To start practice theorizing anew: The contribution of the concepts of agencement and formativeness

Article *in* Organization · September 2016

DOI: 10.1177/1350508415605174

1 author:

Silvia Gherardi
Università degli Studi di Trento
161 PUBLICATIONS **6,588** CITATIONS

SEE PROFILE

Article

Organization
1–19

DOI: 10.1177/1350508415605174
org.sagepub.com

To start practice theorizing anew: The contribution of the concepts of *agencement* and formativeness

Silvia Gherardi
University of Trento, Italy

Abstract
The journal *Organization* was a precursor of the turn to practice with its 2000 Special Issue, and the burgeoning number of special issues between 2000 and 2011 testifies to the vitality of a field under construction. Nowadays, the consolidation of the field makes it possible to start to understand and spell out differences and, in so doing, to promote lines of practice theorizing with a greater internal consistency. This article contributes to the articulation of differences among various practice theories and within a practice-based theorizing inspired by the sociology of translation. It proposes two concepts—agencement and formativeness—that address two 'blind spots' in the conversation on the turn to practice. The first blind spot concerns how we can talk of practices as having agency and the second concerns how we can articulate knowing in practice as a 'doing while inventing the way of doing', that is, the creative entanglement of knowing and doing. I shall address these two 'blind spots' by saying that one difficulty in addressing them is created by language. Hence, if we want to turn to practice anew, we need to invent/discover/reconfigure a new vocabulary with which to shape new concepts or to circulate existing ones better.

Keywords
Agencement, formativeness, post-epistemologies, practice-based studies, sociology of translation

Introduction

It is almost 20 years since organization studies rediscovered practice theories; nevertheless, a practice theory of organizing has not yet been fully articulated. The journal *Organization* was a precursor of the turn to practice when it published, in 2000, a Special Issue on 'Practice-Based Theorizing on Learning and Knowing in Organizations', in which several practice theories engaged in a conversation on their similarities in constructing theory based on the concept of practice,

Corresponding author:
Silvia Gherardi, Department of Sociology and Social Research, University of Trento, Via Verdi 26, 38122 Trento, Italy.
Email: silvia.gherardi@unitn.it

notwithstanding their different vocabularies and epistemologies. At that time, the catchphrase 'practice turn' (Schatzki et al., 2001) had not yet spread in social sciences. Hence, the need to strictly define what should be conceived as 'practice theorizing' or 'practice-based approach' or 'turn to practice' was not perceived, and the pleasure of looking for common grounds on which to rediscover the concept of practice was greater than the concern to establish differences and construct boundaries. At that time, a community was also forming around two standing groups on practice at the European Group for Organizational Studies, and one of them has recently constituted a group within the Academy of Management.

Thereafter, the burgeoning number of special issues between 2000 and 2011 testifies to the vitality of a field under construction.[1] At the beginning of this 're-turn to practice' (Miettinen et al., 2009), the 'bandwagon' effect (Corradi et al., 2010) was strategically important because, in stressing similarities, the number of researchers activated grew and gave momentum to the field. Nevertheless, as the field continues to grow, this profusion of practice-based concepts, vocabularies, units of analysis, methodologies and differences in world view may endanger further research and risk becoming a weakness.

This article is not a plea for a unified practice theory nor does it equate the fragmentation of the field, rooted in several disciplinary backgrounds, ontologies and epistemologies, with confusion. On the contrary, the consolidation of the field makes it possible to start to understand and spell out differences and, in so doing, to promote lines of practice theorizing with a greater internal consistency. The task of articulating respectful differences (i.e. differences that help the continuation of a conversation) is not easy, given the growth of practice-based studies and the appearance of internal competition, but the effort is worthwhile.

Thus, the purpose of this article is to contribute to the articulation of differences among various practice theories and within a practice-based theorizing inspired by the sociology of translation (or actor–network theory as it is also called[2]). It proposes two concepts—*agencement* and formativeness—that address two 'blind spots' in the conversation on the turn to practice. The first blind spot concerns how we can talk of practices as having agency and the second concerns how we can articulate knowing in practice as a 'doing while inventing the way of doing', that is, the creative entanglement of knowing and doing.

The article is structured as follows. It first illustrates the differences among practice theories by following the debate in the organization studies literature inspired by concepts of practice. It then defines the two blind spots and shows how *agencement* and formativeness may shed light on each of them by referring to an empirical field research that has used them.

A compass with which to find one's bearings in the practice-based literature

The task of identifying differences is not an easy one; nevertheless, I shall try to reconstruct the literature as faithfully as possible while apologizing for what I may have left out or misunderstood.

The first Special Issue (Gherardi, 2000) that appeared before the expression 'practice turn' entered the practice-based vocabulary listed four streams of practice theorizing: the cultural perspective, situated learning, activity theory, and actor–network theory. The conversation among the four lines of inquiry centered on the idea that knowledge 'is neither in the head nor is a commodity'. Thus, the grasp on practice that was taking form from this conversation was constructed around the expression 'knowing in practice'. This notion recalls the phenomenological tradition in the two ways of knowing the world: as building (in which knowledge is prior to knowing) and as dwelling (in which knowledge emerges from practices). The concept of practice theorizing was therefore proposed—at the boundaries—of the four lines of inquiry because it offered answers to

the question of how knowing may be seen as a practice activity. Practice, in fact, articulates spatiality—the *locus* of knowing—and fabrication—the process of its manufacturing. Another line of inquiry—workplace studies—was not familiar to me as editor of the Special Issue at that time, and it brought into the conversation on practice theorizing the well-established tradition of symbolic interactionism and ethnomethodological research methods (Heath and Button, 2002; Llewellyn and Hindmarsh, 2010).

The differences between those 'classic' streams have been described simply and effectively by Guzman (2013: 434–5) when he reviews the 'grey textures of practice' and stresses similarities and differences in the following way:

- The situated action and sociology of translation approaches have common roots because they emphasize the primacy of emergent and contingent actions, the changing nature of contexts and settings, and the central role of improvisation, negotiation, and persuasion. However, the two approaches differ with regard to the primacy issue. In fact, the former confers a key role on individuals, while the latter gives equal weight to human and non-human elements.
- Activity theory and sociology of translation recognize the importance of the heterogeneous nature of the action network as the key unit of analysis, but they differ in terms of causality. The former attributes significant explanatory power to cultural and historical events, while the latter assigns the same importance to human and to non-human elements (see also Nardi, 1996).

Apparently, most practice theories agree on the ingredients of a practice—actions, individuals, contexts, artifacts, rules, symbols, texts, discourses, and embeddedness—but they disagree on the salient feature of each of them. According to Guzman (2013), the main disagreements concern

> the rule-governed nature of action in activity theory, the emergent nature of actions resulting from interaction of the persons-in-action-in-setting in situated action; and the heterogeneous action network composed of equally important human and non-human elements in the sociology of translation approach. (p. 435)

Moreover 'while community of practice and situated action emphasizes collaboration, the sociology of translation emphasizes the role of power inequalities in the deployment of practices'.

Also, complexity theory had an influence on the growing attention to practice, especially when the concept of complex responsive processes (Stacey, 2001) arrived in the debate on practices and sociomaterialities (Fenwick, 2012). Once again, while the components of practices were the same (individuals, action, context, goal, and artifacts), the processes were different. In fact, for Stacey, interaction is self-organizing and has an intrinsic capacity to produce an emergent coherence, while in most practice theory (as in activity theory or actor–network theory), agency and knowing are embedded in knowledge/power relations, so that the meaning of 'emergent' is quite different. Of interest is that a more or less common agreement on the ingredients of a practice is coupled with the idea of entwinement as the logic of practical rationality (Sandberg and Tsoukas, 2011). In many different ways, and from different backgrounds, a relational epistemology is at the core of the very beginning of the conversation on practice (Orlikowski, 2007; Østerlund and Carlile, 2005).

When we revisit the Special Issue of *Organization Studies* on 'The re-turn to practice', edited by Miettinen et al. (2009), we find, first, acknowledgment that the study of practices has a long theoretical history and draws on a wide range of methods and, second, a plea for the development of vocabularies and approaches with which to understand practices as happening 'here and now',

as well as being historically constituted and path dependent. In their introduction to the Special Issue, the editors specify the dual meaning that they attribute to the term 're-turn'. On one hand, they differentiate between those practice authors whom Bernstein (1971) defines as belonging to the 'first generation' and who introduced cultural–historical activity theory (Blackler, 1993; Engeström et al., 1999), sociocultural approaches (Chaiklin and Lave, 1993), and the pragmatists' theory of action (Elkjær, 2003; Joas, 1997) into organization studies. On the other hand, the meaning of 're-turn' resides in the need to start anew with examination of the concept which draws on more recent practice theories. The editors identify these theories with a late 20th-century group of sociologists and philosophers for whom practice was an important concept in their work, such as Bourdieu (1977), Giddens (1984), Foucault (1978), Schatzki (2005), Garfinkel (1967), and other ethnomethodologists; Latour (1992) and other actor–network theorists; and Taylor (1991). What the editors wished to stress is that the label 'practice theorizing' covers authors and approaches that study practice using their own distinctive vocabularies. Once we understand the reasons for distinctive vocabularies, we have also understood that each vocabulary is generated from a distinctive epistemology and is grounded in an empirical set of problems of interest to a social researcher.

In the last (for the moment) Special Issue devoted to broadening the horizon and turning practically, the editors (Eikeland and Nicolini, 2011), after sketching a classification of practice studies according to their definition of practice (from outside and above vs from within and below) and the direction of interest (broadly practical vs broadly theoretical), claim that the practice turn is still incomplete and their linguistic game in 'turning practically' has an important message. Their focus is on the practices of the knower. In their conception, turning to practice does not mean becoming more engaged or making social science more relevant to the practical concerns of practitioners; rather, it means developing a type of theory (called *theoria*) that 'is about proceeding from within an activity, making its "grammar" explicit, opening new possibilities for action, and informing mindful, caring, and wise conduct' (Eikeland and Nicolini, 2011: 169).

The tension between a 'practice turn' and a 'turn to practice' or 'turning practically' may be depicted as centering on a focus on the practices of the practitioner, on one hand, and a critical and emancipatory role that brings in the values and critical orientations of the researcher/knower, on the other. Moreover, other tensions (between disciplinary backgrounds and between epistemologies) are shaking the field and producing differences at a deeper level. I shall now illustrate them briefly.

While philosophical traditions have influenced most sociological theories of practice, there is a tension between the two disciplines: philosophy and sociology. Guzman (2013) explains it in terms of philosophical examination of practice focused on the reasons, intentions, and motives behind practices (a sort of ex ante of practicing), while sociologists are more interested in the consequences of practices, 'including the role of institutions, conflict, power relations, and social change', in a sort of ex post of practicing (p. 430). Moreover, the two disciplines have different practices of knowledge validation, and for sociology oriented to empirical research concepts need to be grounded on data (whatever counts as data). In principle, there should be consistency between the theoretical framing and design of empirical research, but this is not always the case when the philosophical framing of the concept of practice is not reflected in methodology. The most evident example is the work of Schatzki, a philosopher, which is widely acknowledged in the organization studies community and in the theoretical framing of many articles on practice, but it is very seldom operationalized coherently. In Schatzki's (2002: 79–80) model, the actions that comprise a practice are linked to each other through four main mechanisms: practical understanding, rules, teleoaffective structure, and general understanding. Thus, an empirical research design would be expected to explore these dimensions of organizational practices, but often this is not the case. Nonetheless, the main difference among practice theories is not at the boundaries between philosophy and sociology but at the ontological/epistemological level.

Within practice studies we can distinguish between a stream of studies interested in practices as empirical phenomena and another stream that considers practice as epistemology (Feldman and Orlikowski, 2011; Orlikowski, 2010). But what kind of epistemology enables us to look at practice anew? To answer this question, we must briefly go back to the linguistic turn in social sciences.

The linguistic turn was essentially a challenge against the idea of language as the mirror of nature (Rorty, 1967) and an assertion that language is fundamentally involved in the production of social reality. In its representational conception, language has been traditionally seen as a descriptor of natural objects resulting from the development of appropriate labels that facilitate communication about them. As Deetz (2003) succinctly explains, 'the "turn" as a possibility grows out of the birth of social constructionism and "perspectivalism"—the recognition of the constitutive conditions of experience and the de-centring of the human subject as the centre or origin of perspective' (p. 422). The rediscovery of the linguistic philosopher, Ludwig Wittgenstein, within practice studies (Nicolini, 2013) can be explained as the link between the linguistic turn and the practice turn. In fact, in the wider acceptation of the linguistic turn, the taken-for-granted distinction between ontology and epistemology collapses once we recognize the role of language in constructing the object of being. In other words, it is through epistemic practices that researchers construct both the objects of knowledge—ontology—and the methods for producing knowledge, that is, epistemology. Researchers are inside the practices that they study.

These onto-epistemologies have come to be known as 'post-epistemologies', and they have interested almost all the social sciences There is in fact a convergence with other thought positions on a critique of power/knowledge (Foucault, 1980), in philosophy of science (Rouse, 2002), in social studies on science and technology (Pickering, 1995), in feminist theorizing (Butler, 1999; Haraway, 1991), new feminist materialism (Barad, 2003), and in the literature on the turn to affect, as non-representational theory (Thrift, 2005). These emphasize that knowledge is situated within forms of life and is the outcome of interests, ideologies, and the contingencies of social negotiations. For example, Barad (1998, 2003), who coined the cumbersome term 'epistemontology' (the study of practices of knowing in being), emphasizes that things and people constitute one another in the here-and-now through what she terms 'intra-action', and that subjects and objects are dynamically, agentially, and iteratively co-articulated in 'intra-action'. The thinking human subject is just part of the world, rather than having a privileged position in its regard, since 'knowing is a matter of part of the world making itself intelligible to another part' (Barad, 2003: 829).

The linguistic turn has strongly influenced the practice turn in its post-epistemological formulation. In fact, inscribed in the turn to practice have been notions which can be called 'posthumanist' (as in the object-centered sociality of Knorr-Cetina, 1997) or concepts that reconfigure agency as a capacity realized through the associations of humans and materiality (Latour, 2005) or a notion of discourse that neither constructs 'reality' nor simply functions as its mirroring effect but rather causes discourse and materiality to co-emerge (Iedema, 2007).

To gain better understanding of the post-epistemology of practice—and therefore move away from analysis that privileges action as the product of actors in a given context—it is useful to recall how Ira Cohen (1996) distinguishes between theories of action and theories of practice. We may say that while the former theories privilege the intentionality of actors, from which derives meaningful action (in the tradition of Weber and Parsons), the latter locate the source of significant patterns in how conduct is enacted, performed, or produced (in the tradition of Schutz, Dewey, Mead, Garfinkel, and Giddens). Hence, theories of practice assume an ecological model in which agency is distributed between humans and non-humans and in which sociomaterial relationships can be subjected to inquiry. While theories of action start from individuals and from their intentionality in pursuing courses of action, theories of practice view actions as 'taking place' or 'happening', as

being performed through a network of connections-in-action, as life-worlds and dwellings (as the phenomenological legacy names them, see Sandberg and Dall'Alba, 2009).

Therefore, a significant difference among practice theories is grounded in an epistemological choice. On one hand, primacy is given to humans as carriers of practices—as in Schatzki who defines himself a 'residual humanist'; on the other hand, the principle of symmetry confers equal weight to humans and non-humans, or more-than-humans, as Braidotti (2013) suggests naming them. Materiality is not absent in the first case, but it is considered as surrounding human action, and its influence is not independent of the ends toward which, and the conditions under which, people act. In the second case, neither the human nor the material has primacy. Thus, the re-turn to practice is part of the movement toward a relational, sociomaterial, or posthumanist epistemology because practice makes it possible to see and to represent a mode of ordering the social in which doing and knowing are not separated and the knowing subject and the known object emerge in their ongoing intra-action.

Highlighting two gaps in a critical practice theory

I have briefly sketched a possible way to find one's bearings in the differences among practice theories, my aim being to delineate a critical approach to practice inspired by sociology of translation. For the moment, I have located this approach within the large family of post-epistemologies and within relational materialism. Nevertheless, I shall argue that a relational post-epistemology is still in search of an appropriate vocabulary with which to express the shift from elements to relations. I shall now expand a little more on the literature that assumes this idea in order to clarify the core interests, and in which I see two blind spots whose clarification may take this stream of practice theorizing further.

On comparing the mainstream theories of practice, Guzman (2013: 436–7) refers to three authors who have a translation approach in common: Suchman (2000), Gherardi (2006), and Nicolini (2007). In these works, practices are seen as situated actions and action networks of heterogeneous elements kept together by active processes of ordering, relationships, and performativity. As Guzman writes, 'ordering processes are the outcome of conscious and unconscious, deliberate and emergent operations, processes and events that do not necessarily align in terms of goals, functions, timing, identities, roles, processes, and power relations'. By comparing the three authors according to the practice components and processes on which they focus, it is possible to see many similarities and also—as I shall argue—a couple of blind spots.

One notes from Table 1 that a first similarity consists in the conception of practice as a mode of ordering. We may say that, since the authors are analyzing working practices, their conception of organization is built around the idea that practices are organizational modes of ordering or, in other words, that organizing takes place within stabilized practices. Ordering, therefore, is achieved within a plurality of discourses, unequal power relations among stakeholders, and through the redistribution of power. Thus, not only does a processual approach to practice inform methodology, but an explicit critical dimension is at the core of the definition of practice as the encounter among a plurality of rationalities.

A more important similarity is the focus on knowing, to the point that the very reason for studying practices is to study knowledge in its making. While practices may be studied in order to focus on the activities, actions, or themes (Erden et al., 2014) that compose a practice approach, the main interest of a critical approach to practice is to understand and make visible the knowledgeability involved in accomplishing those activities. In so doing, the question about the effects produced by a certain practicing—be they domination effects or emancipatory ones—and the question about how we can produce different (better?) practices are open and are at stake. Therefore, knowing is

Table 1. Theories of practice inspired by sociology of translation.

Authors	Components	Processes
Suchman (2000)	Network of individuals, objects, artifacts, and settings	Stabilization of heterogeneous human and non-human elements
Knowing as sociology of translation	Relationships (human-to-human and human-to-non-human)	Social order building
	Unequal power relations among plural stakeholders	
Gherardi (2006)	Pluralistic discourses and perspectives	Categorizing
Texture of practice	Artifacts, practitioners, practices, context, and connective texture of practices	Highlighting the salient
		Producing texts (storytelling and conversations)
		Coding knowledge
		Enacting identities
		Accounts of practices
Nicolini (2007)	Activities, identities, and instruments	Redistribution of work and tasks
Work practices	Relationships between those involved	Reconfiguration of identities
		Redistribution of power

Source: Adapted from Guzman (2013: 436).

the main reason for studying practices, and the widely used expression 'knowing in practice' refers to a conception of knowledge as situated activity. Knowing is something done jointly within sociomaterial relationships and a practice may be defined as a collective knowledgeable doing (Gherardi, 2009b). Knowing in practice is therefore the major focus and it is an accomplishment, a contingent approach, shaped by ordering and restructuring resources and directed toward an end (Nicolini et al., 2003: 18–20). The focus on knowing as the central process in practicing signals the main difference from those studies that take practice as an analogy for the analysis of something else (strategy as practice, leadership as practice, and marketing as practice).

Once we have said that a practice is a mode of ordering heterogeneous elements on which similarities among theories are greater than their differences, once we have stated that practices have agency, and once we see knowing and doing as entangled, there still persist a couple of questions that have not yet been satisfactorily answered. The first question is this: how do practices achieve agency? A blind spot is constituted by the process itself of agency in/by practice. The second question is this: how does knowledge take form in knowing?

I shall address these two questions by saying that one difficulty in addressing them is created by language. Hence, if we want to turn to practice anew, we need to invent/discover/reconfigure a new vocabulary with which to shape new concepts or to circulate existing ones better.

I shall propose and explore two terms: (a) the French word *agencement*, which has the idea of agency in its root, and which has been recently re-introduced into the social science vocabulary by Callon et al. (2013b) and (b) the word 'formativeness', inscribed in whose semantic root is the idea of form, and which has been used in the discussion of sociomaterial relationships. For each word I shall offer a short example of its conceptual use for empirical research in practice-based studies.

Agencement: the process of establishing connections

Agencement is a word currently used in French as a synonym for 'arrangement', 'fitting', or 'fixing', and it has been used as a philosophical term by Deleuze and Guattari (1987 [1980]) with the sense of 'in connection with'. For Deleuze and Guattari, a philosophical concept never operates in isolation but comes to its sense through the connection with other senses. This meaning of 'being in connection with' gives a first good approximation of the term. The problem, however, is its translation into English as 'assemblage', which has changed the original meaning that, so changed, has entered into use. I shall try to explain the reasons for returning to the French term, while referring the reader to a thorough discussion and comparison between agencement/assemblage conducted in a Special Issue of *Theory, Culture and Society*, where Marcus and Saka (2006), Phillips (2006), and Venn (2006) explore, with different nuances, the uses and misuses of the two terms.

As Phillips (2006: 108) argues, the first translation of Deleuze and Guattari's term *agencement* appeared in the first published translation of the article 'Rhizome', by Foss and Patton in 1981. The English term that they used, *assemblage*, was later retained, with a loose consensus, while it was acknowledged that the translation was not really a good approximation. The French word *assemblage* has a meaning similar to the English term, that is, a noun form of 'assemble', but it is never used by Deleuze and Guattari as a philosophical concept. A synonym for the French word *assemblage* is *collage*, where heterogeneous materials are juxtaposed, but the sense of 'being in connection with' is partly lacking, and most importantly the process of connecting is absent.

The French term in fact has a processual connotation—the idea of establishing or forming an assemblage—and as Phillips (2006) writes,

> this *in connection with* already provides something of the sense of *agencement*, if one accepts that a concept arises in philosophy as the connection between a state of affairs and the statements we can make about it. *Agencement* designates the priority of neither the state of affairs nor the statement but of their connection, which implies the production of a sense that exceeds them and of which, transformed, they now form parts. (p. 108)

In Deleuze and Guattari's vocabulary, *agencement* re-codes emergence and becoming

> namely, (de/re)-territorialization (in relation to topology), the machinic (in relation to autopoiesis), multiplicity, 'agencement machinique' (in relation to differentiation, compossibility). […] It focuses on process and on the dynamic character of the inter-relationships between the heterogeneous elements of the phenomenon. It recognizes both structurizing and indeterminate effects. (Venn, 2006, p. 107)

Therefore, the term *agencement* can recast the structure/agency division pointing to the process of linking heterogeneous elements in an open-ended process.

My intention here is not to argue in favor of an operationalization of the term *agencement* in line with Deleuze and Guattari's philosophy. It is rather to point to the tensions implied in the respective uses of the term 'assemblage' (as a final state) or *agencement* (as the process of connecting). While a certain use of the term assemblage risks rigidifying the concept into the thingness of final or stable states, the French term *agencement* works as an evocation of emergence and heterogeneity. The term *agencement* is the key to connecting with the vocabulary of becoming and with the temporality of practice as it unfolds.

In organization studies, the term '*agencement organizationnel*' has been used by Jacques Girin (1990, 1995), and the term 'assemblage' has been widely employed in the sociology of translation (Latour, 2005; Law, 1994). The term has proved useful when actors of a certain kind—like economic actors, the market, or a financial market—must be identified. In Callon's (1998) anthropology of

economics, an economic actor is neither a human being nor a human being embedded in institutions, conventions, or groups; rather, it is made up of human bodies and material and technical devices, texts, algorithms, and prostheses: that is, it is an *agencement* that has the capacity to act and to give meaning to action.

For the conduct of empirical research, the concept of *agencement* has been explored in relation to financial markets by Hardie and MacKenzie (2007): a hedge fund

> is a legal entity, and the law of contract attributes agency to it, not to the individuals who comprise it: the trader may speak or type the words, but it is the fund, not him as individual, which makes a deal and takes on a commitment. (p. 77)

An economic actor well expresses the wordplay of the term *agencement* since it is 'an actor' in the sense of a sociotechnical assemblage and at the same time it has *agence*, agency. Similarly, when we look at a practice, we can see how the sociomaterial relations (Cecez-Kecmanovic et al., 2014; Orlikowski and Scott, 2008) that tie bodies, artifacts, discourses, technologies, and rules together are performed within it and with other practices, and how agency is its effect.

More recently, a collection of articles dealing with 'marketization' (*agencement marchand*) has been edited by Michel Callon (2013b), and it has opened a wide discussion of the concept (see the special issue of *Le Libellio d'Aegis*, 2014). The book collects articles already published elsewhere plus the last unpublished chapter that is a systematization of the concept (Callon, 2013a). An *agencement marchand* can be understood in opposition to the interface market:

> a simple and basic distinction is on one side between the bilateral transactions weakly framed and that produce a weakly integrated collective action and, on the other side, bilateral transactions whose effect is a collective action that is intense, diversified, well-structured and aligned. (Callon, 2013a: 439)

The process of *agencement* enables inquiry into the organization of the market in action starting from the process that attributes value to the good to price formation as the process of qualification–transformation of goods. The price is the manifestation of five framings (*cadrage*): the passivization of goods, the activation of agencies of qualculation (a neologism that indicates how quantitative calculative operations are linked to qualitative ones), the organization of market encounters, the reflex of affect, and spatial–temporal attachments. Marketization is the effect of the dynamics of *agencement marchand* and it is part of a larger process of economization (Caliskan and Callon, 2009). Besides the web of connections producing marketization, there are other forms of *agencement*, that is, scientific, technological, political, and organizational. We can also study the failures of *agencement*, the process of its wear and tear, its maintenance, and its alternatives. In short, Callon says that an *agencement* may be described as arrangement + specific action.

Nevertheless, it is 'in connection with' the concept of organizational becoming that we can grasp the ideas of connection and temporality simultaneously. In fact, the concept of becoming gained its momentum in organization studies in relation to several developments: the view of organizations as in-between order and disorder (Clegg et al., 2005), in relation to process theorization (Tsoukas and Chia, 2002), in relation to flux and temporality under the influence of the philosophy of Bergson (Calori, 2002), and in seeing 'organization' less as a noun and more as a verb that performs itself (Law, 1994). The focus on 'becoming' is where 'organizational phenomena are not treated as entities, as accomplished events, but as enactments—unfolding processes involving actors making choices interactively, in inescapably local conditions, by drawing on broader rules and resources' (Tsoukas and Chia, 2002: 577). In a radical process approach, organizational phenomena are involved in the processes of 'becoming' through which their identities are materially

negotiated and (re)confirmed (Chia, 2003), and where discursive practices are actively involved in the process.

This focus on practices makes it possible to see them in the process of being practiced and in the relationship between their situated practicing and the broader texture of practices into which they are interwoven. In other words, becoming and *agencement* can be considered terms of the same vocabulary. In addition, Clegg et al. (2005: 160) draw on the philosophy of Deleuze and Guattari to discuss the relationships between learning/becoming/organizing. They argue that becoming occurs only when there is an assemblage (an *agencement*), a combination of heterogeneous materials able to transform each other:

> Becoming is the folding and unfolding of lines, the knotting and netting of different materials and organs that mutually de- and re-territorialize each other in order to become something different; and where that 'something' different is always and immediately subject to the process that created it. (Clegg et al., 2005: 160)

When we relate the idea of becoming to practices, we can say that what we call 'practice' is a heuristic move that de-territorializes and re-territorializes the unfolding of a flow of practicing. It is within practicing that connections are established and dissolved without a pre-defined order, and it is the process of *agencement* (of connecting with) that creates it. These connections are those of the rhizome, which has no beginning or end but is always in between, in motion.

Therefore, the passage from the noun 'practice' to the verb 'practicing' implies not only a move toward a process view but especially a passage to temporality and to the situated activity of *agencement* as the activity of establishing connections. But what is connected within a practice and how are practices connected together?

Within a practice, in its unfolding, neither humans nor more-than-humans have priority. If we describe the process of *agencement* as a process of heterogeneous engineering, we can say that all the resources necessary for practicing are the stuff of what is connected. It is difficult to enumerate the ingredients of a practice since a resource for action becomes a resource only within an assemblage of relationships. In the language of actor–network theory, we should say that elements are performed in, by, and through the relations in which they are located, and if the relations do not hold fast by themselves, they need to be performed. The concept of *agencement* can prove useful for a practice-based study, since in studying a practice the researcher may empirically follow and describe the process whereby humans, artifacts, rules, technologies, sensible knowledge, legitimacy, and any other practice resource become connected, thanks to a collective knowledgeable doing (Gherardi, 2012). At the same time, any single and situated practice is connected to other practices, and it is the process itself of *agencement* that makes practices agential.

When studying the practices of organizing, both materiality and the process of construction matter, since multiple realities may be enacted through different spacings, timings, and actings. We need to produce narratives of *agencements* that capture the materiality, the passions and beliefs, and the practices of attraction and engagement within these complex assemblages which underlie such nests of associations. The advantage that the concept of *agencements* gives to a critical practice theory of organizing is, in fact, the way in which agency is reformulated as the outcome of the process of establishing associations and material relationships from which humans and nonhumans emerge, since they are not a sort of a priori with respect to the associations.

Formativeness: the process of inventing the way of doing

One of the main concerns of the study of working practices is to understand how people, while they are absorbed in the practice at hand, are able to discern the situated logic of the *agencement*

connecting their inner actions and on this basis prefigure the performance of the practice as an ongoing accomplishment. Knowing in practice is therefore a contingent ordering, the effect of the ability of practitioners to find their bearings using the context as a resource and to articulate the matter of the world (objects, artifacts, and technologies) within a form. I shall call this form 'the object of the practice'.

The nature of the object of a practice—or in the vocabulary of activity theory, the object of activity—is aptly captured by Engeström (1999) when he defines the object of activity as

> a project under construction, moving from potential raw material to a meaningful shape and to a result or outcome. In this sense the object determines the horizon of possible goals and actions. But it is truly a horizon: as soon as an intermediate goal is reached, the object escapes and must be reconstructed by means of new intermediate goals and actions. (p. 65)

As used in activity theory, the object of an activity (be it material, like a manufactured product or human like a patient in a hospital, or epistemic as in science) is the thing, or project, that people are working to transform, while the objectives of an activity are the intended outcomes of that process. Objects of activity are simultaneously 'given, socially constructed, contested, and emergent' (Blackler and Regan, 2009: 164). The focus on how the object of a practice emerges allows inquiry into the effects of its being practiced. Moreover, if we focus on the object of a practice in order to understand how its formation takes place, we can assume that practices are pragmatically oriented to an objective, but at the same time there is no need to assume the existence of a teleo-affective structure that 'pulls' the practice forward and is outside the unfolding of the practice itself.

In practice studies, however, it is not usual to describe how the object of a practice assumes a form, how in so doing it materializes a sense, and therefore how practical creativity is embedded in knowing in practice (Gherardi and Perrotta, 2013; 2014). In order to see how materiality is embedded in an ongoing project and to investigate the process whereby doing and knowing unite into a form, I shall turn for inspiration to organizational aesthetics (Strati, 1999) and particularly to Pareyson's aesthetics.[3]

Pareyson's aesthetic theory is an aesthetics of production—as opposed to an aesthetics of contemplation—and it concerns the becoming of the form, that is, the outcome of a formation process. Pareyson is fascinated by the idea of human life as the invention of forms, which acquire lives of their own: they detach themselves from their creators and become models, engendering styles. There is hence a formative character in the whole of human industriousness, and art is a specific domain of this formativeness: it is more a 'doing' than an expressing or a contemplating (Pareyson, 1960: v). Formativeness is defined as 'a doing' such that while it does, it invents the 'way of doing'.

Both in art and industriousness, there is the tentative feature of intrinsic tension and union between production and invention. Simultaneously invented in doing is the 'way of doing': realization is only achieved by proceeding by trial and error to the result, thus producing works that are 'forms' (Pareyson, 1960: vi). Forming also requires a relationship with materiality because forming means co-forming a material, and the work is nothing other than formed material. In the process of formation of matter, the work also acts as a formant even before it exists as formed.

Pareyson proposes that a work of art be regarded as pure formativeness, and the topic of his book on aesthetics is the work of art in its process of forming and being formed. But he also writes,

> if all spiritual life is formative, behold the possibility of beauty possessed by every work, be it speculative, practical or utilitarian […] and formative, too, is the sensible knowledge that grasps every 'thing',

> producing it, and 'forming thereof' the image, so that this is 'accomplished' and reveals and captures, indeed *is* the thing. (Pareyson, 1960: vii)

The knowing process is therefore a formative process in which an attempt is made to produce the image that renders the 'thing', and the outcome of knowing is seeing the 'thing' formed. In the doing that invents the way of doing, there is the sense of progressing toward the final result, attempting and correcting and re-doing; there is the inspiration and the elaboration of an intuition; there is improvisation and exercise; there is domination over the material that opposes resistance and enjoins obedience; and there is technique and the language of style. Doing and knowing are not separate; neither does the one follow the other nor does the one constitute an application of the other. In knowing-how, one fully grasps the co-penetration between production and invention, between materiality and formativeness, and between the knowledge produced and the process of its production. We may say also between affect and being affected (Massumi, 2002).

Particularly evident in the production of objects (but the same process takes place in forming epistemic objects) is the performative and creative aspect that characterizes every 'doing', even when it consists in thinking or acting: 'one does not operate without completing, performing, producing, realizing' (Pareyson, 1960: 6). The prose of Pareyson is particularly rich with verbs and gerunds because he is interested in the process by which the outcome is achieved. His attention focuses more on the modus operandi than on the work accomplished. A work is 'accomplished' in so far as its doing comprises the way in which it must be done. And this is both the emotion of whoever contemplates a well-accomplished work and the sense of the expression 'a job done *comme il faut*'.

I think that it is not useful to draw a distinction between 'material' objects and epistemic objects, and not only because epistemic objects have a materiality. If we consider, for example, care practices, we can see how their performance produces several material outputs, while at the same time their object—care—is non-material but grounded in the materiality (e.g. of food). A telling example of sociomateriality in care practices is provided by Harbers et al. (2002) who narrate how in a nursing home Paul's mother, who was at the end of her life and suffering from Alzheimer's disease, ate only the small chocolates that her son brought to her every day. Paul's remembrance of his mother's love for chocolate provided the sociomaterial relation for care in practice.

In fact, in Knorr Cetina's conception of epistemic object, we can find inspiration for developing a discourse on objects of practice as knowledge objects. Knorr-Cetina (2001) is interested in science, and her aim is to show how the methods of scientific practices contaminate other fields of knowledge. It is in this context that we should understand her definition of epistemic objects as characterized by their lack of completeness of being and their non-identity to themselves. In fact, the dynamism of research derives from the incompleteness of these objects, since it is only by considering objects incomplete that scientists can move forward in posing new questions. We can wonder whether the practitioners engaged in 'care' have a different attitude toward the object of their practice or whether their object is an epistemic object as well, so that the dynamics of doing research and doing care are similar. What is common in the (sociomaterial) object of a practice and in an epistemic object is their unfolding character even when they have multiple material instantiations or material realizations. What an object is, how objects are projects, and how they emerge in practice are questions that have received considerable attention and are at the core of an open debate (see the Special Issue of *Organization* edited by Engeström and Blackler, 2005). What I want to stress here with the concept of formativeness is an invitation to move from objects to the process of their forming and therefore to their unfolding and creative process of inventing a form.

Precisely because all human industriousness has an inventive and innovative side—writes Pareyson (1960)—'there can be art *in* every human activity; indeed, there is an art *of* every human

activity' (p. 7). Knowing in practice can therefore be defined—borrowing from Pareyson—as that doing with art, that exercise of formativeness, which is fueled by invention and moves toward accomplishment.

A practice-based research study exemplifying the fruitfulness of the concept of formativeness is Gherardi and Perrotta (2013; 2014) in which the creative practices of a group of craftswomen were interpreted following their practical knowing/doing. To frame their accomplishment of a product, the following aspects of the formative process were described: sensible knowing, co-formation of ideas and materiality, experimenting with playfulness, translating and hybridizing materials, realization, and repetition. These aspects illustrated how the craftswomen's bodies, emotions, and affects were in connection with the materials that they handled and how ideas acquired form in the encounter with materiality, were formed through playfulness and experimentation, and by discovering how in forming a product ideas and materials are hybridized, translated, and transformed through repetition.

To give an idea of the concept of formativeness, I report a short extract from the story recounted by Sara, an art restorer:

> Now I've got other urgent things to attend to, I've done a small piece, but I'm not satisfied with it yet … You see that the quality is different, because retouching is a gut thing, it's emotion, you must feel it here [points to her abdomen], if you have an off day there's nothing you can do … (Gherardi and Perrotta, 2013: 238)

Formativeness therefore refers not only to the elements involved in the practice (their arrangement), not only to how their *agencement* is achieved, but to a further dimension of practicing that stresses how knowing is invented while doing. Formativeness may therefore be described in terms of the relationships among corporeality, materiality, playfulness, hybridization, and recursive realization.

The term 'formativeness', and the idea of forming the object of practice, should be added to the lexicon of practice in order to denote the process whereby the form emerges from the matter and from an active process of *agencement.*

Moreover, the concept of formativeness makes it possible to establish a link between the turn to practice and the turn to affect[4] (Clough, 2009). The unit resulting from the coupling together of the visceral and proprioceptive sensibilities is an affect: 'the ability to affect and openness to be affected' (Massumi, 2002: 61). In a critical practice theory, the presence of the knowledgeable body is made visible through sensible knowledge, taste making (Gherardi, 2009a), and aesthetic judgment, while in the turn to affect it is described as intensity, that is, the ability to affect and susceptibility to being affected. The common reference to a relational epistemology becomes evident, since once relationships between elements have taken the place of identities, the *agencements* and the reciprocal entanglements produce effects and affects.

Discussion and conclusion

The aim of this article has been to position the differences among practice theories of organizing in order to prompt a clarification and a step further in practice theorizing. It has been argued that the bandwagon effect, which had the merit of activating an articulated field of empirical research on organizational and working practices, may turn into a weakness if researchers are no longer able to appreciate the differences among lines of theorizing. A main difference to acknowledge is between theories of practice centered on human subjects and those practice theories that are informed by sociology of translation and incorporate a posthumanist, sociomaterial stance that grants equal

status to the humans and more-than-humans linked within a practice. Therefore, instead of thinking in terms of 'actors and their practices', practice is assumed as the unit of analysis, as an ecology in which all the practice elements are connected. If we recall the example of the art restorer, Sara, we can call an ecology the texture of the relationships between Sara's hands on the canvas, her feeling of what can/should be done, the tools and the materials at hand to accomplishing the single task in restoring, the knowing in the situation of what to do, and the non-knowing coming from gut feelings. At the same time, the art market, the economic crisis, Sara's work contract, and other elements that may not be visible are nevertheless at work and are intertwined in the situation just described. We may say—in accordance with Cooren et al. (2005)—that within such an ecology spacing and timing are hybrid accomplishments.

With this article I have sought to argue that a significant difference among practice theories is grounded an epistemological choice, even if a common agreement exists in identifying the so-called 'elements' within a practice. Therefore, I advocate a conception of practice that makes it possible to see and to represent a mode of ordering the social in which doing and knowing are not separated and the knowing subject and the known object emerge in their ongoing intra-action.

Nevertheless, also within a posthumanist theoretical framework, there is a need to develop a vocabulary that addresses two 'blind spots' in the conversation on the turn to practice. The first blind spot concerns how we can talk of practices as having agency and the second concerns how we can articulate the creative entanglement of knowing and doing. I have proposed two concepts that may help to shed light on them and to extend conceptual boundaries.

The first concept is *agencement*. In the article, I have argued that it helps us to see not only how all practice elements are 'in connection with' but also how the process of connecting is achieved and performed. A methodological example of the power of the concept is provided in Callon et al.'s book *Sociologie des agencements marchands*, in which the texture of practices giving form to market relations is reconstructed in opposition to the view of a market as the meeting place of demand and supply.

The second concept is formativeness, and it helps to see how the object of a practice takes form within sociomaterial relations in a process of 'forming'. It shows how in doing, the way of doing is invented, in opposition to knowledge as object or possession. A methodological example concerning craft production practices has been given.

Although the two concepts have been introduced and discussed one after the other, they are interrelated, and they pertain to the same vocabulary in search of words to express becoming. In fact, *agencement* is intended to express the semantic field of the process of expressing agency, while formativeness is intended to give a name to the process of knowing/doing/inventing. When the researcher is interested in understanding the becoming of a practice, the term 'formativeness' can be used to describe how the object of the practice is formed and how in its forming the necessary knowledgeability is invented and deployed, while the term *agencement* can be used to describe how the resources mobilized to form the object are connected and temporarily stabilized.

To conclude, I wish to offer some suggestions on how to experiment with a new vocabulary able to express a relational materiality. In fact, the very reason for studying working practices is to study knowledge in its making, and a critical theory of practice is a theory that poses the questions of what the social consequences of a way of practicing are and how alternative ways may be envisaged, and that assumes the researcher within the question itself. The so-called 'critical power' (Gherardi, 2009b) of the practice lens is embedded in the methodological stance of questioning how a practice reflexively creates its context of being practiced and with what effects.

This methodological positioning may be promising in conducting research on issues such as biomedical practices, post-genomic sciences, or bio-politics (Cambrosio et al., 2014; Neresini and Viteritti, 2014), where the entanglement of life, knowledge, politics, and economics is interrogating

contemporary society. Here, we can rely on the concept of *agencement* to trace how practices in different domains are connected, and we can inquire into the epistemic practices that make 'science' through the concept of formativeness.

For example, if we focus on biomedicine practices, we immediately become aware that the texture of practices extends from laboratory technicians and medical staff to new experts such as biostatisticians and bio-informaticians, to the State, pharmaceutical companies, scientific instruments, data and tissue banks, and to different ways of conceiving the relationship between research and clinical practice (from Bench to Bed). Biomedicine assumes an increasingly collective dimension. It relies on disruptive technologies, such as microarrays and next-generation sequencing, and generates large amounts of data. Big data represent a multifaceted source of information predicated upon the involvement of a large number of heterogeneous actors that have become key elements of knowledge production, especially in domains such as genomics. Big data represent a novel and difficult challenge because their actual use as part of research practices leaves social scientists wondering how they should understand and use them (Leonelli, 2014), and science studies scholars are uncertain regarding the configurations that they generate in their own practices, and what the consequences are (Cambrosio et al., 2014).

Interrogation of the effects of certain ways of practicing requires attentiveness to the ethical register. When a researcher on practices critically reflects on his or her positioning within the field of study, at the same time there arises the question of the effects of a field of practices, and it becomes possible to wonder about alternative modalities of practicing and knowing.

Notes

1. *Organization* published the first Special Issue in 2000 and a second one in 2007, *Human Affairs* in 2007, *European Business Review* in 2008, *Management Learning* in 2009, *The Learning Organization* in 2009, *Organization Studies* in 2009, and *Journal of Organizational Change Management* in 2011
2. I shall use the two terms interchangeably. While the Anglo-American world commonly uses the term 'actor–network'—introduced by Law (1994)—I prefer to use the original term 'sociology of translation' as named by Callon (1980) and re-proposed by Latour (1999) when discussing 'after actor–network theory'.
3. Luigi Pareyson (1918–1991) was an Italian hermeneutic and existentialist philosopher. In his book *Estetica*, he 'formulated the problem of dealing with inexhaustible processes of irreducible differences that concern aesthetics by stating that reality is completely independent of thought. […] Pareyson describes interpretation as reconstruction of the process underlying the text to be interpreted' (Strati, 1999: 78). Forming means giving shape, and it involves the interpretative activity of the person and the re-proposing of difference.
4. The turn to practice and the turn to affect have several commonalities that I have explored elsewhere. Their main point of contact is the sensible body and sensible knowing beyond discourse. The turn to affect points to a non-cognitive analysis of the body and it moves away from social constructionism and discourse toward concepts like affectivity, embodiment, and virtuality. It draws on the work of Spinoza, Bergson, Deleuze and Guattari, Damasio, Massumi, and others (see Clough and Halley, 2007).

References

Barad, K. (1998) 'Getting Real: Technoscientific Practices and the Materialization of Reality', *Differences* 10(2): 87–128.

Barad, K. (2003) 'Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter', *Signs: Journal of Women in Culture and Society* 28(3): 801–31.

Bernstein, R. (1971) *Praxis and Action: Contemporary Philosophies of Human Activity*. Philadelphia, PA: University of Pennsylvania Press.

Blackler, F. (1993) 'Knowledge and the Theory of Organizations: Organizations as Activity Systems and the Reframing of Management', *Journal of Management Studies* 30(6): 864–84.

Blackler, F. and Regan, S. (2009) 'Intentionality, Agency, Change: Practice Theory and Management', *Management Learning* 40(2): 161–76.
Bourdieu, P. (1977) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
Braidotti, R. (2013) *The Posthuman*. Cambridge: Polity Press.
Butler, J. (1999) 'Revisiting Bodies and Pleasures', *Theory, Culture & Society* 16: 11–20.
Caliskan, K. and Callon, M. (2009) 'Economization, Part 1: Shifting Attention from the Economy towards Processes of Economization', *Economy and Society* 38(3): 369–98.
Callon, M. (1980) 'Struggles and Negotiations to Define What Is Problematic and What Is Not: The Sociology of Translation', in K. Knorr-Cetina, R. Krohn and R. Whitley (eds) *The Social Process of Scientific Investigation*, pp. 197–219. Boston, MA: Reidel Publishing Company.
Callon, M. (1998) *The Laws of the Markets*. Oxford: Blackwell.
Callon, M. (2013a) 'Qu'est-ce qu'un agencement marchand?', in M. Callon, A. Madeleine, D.-Q. Sophie, et al. (eds) *Sociologie des Agencements Marchands*, pp. 325–440. Paris: Presses des Mines.
Callon, M., Madeleine, A., Sophie, D.-Q., et al. (2013b) *Sociologie des Agencements Marchands*. Paris: Presses des Mines.
Calori, R. (2002) 'Real Time/Real Space Research: Connecting Action and Reflection in Organization Studies', *Organization Studies* 23(6): 877–83.
Cambrosio, A., Bourret, P., Rabeharisoa, V., et al. (2014) 'Big Data and the Collective Turn in Biomedicine: How Should We Analyse Post-Genomic Practices?', *Tecnoscienza* 5(1): 11–42.
Cecez-Kecmanovic, D., Galliers, R. D. and Henfridsson, O. (2014) 'The Sociomateriality of Information Systems: Current Status, Future Directions', *MIS Quarterly* 38(3): 809–30.
Chaiklin, S. and Lave, J., eds (1993) *Understanding Practice: Perspectives on Activity and Context*. Cambridge: Cambridge University Press.
Chia, R. (2003) 'Ontology: Organization as "Qorld–Making"', in R. Westwood and S. Clegg (eds) *Debating Organization: Point-Counter-Point in Organization Studies*, pp. 98–113. Oxford: Blackwell Publishing.
Clegg, S., Kornberger, M. and Rhodes, C. (2005) 'Learning/Becoming/Organizing', *Organization* 12(2): 147–67.
Clough, P. T. (2009) 'The New Empiricism: Affect and Sociological Method', *European Journal of Social Theory* 12(1): 43–61.
Clough, P. T. and Halley, J., eds (2007) *The Affective Turn: Theorizing the Social*. Durham, NC: Duke University Press.
Cohen, I. J. (1996) 'Theories of Action and Praxis', in B. S. Turner (ed.) *The Blackwell Companion to Social Theory*, pp. 111–42. Cambridge: Blackwell Publishers.
Cooren, F., Fox, S., Robichaud, D., et al. (2005) 'Arguments for a *Plurified* View of the Social World: Spacing and Timing as Hybrid Achievements', *Time & Society* 14(2–3): 265–82.
Corradi, G., Gherardi, S. and Verzelloni, L. (2010) 'Through the Practice Lens: Where Is the Bandwagon of Practice-Based Studies Heading?', *Management Learning* 41(3): 265–83.
Deetz, S. (2003) 'Reclaiming the Legacy of the Linguistic Turn', *Organization* 10(3): 421–9.
Deleuze, G. and Guattari, F. (1987 [1980]) *Mille Plateaux*. Paris: Editions de Minuit (English trans. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis, MN: University of Minnesota Press).
Eikeland, O. and Nicolini, D. (2011) 'Introduction. Turning Practically: Broadening the Horizon', *Journal of Organizational Change Management* 24(2): 164–74.
Elkjær, B. (2003) 'Organisational Learning with a Pragmatic Slant', *International Journal of Lifelong Education* 22(5): 481–94.
Engeström, Y. (1999) 'Expansive visibilization of work: An activity–theoretical perspective', *Computer Supported Cooperative Work* 8(1-2):63–93.
Engeström, Y., Miettinen, R. and Punamäki, R. L. (1999) *Perspectives on activity theory*. Cambridge University Press.
Engeström, Y. and Blackler, F. (2005) 'On the Life of Object', *Organization* 12(3): 307–30.

Erden, Z., Schneider, A. and von Krogh, G. (2014) 'The Multifaceted Nature of Social Practices: A Review of the Perspectives on Practice-Based Theory Building about Organizations', *European Management Journal* 32: 712–22.

Feldman, M. and Orlikowski, W. (2011) 'Theorizing Practice and Practicing Theory', *Organization Science* 22(5): 1240–53.

Fenwick, T. (2012) 'Matterings of Knowing and Doing: Sociomaterial Approaches to Understanding Practice', in P. Hager, A. Lee and A. Reich (eds) *Practice, Learning and Change: Practice-Theory Perspectives on Professional Learning*, pp. 67–83. New York: Springer International.

Foucault, M. (1978) *Discipline and Punish: The Birth of the Prison*. New York: Vintage Press.

Foucault, M. (1980) *Power/Knowledge: Selected Interviews and Other Writings 1972–1977*. New York: Pantheon Books.

Garfinkel, H. (1967) *Studies in Ethnomethodology*, 2nd ed. Englewood Cliffs, NJ: Prentice Hall.

Gherardi, S. (2000) 'Practice-Based Theorizing on Learning and Knowing in Organizations: An Introduction (Special Issue)', *Organization* 7(2): 211–23.

Gherardi, S. (2006) *Organizational Knowledge: The Texture of Workplace Learning*. Oxford: Blackwell.

Gherardi, S. (2009a) 'Practice? It's a Matter of Taste!', *Management Learning* 40(5): 535–50.

Gherardi, S. (2009b) 'The Critical Power of the Practice Lens (Special Issue)', *Management Learning* 40(2): 115–28.

Gherardi, S. (2012) *How to Conduct a Practice-Based Study: Problems and Methods*. Cheltenham: Edward Elgar.

Gherardi, S. and Perrotta, M. (2013) 'Doing by inventing the way of doing: Formativeness as the linkage of meaning and matter', in P. Carlile, D. Nicolini, A. Langley and H. Tsouchas (eds), *How Matter Matters: Objects, Artifacts and Materiality in Organization Studies*, pp. 227-259, Oxford: Oxford University Press.

Gherardi, S. and Perrotta, M. (2014) 'Between the Hand and the Head: How Things Get Done, and how in Doing the Ways of Doing are Discovered, *Qualitative research in organization and management*, 9(2): 134-150.

Giddens, A. (1984) *The Constitution of Society: Outline of a Theory of Structuration*. Cambridge: Polity Press.

Girin, J. (1990) 'L'analyse empirique des situations de gestion: éléments de théorie et de méthode', in A. C. Martinet (ed.) *Épistémologie et Sciences de Gestion*, pp. 141-182, Paris: Editions Economica.

Girin, J. (1995) 'Les agencements organisationnels', in F. Charue-Duboc (ed.) *Des Savoirs en Action. Contributions de la Recherche en Gestion*, pp. 233–79. Paris: L'Harmattan.

Guzman, G. (2013) 'The Grey Textures of Practice and Knowledge: Review and Framework', *European Business Review* 25(5): 429–52.

Haraway, D. (1991) 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspectives', in D. Haraway (ed.) *Simians, Cyborgs and Women: The Reinvention of Nature*, pp. 183–202. London: Free Association Books.

Harbers, H., Mol, A. and Stollmeyer, A. (2002) 'Food Matters: Arguments for an Ethnography of Daily Care', *Theory, Culture & Society* 19(5–6): 207–26.

Hardie, I. and MacKenzie, D. (2007) 'Assembling an Economic Actor: The *Agencement* of a Hedge Fund', *The Sociological Review* 55(1): 57–80.

Heath, C. and Button, G. (2002) 'Special Issue on Workplace Studies: Editorial Introduction', *British Journal of Sociology* 53(2): 157–61.

Iedema, R. (2007) 'On the Multi-Modality, Materiality and Contingency of Organizational Discourse', *Organization Studies* 28(6): 931–46.

Joas, H. (1997) *Pragmatism and Social Theory*. Chicago, IL: University of Chicago Press.

Knorr-Cetina, K. (1997) 'Sociality with Objects: Social Relations in Post-Social Knowledge Societies', *Theory, Culture & Society* 14(4): 1–30.

Knorr-Cetina, K. (2001) 'Objectual Practice', in T. R. Schatzki, K. Knorr-Cetina and E. von Savigny (eds) *The Practice Turn in Contemporary Theory*, pp. 184–97. London; New York: Routledge.

Latour, B. (1992) 'Where Are the Missing Masses? Sociology of a Few Mundane Artefacts', in W. Bijker and J. Law (eds) *Shaping Technology, Building Society: Studies in Sociotechnical Change*, pp. 225–58. Cambridge, MA: MIT Press.
Latour, B. (1999) 'On Recalling ANT', in J. Law and J. Hassard (eds) *Actor Network Theory and after*, pp. 15–25. Oxford: Blackwell.
Latour, B. (2005) *Reassembling the Social*. Oxford: Oxford University Press.
Law, J. (1994) *Organizing Modernity*. Oxford: Blackwell.
Sociologie des agencements marchands (2014), special issue of *Le Libellio d'Aegis* 10(2): 5–28.
Leonelli, S. (2014) 'Data Interpretation in the Digital Age', *Perspectives on Science* 22: 397–417.
Llewellyn, N. and Hindmarsh, J., eds (2010) *Organization, Interaction and Practice: Studies in Ethnomethodology and Conversation Analysis*. Cambridge: Cambridge University Press.
Marcus, G. E. and Saka, E. (2006) 'Assemblage', *Theory, Culture & Society* 23(2–3): 101–9.
Massumi, B. (2002) *Parables for the Virtual: Movement, Affect, Sensation*. Durham, NC: Duke University Press.
Miettinen, R., Samra-Fredericks, D. and Yanow, D. (2009) 'Re-turn to Practice: An Introductory Essay', *Organization Studies* 30(12): 1309–27.
Nardi, B. (1996) 'Studying Context: A Comparison of Activity Theory, Situated Action Models, and Distributed Cognition', in B. Nardi (ed.) *Context and Consciousness: Activity Theory and Human-Computer Interaction*, pp. 69–102. Cambridge, MA: The MIT Press.
Neresini, F. and Viteritti, A. (2014) 'From Bench to Bed, Back and beyond: The Four Bs of Biomedical Research', *Tecnoscienza* 5(1): 5–11.
Nicolini, D. (2007) 'Stretching Out and Expanding Work Practices in Time and Space: The Case of Telemedicine', *Human Relations* 60(6): 899–920.
Nicolini, D. (2013) *Practice Theory, Work, and Organization*. Oxford: Oxford University Press.
Nicolini, D., Gherardi, S. and Yanow, D., eds (2003) *Knowing in Organizations: A Practice-Based Approach*. Armonk, NY: M. E. Sharpe.
Orlikowski, W. J. (2007) 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies* 28(9): 1435–48.
Orlikowski, W. J. (2010) 'Practice in Research: Phenomenon, Perspective and Philosophy', in D. Golsorkhi, L. Rouleau, D. Seidl, et al. (eds) *Cambridge Handbook of Strategy as Practice*, pp. 23–33. Cambridge: Cambridge University Press.
Orlikowski, W. J. and Scott, S. V. (2008) 'Sociomateriality: Challenging the Separation of Technology, Work and Organization', *Academy of Management Annals* 2(1): 433–74.
Østerlund, C. and Carlile, P. (2005) 'Relations in Practice: Sorting through Practice Theories on Knowledge Sharing in Complex Organizations', *The Information Society* 21: 91–107.
Pareyson, L. (1960) *Estetica: teoria della formatività*. Bologna: Zanichelli.
Phillips, J. (2006) '*Agencement*/Assemblage', *Theory, Culture & Society* 23(2–3): 108–9.
Pickering, A. (1995) *The Mangle of Practice: Time, Agency, and Science*. Chicago, IL: University of Chicago Press.
Rorty, R. (1967) *Philosophy and the Mirror of Nature*. Princeton, NJ: Princeton University Press.
Rouse, J. (2002) *How Scientific Practices Matter*. Chicago, IL: University of Chicago Press.
Sandberg, J. and Dall'Alba, G. (2009) 'Returning to Practice Anew: A Life-World Perspective', *Organization Studies* 30(12): 1349–68.
Sandberg, J. and Tsoukas, H. (2011) 'Grasping the Logic of Practice: Theorizing through Practical Rationality', *Academy of Management Review* 36(2): 338–60.
Schatzki, T. R. (2002) *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*. University Park, PA: Pennsylvania State University Press.
Schatzki, T. R. (2005) 'Peripheral Vision: The Sites of Organizations', *Organization Studies* 26: 465–84.
Schatzki, T. R., Knorr–Cetina, K. and von Savigny, E., eds (2001) *The Practice Turn in Contemporary Theory*. London; New York: Routledge.
Stacey, R. D. (2001) *Complex Responsive Processes in Organizations: Learning and Knowledge Creation*. London: Routledge.

Strati, A. (1999) *Organization and Aesthetics*. London: Sage.
Suchman, L. (2000) 'Organizing Alignment: A Case of Bridge-Building', *Organization* 7(2): 311–28.
Taylor, C. (1991) *The Ethics of Authenticity*. Cambridge, MA: Harvard University Press.
Thrift, N. J. (2005) *Knowing Capitalism*. London: Sage.
Tsoukas, H. and Chia, R. (2002) 'On Organizational Becoming: Rethinking Organizational Change', *Organization Science* 13(5): 567–82.
Venn, C. (2006) 'A Note on Assemblage', *Theory, Culture & Society* 23(2–3): 107–8.

Author biography

Silvia Gherardi is senior professor of sociology of work and organization at the University of Trento, Italy, where she was responsible for the Research Unit on Communication, Organizational Learning and Aesthetics (RUCOLA, http://www.unitn.it/rucola). Her research activities focus on workplace learning and knowing. Her theoretical background is in qualitative sociology, organizational symbolism, and feminist studies.