspect will not be solely about technical efficiency any more but also about elegance, corporeality, senses, intuition and even sometime beauty. What is sought here is an intimate knowing of the pattern to be able to play with it, to know its features, its boundaries and blind alleys. In this process, the gesture is appropriated, and a sense of elegance is developed through which the actor will be recognised as a peer. Indeed, because it calls for an aesthetic sense, the performance of the gestures will not be clearly explicitly presented; it will remain in the tacit state of knowing (Strati, 2003) while also manifesting competency (Ewenstein & Whyte, 2007). Although gestures are always oriented towards something, they remain irreducible to the mere technique. Gestures also require an instant, corporeal understanding of the context that lies on the body and its senses, on the intuition and reflexes of actors. Although aesthetics is not directly efficient, it constitutes the other side of gestures that enables them to be executed in complex and uncertain contexts.

### Embodying artefacts

Moving constantly between technique and aesthetics, actors learn to master their gestures, both as abstract models and through actual performances. In doing so, they make the



gestures their own; they integrate them into their daily practices in a fundamentally embodied way (Bourdieu, 1977; Schatzki, 2001). Additionally, the artefacts that are used will come to be embodied as well during this process. Little by little, the distance between an actor and his/her tools is reduced, and from external instruments, they become a continuation of his/her body. Quietly, the scalpel of the surgeon is not considered in itself but becomes "an integral part of the body" (Strati, 2003, p. 67). Actors make artefacts of their own; they integrate them into their corporeality, which enables the achievement of a remarkable degree of precision (Leroi-Gourhan, 1965). It is only through this embodiment that practitioners can acquire the dexterity that is required in technical gestures. "When we learn to use [...] a tool [...], we interiorise these things and dwell in them. Such extensions of ourselves develop new faculties in us" (Polanyi, 1966, p. 148). However, artefacts are never random or neutral tools; instead, they have a history, a function and serve a purpose. As the physical manifestation of routines, they can be seen in organisations as an attempt by managers to shape actual work practices and to codify behaviours (Pentland & Feldman, 2005). Therefore, artefacts constitute a medium that links directly the power struggles of their definition and the actors' bodies. Nevertheless, as we have seen, artefacts and procedures will always both constrain and enable at the same time because actors must constantly adapt and enact necessary variations. Technique and aesthetics both provide multiple dynamics of artefact appropriations, not only as a habituation but also as an integration within the gesture and within the body of logic that is wider than the specific gestures and the tools used.

Considering gestures as routines of body movements allows building a conceptual framework that includes the main elements of the notion. However, because gestures are inherently performed by actors that have embodied them, an empirical study is, more than ever, crucial.

## Methodology

To understand and describe gestures, an intimate knowing of the field is essential. The subjectivity of actors must be captured in order for their movements to make sense, and their reflexivity on these movements is key. Therefore, the empirical study here will be based on three secondary sources that are fully immersed in car factories, to access an intimate understanding of the actors' views. The aim of this section is to confront the conceptual framework with actual descriptions of organisational gestures and see whether they can account for their dimensions. The first book, *Travaux (Men at Work)*, is Georges Navel's autobiography, the reflective narration of his life as a manual worker that Tedlock (2000) would label "biography" or "life history". The second book, *Les gens d'usine (Factory people)*, falls into the category of monographs in which "each chapter unfolds spatially and logically, treating a standard topic—environment, social relations, identity, or worldview — constructed by means of equivalent episodes and data" (Tedlock, 2000, p. 459); however, Hatzfeld's account is also very analytic and could be considered to be close to historiography. Finally, Robert Linhart's *L'établi (The workbench)* provides a narrative that unfolds between a life history (the author did work in the

production lines that he describes) and a memoir (some specific moments are widely developed, i.e., training, solidarity, strikes, rationalisation), which is the exact definition of narrative ethnography (Tedlock, 2000, p. 460). The main information about these sources is presented in Table 1.

As mentioned in the introduction, the choice of a highly automated industry is not random. To additionally explore the aesthetic dimension of gestures without over-emphasis, it was important to study a field in which aesthetics would not be obviously present, for example, design, architecture or the creative industries.

First, these three books have been carefully read to know the general frame of their authors' lives and points of view regarding their activity. This previous step allowed for an understanding of how the authors considered their work, the place that the work held in their life and, consequently, their relationships with their gestures. Then, a first coding was applied, isolating paragraphs in which gestures and body movements were addressed, which was usually close to the authors' choices regarding language and vocabulary. The objective was to analyse these texts for recurring topics and to thematically code them. Then, a cross-coding was applied, after having found similarities between them. This process was strongly influenced by Gioia's methodology (Gioia, Corley, & Hamilton, 2012). Based on the idea of 1st- and 2nd-order labelling (Van Maanen, 1979), this methodology gathers informant-centric terms and codes (1st order) before identifying more distanced and abstract themes, with dimensions or concepts that are more researcher-centric (2nd order). During the process of cross-coding, some themes emerged that were not tackled in the theoretical section (i.e., some dimensions of learning, the topic of control). Instead of re-writing this earlier section, these topics are mentioned at the current stage, and they will be addressed further in the findings and discussion sections.

During these (multiple) readings, an emergent coding system was developed, integrating new labels every time that an idea appeared to be fairly distant from the existing ones. Then, the common topics or patterns were identified by cycling through the three books, to identify and build topical bridges. Through this process, ten common 2nd-order themes emerged, generally merging two or three recurring notions. Then, these themes were aggregated into four overarching dimensions, which were based on conceptual proximity. The modes of representation used later are directly inspired by Clark, Gioia, Ketchen and Thomas (2010). Table 2 represents the data structure, and the three following tables summarise the extracts of supporting data for each 2nd-order theme.

## Findings

The emergence of several recurring themes in these three books has been aggregated in ten 2nd-order themes and in four overarching dimensions. The first dimension offers a renewed perspective of the classical notions that are provided by the conceptual corpus, but with an extreme emphasis on their corporeality. The second dimension is built around the multiple ways through which gestures are learned, appropriated and transmitted. At the same time, the tension between organisational control and workers' gestures has

**Table 1** Sources for the field study.

Title	Travaux (men at work) 1979 247 pages	L'établi (the workbench) 1981 187 pages	Les gens d'usine (factory people) 2002 598 pages
Author	Georges Navel	Robert Linhart	Nicolas Hatzfeld
Point of view and company	Manual worker in several car factories	Sociologist and militant worker at Citroën	Historian and worker in a Peugeot factory
Genre	Biography	Narrative ethnography	Monograph
Summary	The author was a manual worker all of his life, going from factories to construction sites for almost 60 years. He gives a detailed description of what he accomplished during his 'career' but also how he felt, what he thought, how he has learned and how he has taught. His story is not only built on his memories but also on notes written in a notebook that he always carried with him, in his pouch.	After achieving his PhD at the Ecole Normale Supérieure, the author joined the communist party. He decided to enter the Établi movement, which was composed of intellectuals who were willing to abandon their privileged status to enter factories to work and to "fight from the inside". Although he describes the context from an activist's point of view, his ethnographic background remains ever-present in his descriptions.	Based on his experience, interviews of young and old workers and a multitude of official documents, the author analyses the methods of production, their organisation and management and their evolution in the automobile industry. He presents the workers' activities and experiences during several periods of time in the factory's life, from its creation in the 1940s to the 1990s.

**Table 2** Data structure.

1st-Order concepts	2nd-order themes	Overarching dimensions
Factory work is difficult; as a result, gestures must be efficient for workers to make it through the day	(a) Effort, efficiency and economy	Gestures' corporeality
Repetitive body movements, although efficient, are exhausting and often boring. Workers incorporate their task; their gestures and tools are slowly inscribed within their bodies	(b) Bodies, fatigue and boredom (c) Embodiment, artefacts and senses	
To achieve their tasks, even repetitive tasks, workers must be agile and cleverly adapt	(d) Appropriation, adaptation and agility	
Learning a gesture starts with observations but also requires concrete trial and error before the worker becomes a model	(e) Watching, doing and showing	Learning gestures
There is, within a gesture, an inner characteristic rhythm that workers share while working side by side	(f) Individual and collective rhythms	
In factories, learning is organised and formalised if not finely defined in training programmes	(g) Organised training	
Factories are 'scientifically organised'; they are structured to be efficient even though actual actions must be adjusted if not embezzled	(h) Rationalised prescriptions and actual performances	Controlling gestures
On a production line, areas are defined but also tactically exploited through time and space	(i) Spaces of production	
Workers are both conscious of the context in which they operate and intuitive in their actions but never blind or unintelligent	(j) Consciousness, intuition and intelligence	
Factory work, even though exhausting and repetitive, is seen as a challenge that, when achieved, gives a sense of pleasure and joy	(k) Pleasure and pride	Gestures' aesthetic
Factory gestures are rarely described only in technical terms; workers are presented as elegant in their efficiency, and apprentices are presented as clumsy	(l) Elegance and style	

**Table 3** Representative supporting data for each 2nd-order theme.

2nd-Order themes	Representative 1st-order data
a. Effort, efficiency and economy	<p>"We achieved great speed in our gestures (...) We were acting as in crazy movies where pictures followed one another at an extreme speed. We were saving time" (Navel, 1979, p. 101)</p> <p>"With habits, everything becomes possible; but habits take a long time to come (...) For apprentices, it is very hard. The effort at the beginning is difficult to get through (...) Strengths are vanishing long before the end of the day" (Navel, 1979, p. 148)</p> <p>"Their gestures are intelligent, well adjusted. Handling a pickaxe without any excess of effort, doing every day a task with regularity, requires skills" (Navel, 1979, p. 189)</p> <p>"The right gesture that (the trainer) teaches is inherently the one that allows to correctly achieve the task, sparing energy, limiting efforts and avoiding dangers" (Hartzfeld, 2002, p. 31)</p> <p>"A young worker, showing an excess of zeal would be described as such: 'he works well, but he still runs too much'" (Hartzfeld, 2002, p. 32).</p> <p>"Repetition, the source of gestures' efficiency, sometimes favourable to self affirmation and sometimes to economy of effort, can also be essential component of exertion, fatigue and pain" (Hartzfeld, 2002, p. 47)</p> <p>"He works like he talks: with precision and regularity. No superfluous gestures. No superfluous words" (Linhart, 1981, p. 19)</p>
b. Bodies, fatigue and boredom	<p>"Workers have to think with their bodies" (Navel, 1979, p. 10)</p> <p>"In every of their gestures because their tasks hadn't required any tension for a long time, was boredom. Accepted and digested boredom" (Navel, 1979, p. 72)</p> <p>"The whole body is focused during effort" (Navel, 1979, p. 146)</p> <p>"Exhaustion always comes at one point. You have to summon your strength, avoid being too present, too conscious of the exhaustion, achieve automatism (...) On construction sites, nothing is adapted for us. We are treated as cattle (and) the only way to go through is by castrating your own awareness, scalping your reason" (Navel, 1979, p. 147–149)</p> <p>"Fatigue is always there, but most jobs are neither stupid nor mind-numbing" (Navel, 1979, p. 220)</p> <p>"The proliferation of gestures that are directly productive calls more upon involved muscles and requires both mental and nervous focus" (Hartzfeld, 2002, p. 39)</p> <p>"The shapeless music of the line, the sliding of grey metallic carcass, the routine of gestures; I feel progressively wrapped, anesthetised. Time stops" (Linhart, 1981, p. 10)</p> <p>"(In the line) I see a battle between life and death. Death: line gears, cars unflinching sliding, identical gestures repetition, never-accomplished tasks" (Linhart, 1981, p. 14)</p> <p>"I do the math. 150 a day. 220 days a year. At this moment, end of july, he must be at the 33,000th. 33,000 this year he has done the same gestures" (Linhart, 1981, p. 160)</p>
c. Embodiment, artefacts and senses	<p>"When the piece of steel was heated 'cherry-red', he took it with the tongs (...) Then, he soaked it to a 'strow yellow' or 'pigeon-throat' colour depending on the usage he needed" (Navel, 1979, p. 53)</p> <p>"Outside, the factory was following me. It was inside me" (Navel, 1979, p. 101)</p> <p>"To shape metal, you have to become one with it, to unite, to be in a constant relationship with it" (Navel, 1979, p. 243)</p> <p>"Industry requires a lot. Eyes aren't made for controlling manual work at a hundredth of millimetre (...) In our tasks, tact played an important role (...) To obtain a perfect fitting, piston rod needed a well adjusted filing down. However, the nature of the task excluded the use of measuring instrument. The hand was groping for the right adjustment, without the eyes which would have needed the precision of a microscope to guide them" (Navel, 1979, p. 243)</p> <p>"This cobbled workbench, he threw it up, modified, transformed, completed himself. Now he is as one with it." (Linhart, 1981, p. 163)</p> <p>"Routines are pushed in your head and muscles until they become imperceptibly foreign to yourself—and then it takes a certain amount of time for you to get rid of these absurd habituations" (Linhart, 1981, p. 147)</p> <p>"(Toolboxes) are built on an intimate rationality, making them impossible to confuse or trade" (Hartzfeld, 2002, p. 39)</p> <p>"Although operations on a car are scrupulously defined, the toolbox remains the artefact that convey blurred areas in the codification of gestures (...) It eludes the prescription of formal methods and belong to the autonomous space of workers. In a way, it is the flexibility made into an object" (Hartzfeld, 2002, p. 39)</p>



**Table 4** Representative supporting data for each 2nd-order theme.

2nd-Order themes	Representative 1st-order data
d. Appropriation, adaptation & agility	<p>"The study of a specific station raises questions (on) the multiples forms of worker's virtuosity, and on the choices between different modes of reactions by workers facing the pressure of the line" (Hartzfeld, 2002, p. 29)</p> <p>"Holding your station consists in putting up to the linear movement of the production line with another movement, gestures responding to the task, the fluidity of gestures against the flow of the line" (Hartzfeld, 2002, p. 31)</p> <p>"It is the worker who, in his appropriation-learning, think and reconstruct the sequences that combine several logics" (Hartzfeld, 2002, p. 32)</p> <p>"I'm out of breath, I look at him working. His gestures look so natural! What do his hands have that mine are missing? Why do his arms and fingers know to work and not mine?" (Linhart, 1981, p. 23)</p> <p>"I know that the impression of ease is only apparent, that it takes time to control your hand to the millimetre, to tighten your muscles and nerves, to control precisely the pressure of your fingers" (Linhart, 1981, p. 160)</p> <p>"He has many tools at his disposal – sanding instruments, hammering, polishing, soldering iron, tin, welding torch, mixed in a familiar bric-à-brac where he finds without hesitation – and every alteration requires a specific operation, almost never identical to the previous one" (Linhart, 1981, p. 162)</p> <p>"I learned through craft techniques, almost without machines. In doing so, I've learned to file right" (Navel, 1979, p. 52)</p> <p>"We had to tighten the screw again, without effort, quickly, in order to carefully file, approaching the definite measure (...) Precise and flexible in every gesture, we were monitoring with tact (...) It was a well-cadenced work, in touch with our intelligence" (Navel, 1979, p. 245)</p> <p>"(Training starts with) demonstration, then trials of the 'trainee', and explanation of 'key points' or decisive elements of the operation" (Hartzfeld, 2002, p. 31)</p>
e. Watching, doing and showing	<p>"Learning gestures is fundamentally progressive: demonstration, (...) trials and confrontation with the stopwatch when the sequence of movements is understood (...) Since many operations can only be practised on the production line, it is on site that part of the training is done" (Hartzfeld, 2002, p. 92)</p> <p>"It takes time, lots of time, to make a lumberjack, a reaper, even a earthwork contractor. There is even a technique of peach picking" (Navel, 1979, p. 9)</p> <p>"When I had to, I tried the sledgehammer. But most of the time, I was observing the moves of the journeyman training me" (Navel, 1979, p. 52)</p> <p>"Without pride nor arrogance, everything he knew to do appeared to him as simple to teach. His main response was: 'I'll show you' (He) was different from us, his experience set him apart. It was like he had never learned (...) For Léorat, everything was simple and transmissible" (Navel, 1979, p. 234)</p> <p>"'Show him, Mouloud' (...) It doesn't look that hard, why doesn't he let me try? (...) 'For the moment you just watch, he says, (...) look how I do it, you'll try this afternoon (...) It's the tenth car I try without success (...) It looked obvious when Mouloud was doing it, with precise, coordinated, successive gestures (...) 'Listen, no need to panic like that. Stop for a while and look how I do it'" (Linhart, 1981, p. 20–22)</p>
f. Individual and collective rhythms	<p>"The tremendous tom-tom of machines speeded our gestures up, striving our will to be faster. Hearts were trying to match the speed of belts' cracks" (Navel, 1979, p. 101)</p> <p>"We all work on the same rhythm (...) If it ever weakened, some of us go (along the factory line) to stimulate those who dwindle (...) Avanti kids!" (Navel, 1979, p. 147)</p> <p>"The weak and the idiots are ruthlessly ruled out by the production rhythm" (Navel, 1979, p. 147)</p> <p>"From the repetition of the same effort a rhythm emerges, a cadence where the body finds its fullness (...) There is at least one hour during the day during which the body is happy" (Navel, 1979, p. 189)</p> <p>"I had imagined (the production line) evolving at a rapid rhythm—one of 'infernal pace' (...) The first impression is, on the contrary, of a slow but continuous motion of all the cars" (Linhart, 1981, p. 9)</p> <p>"(After a reorganisation of the production line, workers were) scattered, violently deprived of a working rhythm they had patiently built over the years" (Linhart, 1981, p. 131)</p> <p>"When learning on the production line, you start with one operation, then two, then three and so on until mastering the whole. Progress is finally made through rhythm" (Hartzfeld, 2002, p. 32)</p> <p>"Progress on the line is made on rhythm" (Hartzfeld, 2002, p. 92)</p>

imposed itself as one of the fundamental elements regarding the workers' point of view and, thus, constitutes the third section. The last dimension is about the performance of factory gestures and the ceaseless flow of reflexivity and the sense of elegance that it generates.

### **Gestures viewed from the field: the importance of corporeality**

When building a framework on such strong accounts of gestures, it is not surprising that their categories can be found in the empirical study. However, what is especially interesting here is that the actors' perspective enriches the trails that are set by the conceptual corpus by reversing the perspective. From the workers' point of view, separating gestures, bodies and minds makes no sense. Additionally, when performing these oriented body movements, they mainly describe their gestures through the prism of corporeality. The exhaustion of manual labour requires saving energy and limiting fatigue in its repetitive movements. Plus, the recurrence of their gestures reveals itself to be a potential source of boredom; however, considering the rationalising context of the factory, these observations are most likely due to the specificity of the field. Artefacts, from this perspective, are described as extensions of the body, merging with the identity of the worker as a professional and as an individual. Although exhausted, he/she is never unconscious, always calling on his/her senses up to achieve tasks that require tact and fineness (Table 3).

### **Effort, efficiency & economy (a)**

If gestures are generally oriented, this orientation tends to be more finely defined within an organisation, often quantitatively, and thought of in terms of the efficiency, especially in an automated factory. However, this idea of efficient movements does not apply only to the workers' time and productivity; it is also a matter of inner effort. Consequently, the gestures are efficient, not only in a managerial sense but also from a kinetic perspective, in the corporeal dimension. The economy of effort in a communal gesture will even become an indicator of experience, something that can only be acquired and mastered through time, slowly becoming both efficient and thrifty. The recurrence of gestures creates a habit that provides a relief. The stability of a gesture allows for a foundation that is inherent to it, and a tension will emerge from this basis on the matter of production rationalisation (see theme h). Indeed, because a gesture encompasses a type of energy saving, it can be seen as a hidden rest, a slacking; hence, there is the game of hide-and-seek that is described in factories because organisational rationalisation appears to often intensify efforts by condensing gestures.

### **Bodies, fatigue & boredom (b)**

Gestures on a production line, although kinetically efficient, remain tiring, if not exhausting; the body is repeatedly moving to execute identical tasks. Corporeality imposes itself through a constant reference to fatigue and rest from

the workers' accounts. Working is tiring, especially in industrial contexts where production is 'scientifically organised'. Moreover, in these specific contexts of high rationalisation, the topic of boredom systematically emerges and appears inherent to gestures as repetitive movements, as routines that are repeated over, and over, and over. However, although repetitive, they rarely become completely unconscious; they always are described, at the very least, as pre-conscious and never un-thought of (see theme j). Thus, never separating body and mind is not only a conceptual imperative; it is also constantly observed on the field, as a way for workers to avoid boredom, providing as sense of their task, of their own experience, and of their identity.

### **Embodiment, artefacts & senses (c)**

Little by little, workers embody their tasks, their gestures and their tools. Being car body workers becomes more than a job; it defines their identity. Yet, their gestures, through appropriation, allow for a sense of individuality because these gestures are theirs, and because they make them their own. Every worker develops a personal style, his/her own *touch*, in the interpretation of the collective pattern of the gesture (see theme l). This process is especially present with professional instruments and tools. On the field, although fundamentally shared, collective and apparently standardised, artefacts are appropriated by actors, embodied within their own personal gestures. In doing so, factory workers merge not only with their instruments but also with the task itself that encompasses these artefacts. This appropriation of both gestures and artefacts allows for workers to develop a sense of individuality within the fairly standardised context of organisations and, thus, to build margins of autonomy. Moreover, through these embodiments, they develop an ability and a precision in their gestures beyond the usual technical skills, which involves sensitivity, intuition and corporeal reflexes (see theme j). The high degree of precision of professional gestures is rooted in a sense of the task, such as tact or touch, which can be understood only through the process of embodiment; this aspect is not reducible to a mere cognitive acquisition. The spirit of the task is found in the hands, eyes and legs of workers, and not only in their heads.

### **Learning gestures: watching, showing and playing in rhythm**

Learning a task on a production line can be understood as the acquisition of an ensemble of specific technical gestures, which requires precision and adaptability. As Hartzfeld states: "the work station is an aggregate of gestures" (Hartzfeld, 2002, p. 29). However, to acquire a gesture, factory workers cannot only learn an abstract pattern; part of the training must be actually performed on the production lines. The interactions between ostensive and performative dimensions of organisational routines clearly appear here. Moreover, artefacts and their embodiments impose themselves on a central topic. On site, workers not only get used to a sequence of body movements but also integrate the spirit of the gesture, its rhythm and a sense of the collective (Table 4).

## Appropriation, adaptation & agility (d)

One striking element in the three books is that tasks are rarely described as strictly repetitive. Workers' gestures are never exactly twice the same, and two workers do not perform their gestures precisely the same way. In the learning process, there is an appropriation of gestures: their pattern, the movements, the tools. The worker is not enacting rigidly the same procedures; instructions must be adjusted to work on site. Moreover, from one task to another and from one car to another, the gesture must be slightly modified to be relevant. Consequently, gestures are never described as rigid. Regarding the learning process, workers especially emphasise the emerging ability that they develop through time. Little by little, they become agile, more and more able to face the ever-changing required adjustments to their tasks.

## Watching, doing & showing (e)

Workers must practise a pattern before performing it; to understand this pattern, they start by watching others. In these 'scientifically organised' contexts, the pattern of the gesture is often explicitly defined and formally taught in training programmes (see theme g). In these programmes, an apprentice starts by watching a model, attempting to capture the regularities and subtleties of the master's gestures. Then, the need to apply this abstract knowledge in a concrete context imposes itself quickly. Indeed, for industrial workers, acquiring a gesture is not only about the reproduction of a pattern; it is also about embodying its logic and incarnating its spirit (see themes c and d). All along this learning process, the apprentice slowly becomes a model; needing less and less to watch, he/she shows and explains more and more. On the production line, the authors describe a constant interplay of watching and showing, learning and teaching, through multiple performances, in and out of the production sites and always in a collective context.

## Individual and collective rhythms (f)

Once the gesture has been appropriated, apprentices become practitioners, able to adapt their bodily movements and achieve a task in several contexts. They develop their own style, their personal signature when performing the pattern (see theme l) within a collective motion. In this way, the workers understand that the gesture itself carries a cadence, a rhythm of its own. Additionally, because these gestures are embedded in factories in which gestures tend to be particularly shared (if not standardised), these cadences are never only personal; they are collective. Hence, collective rhythms become an important element of production workers' lives, a marker of their shared tasks and objectives. Because gestures produce rhythms, rhythms recursively pace gestures. These shared cadences often appear to also be a tag for one's ability to correctly perform a task, to work with others. By the end, the rhythm is far from being only a characteristic; it is constitutive of the gestures and defines them. Because cadences are often defined (if not imposed) by supervising actors, the dynamics of control appears to be very important in the performance of the gestures.

## Controlling gestures: a central tension

One of the main findings of this empirical study is the fact that, in an organisational, collective context, the generative process between ostensive and performative aspects becomes a source of tension. When talking about scripts of actions, patterns, margin of error and degrees of freedom, factory workers formulate a problematic gap between prescribed actions and actual realisations. Within factories, performing gestures becomes a matter of organisational control from teachings in training programmes to prescriptions and definitions on the lines and their impact on the space of the production line (Table 5)

## Organised trainings (g)

The first step towards coordinating gestures in factories appears to be the formal definition of a pattern and its transmission in training programmes. Factories do not necessarily seek strict compliance or implement strong surveillance; however, the mere will to organise training is already a form of control. When workers learn gestures in programmes outside of the production lines, they are completely conscious of this will, but they also see it as a necessary step in the learning process. Factory workers are not craftsmen; they are aware that production is standardised and monitored. Nevertheless, they also claim the need for a margin of freedom between what is learned in training and what is executed on the lines. Therefore, a gap emerges that is often described as a source of power plays and conflicts. Prescriptions in training, when over-emphasised, can result in a feeling of oppression by workers. However, even if this gap always remains, it is not systematically a source of conflict.

## Rationalised prescriptions & actual performances (h)

The birth of factories is concomitant with having a project that involves scientific organisation. Therefore, finding a process of rationalisation throughout the three books was not surprising. Gestures in factories are not random, but they are rarely defined by workers, either; gestures are usually prescribed by managers and engineers before being organisationally taught (see theme g). Consequently, their definitions come with an imperative of compliance. Yet, as we have observed, workers cannot simply comply; they must adapt, to cleverly adjust their movements to the moving production lines (see theme d). This inherent gap between prescribed gestures and actual performances appears to be a source of multiple controlling dynamics. If the matter of organisational control often remains central, it is not necessarily problematic; factory workers are not systematically opposed to any form of supervision. In fact, prescriptions are often considered to be useful indications. Indeed, even if workers wanted to strictly comply with prescriptions, they know that they would not be able to, and the managers often appear to also know that. Managing this tension between rationalised prescriptions and actual realisations is a matter of organisational control that is described as an inherent element of both organisations (as systems of coordination) and gestures (as collective, on-going performances).

**Table 5** Representative supporting data for each 2nd-order theme.

2nd-Order themes	Representative 1st-order data
g. Organised trainings	<p>"Every task (in the factory) was timed (...) By observing, watch in hand, the timer seemed to loyally count the time required to produce a piece (...) If the worker's gestures were to appear clumsy, too slow, the demonstrator showed how to correctly perform the task" (Navel, 1979, p. 64)</p> <p>"Learning starts in training (...) where the sequence of movements is explained. The trainer times and the operation is repeated until the duration is reduced to a satisfactory level (...) Then, since many operations can only be practised on the production line, it is finally there that part of the training is done, supervised by the worker in charge of the specific position. By his sharpness and his confidence, he is the master of his territory" (Hartzfeld, 2002, p. 31)</p> <p>"Training schools (guard) the gesture's norm (and their development) shows a will of standardisation, of control on the practices of gestures" (Hartzfeld, 2002, p. 91–92)</p> <p>"Learning a gesture makes space for a certain autonomy in the practice, for the split in two between gestures 'for the instructor' and gestures for actual production" (Hartzfeld, 2002, p. 92)</p>
h. Rationalised prescriptions and actual performances	<p>"Rationalisation as they say. They time (...) They record, they decompose us and reconstitute us to the 10th of second, and, one day, they change our objectives by surprise" (Linhart, 1981, p. 165)</p> <p>"The scientific management wanders. It doesn't really have a name, this scientific management. In principle, it is called 'office of methods and times' (...) Well, I was given a new welding torch, with a spring that puts its automatically back to its place. (Don't worry my good man, they measured this spring upstairs: minus 5 s, the time you used to take to put it back in place. They expect your time to be reduced or to give you something more to do. In any case, they won't be lost these 5 s!)" (Linhart, 1981, p. 169)</p> <p>"With 4, 5, 6 normalised workbenches, (workers) would have the exact same gestures that could be accounted for, classified, normalised, divided up by a controller! No more improvisation, something precise to the second!" (Linhart, 1981, p. 170)</p> <p>"Taylor's system, inhuman and absurd, if applied in sport, would ask for any beginner in jumping, swimming, throwing, to be able to compete with champions' performances" (Navel, 1979, p. 65)</p> <p>"The technical definition of the task to be performed consists in a muddled list of operations (showing) no internal consistency" (Hartzfeld, 2002, p. 32)</p> <p>"A conflict between realised and prescribed works exists since the entrance of organisers inside factories (...) Fighting against lazing, they try to get control over workers' tasks in order to make them as efficient as possible (...) There always is a combination between formal rules of the management and informal rules of workers (...) The 'script' is something that has to be interpreted" (Hartzfeld, 2002, p. 35)</p> <p>"Although elementary gestures were written down (...) an ambiguity remained on the definition (...) The gesture was orally and summarily presented - 'simply begin screwing' - (but) even if the appropriation of this gesture by workers wasn't very different, it was inscribed in an ever-present system of control" (Hartzfeld, 2002, p. 37)</p> <p>"On their side, workers, maybe because of their long experience, almost never practised 'within the method' and its technical logic (...) They perform on site (taking) a significant distance regarding formal definitions of tasks" (Hartzfeld, 2002, p. 38)</p> <p>"(Training programmes) are about the preservation of a theoretical norm, as a direct reference, not as the multiple interpretations of successive workers: over the transmissions of abilities and know-hows (...) Specialised workers develop an increasing exclusive practical skill, that escapes more and more from the control of technicians" (Hartzfeld, 2002, p. 92)</p> <p>"Instead of ratifying a gain in productivity, the worker would hide it, in order to gain some rest" (Hartzfeld, 2002, p. 93)</p> <p>"Rationalizing operations on the production line is supposed not to intensify work since they should remove the gesture along with the time allocated" (Hartzfeld, 2002, p. 100)</p>
i. Spaces of production	<p>"Mastering a station and its tasks is first translated by the definition of an area of mobility, by a reduction of the accessible space. Consequently, breaks and gaps in the production are necessary to allow for loosening of limits and for a stretch of one's space of mobility" (Hartzfeld, 2002, p. 31)</p> <p>"(On the line) the tenured worker of a station is the master of his territory, and the trainer doesn't take the risk of competing" (Hartzfeld, 2002, p. 31)</p> <p>"Everyone has, for the gestures he is conducting, a well-defined, yet invisible, area" (Linhart, 1981, p. 11)</p> <p>"Sometimes, if he had worked fast enough, he would have a few seconds to rest before a new car arrived; he would either use it have a break, or, on the contrary, intensify his pace to 'go up the line' in order to gather more head start; that is to say working upstream of his normal space, in the area of the worker on the previous station" (Linhart, 1981, p. 12)</p>



## Spaces of production (i)

A striking recurring topic is the complex set of tactics regarding organisational spaces. Although workers usually operate alone on their segment of the production line, there remains a continuum of consecutive, and thus interdependent, tasks. Each station on the line has a functional and spatial definition that allows the line to remain organised at a wider level. However, this definition, like every other definition in factories, must be loosened, appropriated and adapted. From time to time, workers will save time or be late, and these patterns will affect their position on the line and the others' positions. Therefore, many dynamics emerge regarding the areas of production; workers never operate linearly. Gestures inherently occur in time and space, and because they are both strategic in their adaptations and collective in their performances, the spaces of the production activities within factories will be explored and exploited through many local tactics.

## Performing gestures: reflexivity, pleasure and elegance

Many sections of the three books emphasise the importance of intuition, corporeal senses and elegance in the performances of gestures. The term 'aesthetic' is even used several times. However, the most often-recurring topic during actual performances remains reflexivity. Although gestures do not require a permanent awareness, factory workers are thinking about what they are doing; they must think in this way. Moreover, attention to gestures keeps them from boredom and provides a sense of pride. Mastering a task requires both experience and reflexivity, which often results in an elegant and efficient gesture (Table 6)

## Consciousness, intuition & intelligence (j)

Gestures are inherently recurrent, and they follow a collective rhythm. However, they are rarely described as purely automatic or deprived of attention. A mechanistic approach is often pictured as disastrous for workers; the workers must adapt at every moment, but they also must reflect on their actions to finally master their practice. Additionally, to avoid boredom and exhaustion (see theme b), factory workers must be aware and be self-conscious of their movements and their function within the production line. Performing gestures with relevance requires a sense of the task that goes beyond reflexes; reflection and intuition are also present. Not only are these aspects present, but being conscious of the required intelligence of their gestures and seeing the relevance of their reflexes and intuitions allows workers to give their tasks meaning and to maintain a sense of humanity. In the end, working on a production line is often presented through its intuitive and reflexive aspects.

## Pleasure and pride (k)

From the self-awareness of the workers' intuition and intelligence emerges a sense of pride and pleasure while performing the gestures. The orientation embedded within these

gestures appears to be a challenge for the workers, providing something to face and to play with. The resulting sense of achievement gives them a pride that they often do not find elsewhere within factories. Regardless of the task, a sense of accomplishment and satisfaction is often described and, although the task is tiring if not exhausting, fatigue can go with pride. A job well done is very important to have accomplished, even when it is achieved on repetitive, standardised production lines. Moreover, the acquisition and mastery of a gesture appears to provide them with a set of internal appreciation criteria. Only other factory workers who perform the same gesture or similar gestures can recognise and truly appreciate the relevance of a specific way of performing it; this sense of community is greatly appreciated.

## Elegance and style (l)

Workers find, within their collective group, a sense of beauty in their gestures. Their dexterity is always appreciated through some type of efficiency but also through beauty, in the elegance of their gestures; tact and finesse are never far away. Workers' agility and pride lie in the sense of ease that they feel and see in others and in themselves. Interestingly, even in the automated field of factories, workers appear to develop personal modes of performance in accordance with their station, with their tools and with their tasks. These modes are rarely described as identical; each worker appears to have his/her own style, which is similar yet different from the others' styles. There is a personal signature within the movements of each worker's gestures. All five senses are implied in the know-how that produces efficient gestures; intuition is required, and the rhythm must be understood as well as felt (see themes c, f and i). Moreover, the extreme sensibility that can be required by some tasks excludes a purely technical appreciation of the gestures. The workers' mastery not only is presented in terms of the productivity but is also sensorially described through pace, ease and elegance.

Although echoing the conceptual corpus on the constitutive notions of gestures, the findings of this empirical study shed a renewing light on them. Organisational control emerges through the tension between prescribed and realised actions as well as during training in and around the production lines. Moreover, the corporeal dimension imposes itself through fatigue, exhaustion, sense, bodies, elegance, pleasure, incorporation and rhythms. Finally, the lexical field of aesthetics appears to be constantly used by the workers themselves. "The only reference at this point is the master piece [...] By the end, it is about sensation, even further, an aesthetic of gestures" (Hartzfeld, 2002, p. 46).

## Discussion and conclusions

Defining gestures as recognisable patterns of recurring oriented body movements has allowed us to delineate the notion of gestures while including insights from the main theorists. Then, building the concept of gestures within the framework of organisational routines has enabled a clarification of its main features: technique, aesthetics and embodiment. The on-going interplays between these technical and aesthetic aspects of bodily movements generate the



**Table 6** Representative supporting data for each 2nd-order theme.

2nd-Order themes	Representative 1st-order data
j. Consciousness, intuition and intelligence	<p>“Not rushing in order to gain time’. In that domain, every gain is the result of a self-awareness, an attention to objects and materials, to the activity’s spatial structure, to the others” (Hartzfeld, 2002, p. 36)</p> <p>“Apparently mundane gestures can necessitate true intelligence. (Required abilities) are more about the boxer’s science and the artist’s intuition” (Navel, 1979, p. 9)</p> <p>“I admired those in my team, their sleight in constructing trenches (...) I noticed in many of their gestures a thoughtful know-how” (Navel, 1979, p. 184)</p> <p>“The happiest movements are those guided by the mind, when attention is there. The most tiring is when you’re absent, without interest for what you do. Work can be a game, a combination of difficulties to be solved by gestures” (Navel, 1979, p. 213)</p> <p>“I tried to give to my hands as much dexterity as possible, never doing a gestures in which focus was absent (...) discovering the role of tact and sight (...) The intelligence of human hand can shorten any day of labour” (Navel, 1979, p. 220)</p> <p>“Workers’ intelligence (lies) in every movements (...) without it, everything would be tedious” (Navel, 1979, p. 229)</p>
k. Pleasure and pride	<p>“Every improvements, every conquest in the gesture becomes a source of intimate satisfaction (and) an affirmation of one’s skills” (Hartzfeld, 2002, p. 46)</p> <p>“The pleasure of this manual mastering is acquired through a long process (...) Craft skills confer to a man some kind of nobleness” (Navel, 1979, p. 9)</p> <p>“I was handling pliers, manipulating rolls, going from one to the other, but always aware of my movements. I found in this life of consciousness a pleasure always absent from mechanical work. There was a world where I was neither Paul, not Pierre, but only a man with abilities for a task, where I found more pleasure than in sports or games” (Navel, 1979, p. 214)</p> <p>“To be fast enough, we were competing against time, like runners who want to beat the record by a few seconds (...) It was required to be fast, it was also a game” (Navel, 1979, p. 245)</p>
l. Elegance and style	<p>“(While working) there is silence and, for some of them, the harsh beauty of their gestures talking for them” (Navel, 1979, p. 189).</p> <p>“With lavender, workers are paid by weight. It is a good reason to get agile at this manual game, to lightly handle the sickle and to pick handful of cut spike. (Then) you acquire a recognisable style (...) With every gestures we face some kind of test that our awareness tries to correct, to make them more perfect, more flexible, more efficient” (Navel, 1979, p. 229)</p> <p>“The three Yugoslavs are able to work together on only two stations instead of three. However, just by looking at them you realise that no one else could sustain that rhythm in that space. It’s like looking at magicians” (Linhart, 1981, p. 34)</p> <p>“I will never know exactly why, but Georges is someone of importance for the other workers. He shows it discreetly (...) He moves along the production lines as in a living room (...) His elegance is like a defiance towards the Citroën machine” (Linhart, 1981, p. 36)</p> <p>“Each time, he takes a defective car door, looks at it, skims his finger on its irregularities (he examines it, as focused as a surgeon), puts it down, takes a decision, selects the tools he will need and start working (...) A craftsman, almost an artist” (Linhart, 1981, p. 162)</p> <p>“Most of the worker’s gestures are applied through a logic that is partly strictly personal (...) conferring a characteristic style” (Hartzfeld, 2002, p. 36)</p> <p>“This personal contribution by workers is known and acknowledged by engineers, one of them talks about efficient and gracious gestures that convey a double logic of maximum efficiency: optimum performance and lowest effort wasted” (Hartzfeld, 2002, p. 36)</p> <p>“(Workers’ self affirmation) is about sensation, about one’s gestures’ aesthetic” (Hartzfeld, 2002, p. 46)</p> <p>“At this stage, two logics of improvement are possible, aesthetic and competition” (Hartzfeld, 2002, p. 46)</p>

gestures' multiple dynamics. Moreover, this conceptualisation allows for the inclusion of embodied artefacts as an inherent part of gestures, as merging extensions of the actors' moving bodies; this aspect was an important point regarding the many developments on the uses of tools made by scholars who study gestures (Bernstein, 1926; Leroi-Gourhan, 1965). To observe these features, the study of workers' gestures in car factories led to an enriched view-point through four main findings.

First, from the workers' perspectives, our conceptual dimensions appeared as always orbiting the body. Every element of these routines is understood from a corporeal point of view: relieving the body, lightening the effort, limiting boredom and allowing rest. Even in the context of an industrial factory, aesthetic and embodiment remain recurring topics; hence, they constitute inherent dimensions of every routine, which are already known to be technically efficient. This scenario echoes with many organisational studies that have included bodies and corporeality in their analysis (Casey, 2000; Dale, 2001; Hassard, Holliday and Wilmott, 2000; Shilling, 1993). Indeed, organisation scholars are now starting to fully recognise how much the body matters in their studies, overcoming its "absent presence" in the social sciences (Schilling, 2003, p. 17). Evoking Bourdieu (1977), Gherardi (2000) emphasises the importance of the *sens pratique* and the *habitus*, and their multiple inscriptions within the practitioners' flesh. The present study, by focusing on gestures, shows how becoming a practitioner is not only about learning expert knowledge; it is also a sensorial, corporeal, aesthetic experience (Bazin & Aubert-Tarby, 2013). The gesture perspective participates in the aim of going beyond the Cartesian dualism between body and mind (Dale, 2001), which often lies behind many routine analyses. In this way, the present article actively contributes to studies on aesthetics, knowing and learning in organisations (Gherardi, 2001; Hindmarch & Pilnick, 2007; Nicolini, 2010; Nicolini, Gherardi and Yanow, 2003). When bodies are moving, as they are in gestures, there is always a sensorial tacit knowing that cannot be rendered explicit (Strati, 2003) and calls for an aesthetic knowledge (Ewenstein & Whyte, 2007). A 'gesture perspective' emphasises aspects that tend to escape from the realm of the 'scientific organisation' and challenges classical, cognitive and rationalist descriptions of organisational routines by putting senses, reflexes and emotions as starting points of the analysis. This perspective shifts the attention and includes routines in organisations that are seen as "embodied life-worlds", which are populated with bodies, intuitions and aesthetics (Küpers, 2005). The gesture perspective leads us to focus on embodiment dynamics that participate in renewed approaches of organisation studies in general and of routines specifically: organisational culture as inscribed in our bodily movements beyond, or below, linguistic and discursive aspects (Hayles, 1999; Küpers, 2002) artefacts as embodied extensions of actors' bodies, which would be inscribed in their flesh (Strati, 2005) or gestures as non-verbal, yet extremely structured and meaningful, mediums of communication (Kendon, 2004).

Second, learning gestures appeared to be both individual and collective processes of watching, doing and showing. A gesture is acquired through the processes of imitation and appropriation, in which workers also maintain their own individuality and their own style. This arrangement has led

to a third finding, which continues to be under-emphasised in the conceptual framework: an inherent tension that emanates from the organisational control dynamics between the prescribed and realised work. Nevertheless, workers' reflexivity appeared to always enrich performances beyond the reductive prescriptive approach that is set by the controllers, trainers and production organisers. Studying how, within gestures, bodies evolve between resistance and compliance, and attempting to address prescriptions that cannot be strictly applied, are elements that are explored by this paper that could be later developed into further research, especially in industrial contexts in which conflicts are triggered. Indeed, "the majority of the discipline has been less interested in the bodies and desires that organisations fail to fully organise" (Thanem, 2004, p. 203). A 'gesture perspective' could offer an interesting focus of analysis for these controlling dynamics, especially when focusing on organisational tools. For example, the alternation of framing, overflowing and reframing offered by D'Adderio (2008) could allow understanding the dynamics of appropriation, embezzlement, compliance, surveillance and monitoring processes.

Corporeality imposed itself as a central dimension in the empirical study, and embodiment dynamics in organisational routines appeared to render the frontier between artefacts, gestures and bodies more than hazy. Although artefacts are often conceptually separated from ostensive and performative dimensions of routines, Pentland and Feldman (2008) recognise that boundaries between these three elements are always porous. Therefore, one of the contributions of this article clearly lies in showing this porosity and the merger between practitioners and their tools during the organisational routines that are gestures. This approach participates in the call for further and closer analysis of artefactual dynamics in routines (D'Adderio, 2010; Rafaeli and Vilnai-Yavetz, 2004). Using artefacts inherently leads to embodiment (Yakhlef, 2010) and to an aesthetic experience (Vilnai-Yavetz & Rafaeli, 2006). As Merleau-Ponty (1968, p. 123) states: "there is overlapping or encroachment, so that the things pass into us, as well as we into the things". By shifting the attention to the bodies, a 'gesture perspective' such as ours strongly emphasises the importance of the senses and knowledge in organisational routines. Inspired by Feldman and Pentland (2005), Fig. 1 represents the conceptual framework that is enriched by the dynamics that appears in the field:

The final finding of this paper is that workers appear to develop, within their repetitive gestures along the factory lines of production, a sense of elegance. They share an aesthetic perspective of their gestures, from acquisition to performance and transmission. This arrangement echoes with the conceptual framework; however, again, there is a

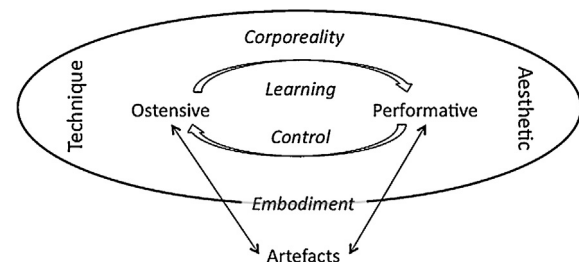


Figure 1 Understanding organisational gestures: techniques, aesthetics and embodiment.

strong emphasis on corporeality and, most interestingly, on the collective aspect of this intuitive and sensorial dimension in workers' communities. Most of the time with experienced actors, the technique is perfectly mastered; however, throughout the three books, elegance also appears as a recurring and important element regarding workers' gestures in factories. Through experience, some workers develop such an accurate gesture that their elegance not only is visible to their peers but is also blindingly obvious to anyone, in total opposition with the ungraceful mechanical rigidity of the apprentice (Galard, 1986). At one point, the mastering merges the technique and aesthetics aspects of gestures and embodies artefacts so deep in the practitioner's flesh that they become body parts. Occasionally, the aesthetics of the gesture becomes so pregnant that the task disappears: the gesture is beautiful in itself (David, 1996). Obviously, an achievement, an orientation, still lies in the background; however, on these occasions, elegance imposes itself to the observer through an immediate radiance, an impression of ease and spontaneity. Such beauty cannot be achieved without technical mastery, and the more the observer shares this mastery, the more s/he will be able to appreciate it. Building on the many considerations made by mathematicians about elegant demonstrations or equations and inspired by the accounts of workers studied earlier, three characteristics for elegant gestures can be proposed. First, the elegant gesture is practical; it achieves its original, technical aim and remains efficient in ever-changing contexts. Second, it appears simple, even though it is not; elegant gestures are fascinating because the practitioner makes it appear easy to do and effortless despite the many difficulties with the adaptations. Third, an elegant gesture is original; it carries a signature, the style of his/her practitioner is rendered visible. This elegance of gestures within organisational contexts is extremely rich in terms of communication, efficiency or learning and would constitute another very interesting development for further research. Indeed, technical gestures cannot be fully understood without accounting for the elegance that practitioners develop and appreciate both individually and collectively.

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