Dialogue III

Reflecting on issues in developing a practice-based research agenda in education as a way forward

Having addressed a number of problematic assumptions about the 'what works' research agenda that have been unpacked through practice-based, theoretically informed research across a range of contexts, we now move to consider the possibilities of an alternative research agenda. Rather than 'evidence-based practice', we have identified a need for practice-based evidence and theoretical perspectives that account for the complex historical, institutional and political contexts that mediate the practices and decisions of those engaged in teaching and learning. This shift in the dialogue places the spotlight on researchers rather than on educational practitioners expected to implement 'best practice'.

The chapters in this dialogue consider a range of theoretical perspectives, methods and researcher orientations in an effort to drive home the idea that diversity is a valuable commodity when it comes to addressing the complexities of educational problems and the multiplicity of personal and professional investments and objectives. Etienne Wenger-Trayner addresses this opportunity from the perspective of a theorist, reminding us of the rich theoretical field at our disposal. His 'confession' comes from over ten years of consulting with practitioners interested in developing practice within their organisations, using the 'communities of practice' framework. Although he does not identify as an 'educationalist', his reflections have wide reaching applications for educational research, not least because they relate to a question asked by all researchers at some point: which theory is most appropriate given my data, my research methodology and the story I am telling? A common follow-up question would query whether we may choose more than one theory. Etienne outlines a 'plug-and-play' approach that says you can. He offers a set of principles and guidelines for this approach to running one theory through another, using his own theory as an example. Tim Deignan continues the theme of respecting diversity in perspectives by describing a unique combination of theory and method which he proposes can be used to develop systems that are multi-voiced and values-respecting. Using the example of dyslexia support in a UK university to demonstrate his approach to modelling the interplay of activity and subjectivity at a range of levels, his theorisation offers a way towards more effective and more democratic policy and practice – a conceptual tool for a variety of contexts.

Anna Sfard moves then to discuss the strengths and challenges of discursive methodologies, arguing that these provide a worthy alternative to the politician's demand for 'scientific evidence' produced through randomised experiments. A particular challenge of staying true to this methodology, in its radical form, is avoiding claims and interpretations that slip into dualistic and deterministic epistemological frames. Using a study in mathematics teaching and learning as an illustrative example, she elaborates upon a number of principles that discursivists must follow when employing the radical approach she describes. Her account reminds us that, regardless of our methodological approaches, all methods are underpinned by theories that, in turn, are contingent upon particular epistemologies. If we are to develop a theoretically informed, practice-based research agenda as an alternative to 'what works', we will need to keep this at the forefront of our discussions.

Rounding off this discussion of the intersections of theory and method, Valerie Farnsworth combines different perspectives on identity to explore the relationship between learning and curriculum, and between the learner and cultural models. Her chapter suggests that useful concepts and conceptualisations can emerge from an analysis that brings different theoretical perspectives in dialogue with each other. This suggests that one way in which research can inform practice, as an alternative to identifying 'what works' or defining 'best practice', is to offer conceptual tools that can support theoretically informed decision making in education.

However, as Seth Chaiklin argues in his chapter, it is not enough to 'offer' new ways of thinking if our goal is for the knowledge we produce to be useful and relevant for policy and practice in education. Seth addresses this issue by starting with the fundamental question: What is the relation between educational research and educational practice? He draws on a theory of activity to examine this relationship, and so proposes a research pathway that holds possibilities for strengthening the relationship between research and practice. The onus is placed on the researcher to be strategic from the beginning to the end of their research projects.

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The practice of theory
Confessions of a social learning theorist

Etienne Wenger-Trayner

This is an essay on the craft of producing and using social theory. I argue that social theory contributes to knowledge by producing perspectives that can be used to make sense of the world. This sense-making purpose entails a complex relation between theory and practice. The two can inform each other, change each other, but do not determine each other. Moreover, because perspectives can coexist, social theory does not progress in a linear fashion, with one theory replacing another, but by assembling a puzzle of interacting pieces. I propose that theories contribute to this progress by clarifying their location in this puzzle and thus enabling a 'plug-and-play' approach to the combination of related theories.

I like to think of myself as a practitioner in social learning theory in the sense that I produce theory. I am also a practitioner in the sense that I often act as a learning consultant in various settings where my theory has relevance. This essay is a personal reflection anchored in this experience. I will use my own theorising as a basis for these reflections and relate my theory to those of a few other theorists.[1] I will assume familiarity with my work and the work of these authors.

The nature of theorising in social theory

Let me start with a reflection of the nature of theorising in the social sciences. Social theory aims to organise a perspective on the world rather than generate statements that can be true or false. This focus on perspective making produces more complex relations between theories, and between theory and practice, than in disciplines where the purpose is to create and debate empirically verifiable statements about the world.

Two ways to create knowledge

To reflect productively on the nature of theorising in social theory it is useful to distinguish between two ways of producing knowledge.

New knowledge through methodology

One way to generate knowledge is to produce statements about the world that are not possible to make through daily experience, that is, telling people something they do not know. For instance, saying that the universe is 15 billion years old is not something we can induce from personal experience. Scientific communities have methodologies and instrumentation that allow them to produce such statements and claim a high degree of reliability for them. In the social domain too, statisticians can make pronouncements about the world that are not achievable through experience, such as the number of students who graduate from college in various countries around the world or the probability that a person with a given profile will have a car accident. Such methodological claims to knowledge are achieved within communities where they are contestable and under scrutiny. These communities can enforce adherence to practices that have become established as reliable (through processes such as peer reviews or doctoral supervision). This allows people to build on each other's work in a process of accumulation of knowledge. Once a theory has become established others can build on it to create new statements about the world. If a theory proves inadequate, people can replace it. My characterisation is a seriously oversimplified view of the process,[2] but the point is that this social and methodological apparatus allows members of these communities to produce statements about the world that can be considered reliable even though such statements usually can't be verified through personal experience.[3]

New knowledge through perspective

I remember being at a meeting to talk about my theoretical work and a graduate student remarked: 'Is there something I am missing here? This all seems completely commonsense to me.' His assumption was that if I was contributing to knowledge, I should provide him with some information he did not have. My response was that he had not missed anything. My work is commonsense in that I produce knowledge not by telling people things they do not know, but by providing tools to make sense of what they already know through personal experience – and hence know it anew. I would say that the characteristic of a good social theory is this ability to experience the familiar in a new way or to articulate our experience in a new way. A theory in the social sciences is not a statement of truth that can be verified or falsified. The notion of community of practice, for instance, is not true or false. It is a way of thinking about the social nature of the negotiation of competence. A theory in this sense is a framework that provides more or less useful ways of seeing the world. It allows one to tell certain stories. It enables one to know the world anew by focusing on new aspects, asking new questions, and seeking new observations and interpretations. Whether this counts as producing knowledge is a matter of definition; but it certainly contributes to our ability to make sense of the world.

Creating technical languages

Social theory is not the only endeavour that can result in new ways of looking at the world. A good novel or a moving speech can do this. The difference between social theory and literature or oratory lies in the systematic creation of a technical language.

Technical terms and vernacular language

In forging a language of concepts and metaphors, a theory makes certain terms technical. These are often words borrowed from vernacular language (e.g. identity, boundary, trajectory) or phrases made up of common terms (e.g. community of practice, negotiation of meaning). Once a term has been technicised this way, it is lifted from vernacular language and given a formal role in the theory.

Note that it becomes tricky to use a technical term in a vernacular way when one uses the framework of a theory. For instance, if I use the term 'identity' in my writing, I usually have to restrict myself to the role of this term in my theory; or if I want to use the term in a more vernacular way, I have to give a caveat or make my use obvious.[4]

Conversely, accounts crafted on the basis of a theory will use lots of terms and concepts that are simply left as vernacular language. Let me illustrate this with an example. I am often asked where motivation is in my learning theory, on the reasonable assumption that a learning theory should address the issue of motivation. It is not in the theory as a technical term. But it can still be part of accounts based on the theory, as a vernacular term. When I write I can make use of the term motivation, I can say that strong identification with a community provides a motivation to learn its practice, but it is used here as a vernacular term (at least for now, as a theory evolves and new terms become appropriated by the theory). The theory has technical terms such as identification, trajectory, paradigmatic trajectory, or non-participation, which can be used to do this work. This distinction between technical and vernacular terms requires discipline in using language.

Qualities of technical languages

Through technical language, a social theory reifies aspects of the world. This system of reification brings certain aspects and elements of the world into focus. It forces accounts to be organised around its technical terms, concepts, models and metaphors. The process can be more or less productive. The usefulness of a technical language depends on several qualities:

- *Generative*. The theory enables the creation of interesting stories, suggests probing questions, and generates good insights.
- *Evocative*. The theory expands our perspective. It stimulates the imagination and encourages us to see things in new ways.

- *Recognisable*. The language resonates with our experience in ways that make it easy to appropriate. Because social theory is about us, the more we can 'live' it, the more we can 'use' it. A theory that allows personal identification with its perspective also allows appropriation of it for sense making.[5]
- *Systematic*. The system of concepts is rigorously constructed, with an economy of technical terms. Concepts do not overlap, but complement each other tightly. They form a systematic whole, which results in a coherent perspective.

There can be tensions between these qualities. Clarity and precision in definitions of terms are an important part of their transition to technical status into a system of concepts. Such formalisation is necessary to free terms from unwanted baggage of their vernacular origin. For instance, I always have to fight the connotations of harmony or homogeneity that come with the term community (which I only use in a technical sense in the expression 'community of practice'). Yet overly restrictive definitions can reduce the evocative power provided by the vernacular origin of terms. A tightly systematic theory can sometimes lose evocative power. A theory needs to strike a balance. It can be more or less directive about the use of the language, with precise definitions or process templates that proceduralise the use of the language. For instance, the triangles of Engeström's version of activity theory (1987) are rather directive in proposing a model of human activity and a tool for locating potential contradictions. This is one reason many people really like the theory while some others don't.

The art of theorising has to do with choosing a collection of technical terms that are both precise and evocative and form a coherent whole. I know I spend a lot of time sweating about the addition of a new technical term: Is it needed? What specific conceptual work will it do that a combination of existing terms would not do? Is it overlapping with or orthogonal to other concepts and dimensions of the theory and how does it articulate with them to enrich the potential accounts to be derived? What word or phrase would fit best to convey the idea?[6] The value of a theory as a perspective is rooted in a systematic discipline of language.

The 'plug-and-play' principle

The nature of theorising I have just described creates a problem for the evolution of social theory. Social theories do not compete in terms of being true or false; they compete in terms of the usefulness of their perspective in enabling certain types of accounts about the human world: they are created for different purposes, from different perspectives, and therefore with different languages. As a result, it is not easy for theorists to build on each other's work. Competing on usefulness leads to a proliferation of theories without simple criteria to weed them out. As the saying goes, social theorists walk on each other's toes rather than stand on each other's shoulders.

Rather than lamenting this state of affairs or aspiring to imitate the natural sciences, I would like to propose a more constructive alternative, which celebrates the diversity of theories in light of the complexity of human experience, but

without giving up on a discipline of progress. This is what I call the 'plug-and-play' principle.[7]

Again, I'll start with my own work as an example. Its focus is to produce a social learning theory. It does not theorise what is being learned, or whether it is good for the learner. It just shines a social perspective on the process of learning. But the social context of learning is complex. For instance, I am often asked why there is no social class, gender, ethnicity, institutionalised power, or similar key sociological concern in my theory. Surely those are important to a social view of learning in practice. And indeed it would be tempting to expand the technical language of the theory to cover these.

I have always resisted this temptation so far. I can think of a number of reasons. First, countless issues and dimensions would be good candidates for inclusion. It is also important not to build into the theory things that one wants to be able to use the theory to explain. Finally, for most potential dimensions, there already exist numerous well-established theories. The 'plug-and-play' principle suggests another approach: rather than expanding the learning theory itself, find theories with an existing apparatus and run them through the learning theory. There exist many theories covering class, gender, institutions and other relevant topics. Rather than burdening the learning theory, why not see whether the theories can be run through each other in a plug-and-play fashion?

If social class is a significant concern, for instance, a variety of Marxist and conflict theories provide ample theorising about the nature of economic dominance in class relationships. But one could apply social learning theory to investigate the learning processes by which people become members of a social class in practice. This was the approach taken by Paul Willis in his wonderful study of *Learning to Labour* (1977). He accepted the Marxian premise of the reproduction of social classes; but he wanted to know in practice why working-class boys ended up with working-class jobs even though they heard their father complain about their work all the time. And the result of his ethnographic investigation is a very complicated story involving, among other things, resistance in school and the development of a male ('lad') identity. He was running Marxist theory through cultural-practice theory (which is very closely related to social learning theory) and the result was very insightful.

Running a theory through another

Not all theories are equally easy to combine through plug-and-play, especially if they cover the same territory but use different languages reflecting different perspectives. In some cases they may be incompatible and one may need to choose. But I suspect that it is often a productive approach to see whether two theories can run through each other. To this end, it is necessary to understand the perspective of each theory in the context of its historical roots, its location in the theoretical landscape, and the intentions of its authors: the focus of the theory, the commitments it represents, and the terms that are chosen as technical.

Focus

Because of the multidimensionality of human experience and the infinite variety of possible accounts of that experience, social theory always serves a specific purpose. The ability of a manageable technical language to produce useful accounts about the human world requires focus: aspect of human experience, level of scale and intended use. My own theory aims to produce a learning theory based on the assumption that learning takes place in the relation between the person and the world. The concept of community of practice is an example of a key technical term that localises this relation in the social world. This social perspective situates learning in a social geography of competence that defines localities and boundaries in the social landscape. As a journey through this landscape, learning shapes an identity, which reflects the experience of the landscape over time.

Plug-and-play between theories is useful if the focus of each theory contributes to the focus of the other by enriching and expanding the perspective. For instance, the work of Willis mentioned earlier enriches the theory of class with the local focus of practice theory; and, in turn, articulating the class-reproducing effects of practice embeds it in a broader context that gives historical significance to apparently anodyne actions. Similarly, a theory of the firm is enriched by a theory of practice while practice is enriched by an articulation of its embeddedness in an organisational context.

Stance

A social theory also represents a stance – explicit or implicit commitments to historical and intellectual roots, as well as theoretical and ethical positions.[8] Critical theory, for instance, starts by recognising the existence of power imbalances in society and this leads to a commitment that theory should help expose and redress these imbalances. Such a stance not only gives coherence to the choice of technical terms; it is something one needs to honour when engaging in plug-and-play.

Let me illustrate this by briefly articulating some commitments typical of the stance of my theory. Its focus on learning as a relation between the person and the world, typical of its anthropological roots, rejects a dichotomy between individual and social, but insists on their mutual constitution. In this mutual constitution, the theory affirms agency through engagement in the negotiation of meaning in two ways. At a collective level it theorises a local definition of competence negotiated by the community through participation. Practice is, in the last analysis, the production of a community, no matter how many external constraints influence this production (Wenger, 1998). At a personal level, the theory embodies agency in processes of identification. While identification with a community entails accountability to its competence, identification is a relationship that can be modulated (Wenger-Trayner, in preparation<AQ23>). Because of this local definition of competence, there can be no relation of subsumption between one practice and another: each practice has its own home-grown logic.

While my theory is not critical in the traditional sense since it does not theorise the value of what is learned for the learner or for society, it does have an underlying ethical commitment to agency and to social learning capability as a social good. This commitment to agency and to learning capability as essential characteristics of social systems can be used as a stance for critiquing social arrangements (Wenger-Trayner, 2012). <AQ23a>

Language

Plug-and-play between theories entails integrating some aspects of their respective technical languages. When two theories are brought into interplay, their technical terms can be in various relationships:

- *Vernacular in one theory, technical in the other.* This is the more common case, and the one that makes it relatively easy to plug-and-play. It is a matter of making the vernacular term technical by adopting the conceptual apparatus related to that term. Any theory can use the term community of practice as a technical term and inherit related concepts such as regime of competence, boundary and identity.
- *Two terms, similar technical usage.* When two terms refer to the same phenomenon, plug-and-play requires processes of translation that can be tricky because terms have connotations rooted in different traditions as well as vernacular usage. For instance, Gee (1999) adopts a language rooted in linguistics to describe phenomena close to my focus. He uses the term 'Discourse' (with capital D) in ways that I find indistinguishable from my notion of practice. He also talks about 'grammar' in a community to refer to what I call 'regime of competence' (Gee, 2003). I think that my theory could be enriched by plug-and-play with theories of discourse because it does not address the use of language and its power in very sophisticated ways (Barton and Tusting, 2005). In Gee's case, the common technical term provides a pivot between the theories, but the plug-and-play process will involve choosing the terms that best fit the specific purpose.
- *Same term, different technical usages.* For instance, the term practice is used in different ways in various theories (see Bourdieu's usage below). This makes it more difficult to plug-and-play because the use of the same term can lead to confusions. It is then necessary to specify in which sense one uses the term and be consistent.

As can be seen from these three dimensions, the difficulty of the plug-and-play approach is that it requires a deep understanding of the theories involved – their respective focus, stance and technical language.

Examples of plug-and-play

It is useful to illustrate these three aspects of the plug-and-play principle with a few examples. For this purpose I have chosen some theories that are close neighbours to mine and explored the potential for plug-and-play.[9]

Structuration theory

Anthony Giddens' structuration theory is an attempt to transcend some of the fundamental dichotomies of traditional social theory (agency/structure, micro/macro) by seeing social structure as both the input and output of action (Giddens, 1984). This perspective is highly compatible with my theory where practice is both the input and the output of the engagement of community members in social learning. The two theories have rather different purposes, but they can enhance each other. While the notion of structuration runs from the macro to the micro level, it is useful to create mid-level categories such as practice and identity. Such mid-level concepts refer to a context where structuration is experienced concretely by people. A community of practice is a locus of structuration. It is a social history of learning that has become a social structure (Wenger, 1998). But it is a locus of structuration where learning involves a direct interaction between the structure and the people whose experience is shaped by it and which shapes it in turn. The learning theory provides a concrete context in which people negotiate what counts as competence, and become 'structurators,' as it were, through these specific competences (Wenger, 2006). This contributes a learning theory to structuration theory; and in turn the learning theory can adopt concepts from structuration theory, such as the unintended consequences of action. The purposes are complementary, the perspectives are fully compatible, and the languages are quite distinct, so it is easy to plug-and-play terms of one theory into the other.

Activity theory

Activity theory has its roots in attempts to create a social theory of development rooted in the Marxist view of productive activity as the source of consciousness. This was certainly the intent of Vygotsky (1978), whose work is a foundation of activity theory. It is also true of the more recent version of Engeström (1987), which addresses the historical development (continuity and change) of sociocultural forms through activity structures. Focusing on development in terms of activity structures, activity theory does not place much emphasis on how people become able to participate in activities as acting subjects. Nor does it focus on how learning takes place across activities for specific people through the communities of practice to which they belong. Both theories adopt a sociocultural perspective, but they have produced distinct, though closely related, sets of technical terms referring to activity and practice as two different aspects of human engagement in the world. Table 8.1 gives a brief overview of the complementarity between the two perspectives by comparing a few related aspects of the theories.

Table 8.1 Related aspects of activity theory and practice theory

Aspects of theory	Activity theory	Practice theory	Plug-and-play
Perspective	Context of purposefulness in which a practice is applied	Learning continuity across time and activities	An activity involves multiple practices (through the division of labour) and a practice is realised in multiple activities.
What?	Object	Domain	Domain refers to areas of competence necessary for achieving the object of activities
Who?	Subject	Identity (participation)	Identity refers to the continuity of learning and becoming across contexts of subject–object relation
How?	Tool (mediation)	Artefact (reification)	A tool mediating an activity is usually an artefact that has meaning within one or more practices (beyond a single activity)
Why?	Good for locating contradictions that drive development	Good at focusing on learning opportunities in trajectories through the social landscape	Recognising the role of multiple drivers of learning, including contradictions, but also participation, boundary processes, inspiration, adoption, etc.

The compatibility of perspectives combined with the complementarity of purpose and technical terms make plug-and-play easily productive.

Bourdieu's habitus/field theory

Pierre Bourdieu's work is an attempt to create a sociocultural theory of stratification that uses a combination of economic and cultural factors to explain enduring dominance in social-class relationships (Bourdieu, 1984). Learning in a stratified society will confront stratification, whether to reproduce it or resist it. So a learning theory and a theory of stratification have usefully complementary purposes – they need each other. Because both theories are anchored in a practice-oriented perspective, they are a natural pair. However, there are some difficulties in the details of plug-and-play.

For instance, I believe that the notion of field could benefit from being seen as a landscape of different practices that constitute it. This would provide a more textured view of the geography of competence necessary to sustain a field. But Bourdieu (1992) and I make different uses of the term practice. I use it in the sense of a competence derived from a collective learning process that creates continuity across time and space, as in the expression 'medical practice'. Bourdieu

uses it to refer to moments of engagement of the habitus in a field. So the use of the term practice requires great care if one run the theories through each other.

The closely related meanings of the terms habitus and identity also create some difficulties. It is not possible simply to equate them because habitus refers to embodied dispositions, largely beyond consciousness or volition. This is important for a theory that tries to account for the subconscious reproduction of stratification. Reflecting my focus on learning and becoming, my notion of identity is constituted by more active processes of identification, which are essential to my commitment to account for agency.[10] I sometimes think that habitus could be viewed as the subconscious aspect of identity, which would be useful because my theory misses this distinction, except perhaps implicitly in the participation/reification pair. In this sense, my use of the term participation may be closer to Bourdieu's habitus, but participation is a process while habitus is a state. In turn, learning as becoming through the construction of an identity would add an aspect of agency to habitus, something that Bourdieu's critics often claim is missing. These conceptual struggles reflect the conflict between my intuition that the two theories are made for each other and the practical subtleties of language involved in plug-and-play.

Organisational theory

Some people raise concerns that my theory does not include a theory of organisation, which they see as important since communities of practice often operate in organisational (or cross-organisational) contexts. 'Organisation' is not a technical term in social learning theory, but again there are many theories about organisations in economics and organisational studies. My theory's focus on learning and practice does offer a perspective on organisation. An organisation involves reification in the form of designed structures, policies and relationships. This design does not 'act' on its own. Organisational design, policies and hierarchies do not have agency. They need to be created, sustained and enforced through participation in specific practices (managerial, legal, accounting, plus all the practices that are necessary to do the work of the organisation). These practices reflect and involve localised social learning processes, both to be what they have become and for their continuation and adaptation. There are several theories of the firm to choose from, but I would insist that the one selected be compatible with this view, that is, that it be run through my theory, before I can take it on board. For instance, a knowledge-based theory of the firm would have to incorporate the view that knowledge resources are embodied in a complex landscape of practice, with different communities and boundaries between them.

Plug-and-play as a discipline of progress

If a theory has difficulty accounting for a phenomenon, the temptation is to create new technical terms. But one has to be parsimonious in creating technical terms because every new term makes the theory heavier and potentially unwieldy:

it would not be very useful to make the whole of English into technical terms. Social theories do not become useful by aspiring to universality or dominance, in the sense of explaining everything. Theories that try to explain everything tend to reduce the human experience to a simple principle: everything is social class, everything is sexual drive, everything is gender, everything is power. These theories deny that there are other stories to tell about the human world.

What this suggests is a notion of progress for social theory that does not aspire to simple accumulation, but does not entail mere fragmentation either. The nature of theorising in social theory makes it hard to build on each other's work cumulatively the way natural scientists aspire to. For them if a theory struggles with data or creates more problems than it solves, ideally it is replaced by another. Natural scientists can strive for one dominant theory at a time (even if the reality of practice is more complex) because they are telling a fairly well-defined story within the purview of their specific disciplines. The plug-and-play principle is an alternative to linear accumulation. It views social theorising as a puzzle, whose diversity reflects the complexity of human life.

From this perspective a good theory is not one that claims to cover everything, but on the contrary one that is well confined and with a well-defined place in the puzzle. It is one whose boundaries are easy to engage with from other theories. This requires specifying its location and shape in the theoretical puzzle:

- what it is good for, the kind of story it can help to tell, questions it forces one to ask and focus on; and where its limits are, what story it does not help to tell, questions it is not equipped to ask well, things it overemphasises[11];
- what other theories will need to do (accept and provide) if they want to interface while doing justice to the fundamental tenets of its perspective;
- what terms are made technical and what restrictions this formalisation places on their use.

This goes beyond merely classifying theories into schools of thought. It entails searching for productive boundaries. In an academic world where accusations that one's theory does not do this or that can be so effective, the discipline of plug-and-play may be counter-cultural. This notion of plug-and-play progress entails a more humble definition of what makes a good theory. If you can't stand on each other's shoulders, you don't have to walk on each other's toes. You can learn to dance.

Implications for research

If social theories are built for the purpose of enabling certain accounts about the human world, researchers need to choose a theoretical framework based on the account they want to give. But it is often the case that one theory is not sufficient: no single theory provides the conceptual tools to tell the full story researchers want to tell. It is necessary to adopt the plug-and-play principle to combine theories. Of course, the process is a bit more complex because both theory and data

can suggest new stories worth telling. So it is not the case that you decide on the story and then decide on the theory. The browsing of theory gives you different ways of looking at your situation or data; so the process is iterative.

I am quite comfortable with the idea of people choosing some technical terms from one theory and some from another and concocting a mix that serves their account. The plug-and-play principle suggests that you can make your own assemblage, but you need to do justice to the DNA of each theory: its purpose, its stance, its language. When selecting terms, you need to consider the embeddedness of concepts in a broader theory: what else you need to take along to remain true to the concept as used in the theory.

Implications for practice

The view of theory as conceptual framework I have outlined here suggests a mutual relationship of theory and practice. The social sciences have the characteristic that our subjects can understand and use our theories.[12] I personally do not do much research in the traditional sense: a lot of my work consists in helping practitioners apply my theory.[13] However, I can offer this reflection as a challenge to the 'what works' agenda that has been addressed by other authors in this book: the mutual engagement of theory and practice works both ways.

I find my straddling of theory and practice quite productive for my own theorising. Working with practitioners is a good ground for exploring how theory changes the way people look at the world, and which theoretical language seems most productive for people who are trying to accomplish something concrete like supporting learning in or across organisations. I can test what reflective practitioners find useful in their attempts to make sense of what is happening and what they need to do. I often discover new technical terms in my attempts to make my work useful. I can then test the evocativeness of a concept by using it in various contexts. How useful is it in helping people think about a problem? Then I have to go back to the theoretical loom and see how the concept can be woven into the theoretical fabric in a coherent way. But the demands of practice provide a very fertile ground for theory generation and refinement.

If I gain theoretical insights from involvement in practice, practitioners gain new insights from theory. The notion of community of practice has changed the way many people look at learning and at organisations. Because practice is more complex than theory, using theory to guide practice often requires some plug-and-play. This also suggests that while theory can guide the perspective of the practitioner, it cannot replace it. Theory as I have presented it here is not a claim to truth that subsumes experience, but a claim to perspective that informs experience. In the realm of social theory, the role of theory can only be to propose conceptual perspectives that train the eye to see. Theory is not to be implemented; only adopted as a tool. The final say has to be left to practitioners in the field who can see the terrain. May theory give them good eyes to see; and may their seeing eyes rescue them from the tyranny of theory.

Notes

1 I will call the version of social learning theory I am working on 'my theory' for short, referring to my book on communities of practice (Wenger, 1998) as well as more recent work (e.g. Wenger-Trayner, in preparation <AQ23>). But of course it is rooted in my work with Jean Lave (Lave and Wenger, 1991), which was itself rooted in her earlier work (Lave, 1988); and many others have contributed to its evolution.

2 Progress in scientific knowledge is the subject of intense debates in the philosophy and sociology of science. Kuhn (1962) dismisses the notion of linear progress by noting dramatic shifts between incompatible paradigms. Larry Laudan (1977) argues that an ongoing problem-solving view explains the evolution of science better: scientific theories evolve by solving (and in doing so creating) not only external, empirical problems posed by data but also internal conceptual problems in the theory. Situating science in institutions, Latour and Woolgar (1979) look at the scientific and institutional practices that 'produce' facts in the laboratory. The controversies are too subtle to be discussed here, but my point does not depend on adopting a particular view of the evolution of the natural sciences.

3 The relationship is a bit more complicated. Knowledge that is unlikely to be derived from experience can also help explain experience and thus gain plausibility; for instance, when knowing that the earth is round helps explain why it appears that ships sink as they sail towards the horizon.

4 The natural sciences do this too, e.g. force or work in physics and function or axis in mathematics. Likewise, scientists can only use these terms in their vernacular sense when it is very clear that such is the case; for instance, if a physicist complains that writing a paper was a lot of work.

5 Wide recognisability in this sense is a form of generality. Here again, generality is defined in terms of being recognisable by many people by reference to their experience, as opposed to generality gained by accounting for a large dataset beyond experience.

6 By the way, this focus on technical terms that gain evocative power from the vernacular language makes translation very difficult. Fernand Gervais of Laval University, who translated one of my books into French, told me that it would have been easier to write a whole new book (personal communication).

7 The notion of 'plug-and-play' comes from a development in the design of peripherals that can easily add functionality to a computer system by interfacing with that system immediately upon connection.

8 I am avoiding talking about theoretical commitments in terms of schools of social thought because I am more interested in the craft of theorising than in classifying theories, even though I recognise that these classifications are useful as a way to understand what theories are trying to do and where they come from.

9 I have selected these particular theories because they have influenced me and I have struggled to figure out what the relationship was, and in many cases, whether there was any reason for my own theory at all.

10 Qasim and Williams (2012) argue that Bourdieu (1991) makes a distinction between habitus and identity and accepts that identity involves more negotiated processes of identification. I do not think, however, that Bourdieu would consider identity a technical term in his theory.

11 Theories always get into trouble; for instance, activity theory with its insistence on a single, well-defined object (Engeström, 2009), or my theory because it overemphasizes issues of membership, as noted in Gee's critique (Gee, 2007).

12 As well as empirical findings. Giddens argues that the use of the social sciences for institutional design is a characteristic of modernity, which he calls *institutional reflexivity* (Giddens, 1991).
13 For a critique of the instrumental use of practice theory, see Vann and Bowker (2001).