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Expertise revisited, Part II: Contributory expertise

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ABSTRACT

In Part I of this two part paper we tried to elicit the 'essence' of the notion of interactional expertise by looking at its origins. In Part II we will look at the notion of contributory expertise. The exercise has been triggered by recent discussion of these concepts in this journal by Plaisance and Kennedy and by Goddiksen.

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1. Introduction

This is the second part of a two part re-examination of the concepts of interactional expertise and contributory expertise (Collins & Evans, 2002, 2007; Collins, 2004a). We will refer to the first part of the re-examination (Collins & Evans, 2015), as 'Part I'. In Part I, we revisited the concept of interactional expertise (IE). In this part, 'Part II', we are concerned with contributory expertise and the broader question of who can contribute in which ways to technological decision-making in the public domain.

2. Who contributes?

We start our discussion with a brief mention of the relationship between interactional expertise (IE) and contributory expertise (CE), pointing out unsolved problems. We then set out the difference between political and technical phases of a technological decision and examine the ways in which they interact with each other; this is important if the various ways of contributing are to be understood.[1] The main exercise, which is an attempt to describe, exhaustively, all possible ways that experts and citizens can contribute to these two phases, starting with the technical contributions and finishing with the political contributions, is set out in several separate sections and tables in the middle of the paper.

Along the way we examine earlier work and introduce a number of new terms to clarify ideas and highlight new distinctions that have emerged since the publication of the original 'Third Wave' paper in 2002. These new terms include, 'target expertise', which refers to the set of technical expertises implicated in a technological decision; a special term is necessary because the target expertise can be different under different perceptions of the nature of a dispute. This leads to a related distinction between political framing and technical formulation that highlights the two different ways in which the relevant target expertise might be changed. We also clarify the notion of referred expertise showing that it is really two things: technical referred expertise and referred discrimination. Finally, we include some terms first introduced in Collins and Weinel (2011) such as 'domain specific discrimination' and 'sociological discrimination', which may be unfamiliar to those who take their categories from the original Periodic Table of Expertise (Collins & Evans, 2007).

The attempt to generate an exhaustive list of ways to contribute is triggered by the argument of Plaisance and Kennedy (2014 – hereafter, PK). They propose that the concept of interactional expertise should be softened so that it can legitimate the ideas of ordinary citizens who want to intervene in the technical phase of public domain decisions. In Part I, we argued against a definition that would enable the mere invocation of the concept to legitimate

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[1] The distinction between technical and political phases is developed at length in Collins et al., 2010 and 2011 as well as here.

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such interventions. This would exacerbate the very 'problem of extension' (Collins & Evans, 2002, 2007) that the idea of interactional expertise was meant to ameliorate. We also argued that, in any case, interactional expertise was only rarely relevant to such interventions. We now want to work out what rights and expertises can be brought to bear on technological disputes in the public domain so as to avoid misplaced uses of the concept of interactional expertise. More positively, we want to show how the wider programme known as Studies of Expertise and Experience (SEE) can support contributions to the technical phase based on many different kinds of expertise while also encompassing contributions within the political phase. We hope this will create a more complete analytical context for projects such as that of Plaisance and Kennedy.

2.1. When does practice end and linguistic discourse begin?

The arguments of both PK and Goddiksen (2014) and Reyes Galindo and Duarte (2015), arise, in part, out of problems of definition. A clear problem is that interactional expertise is in part understood through its transitive relationship to contributory expertise (CE) – the ability to contribute to an area of practical accomplishment. The boundary between IE and CE has been troublesome from the start, conceptually if not practically, because not all expertises appear to have a practical component. Thus we still have not fulfilled the promise to resolve the difference between IE and CE in cases such as literary criticism. Another example is peer-reviewers and committee members who are understood to be primarily interactional experts but clearly contribute to the technical domain.[2] We still do not know the answer to this kind of question but perhaps it is one of those borderline problems that are philosophically irritating but which do not pose any serious real world problems: there is nothing pressing that we do not know how to handle as a consequence of not having a clear borderline while there is much that we can handle as a result of having a distinction between interactional and contributory expertise. Perhaps there is a solution out there somewhere.

2.2. The distinction between political and technical phases

Technological decision-making in the public domain can be analysed as consisting of two phases: the technical phase and the political phase. These are not ordered sequentially but refer instead to two different aspects of the overall problem. In the technical phase, the emphasis is on the production of knowledge about the world. In contrast, the political phase is concerned with questions of preference and priorities. Some of the key differences between the technical and political phases are summarised in Table 1 below, which is reproduced from Collins and Evans, 2002, 'Third Wave' paper.

The first row indicates that in the technical phase political and other influences on results should be eliminated as far as possible. We know from Wave 2 of science studies that political influences on scientific results can never be avoided but, while there will always be *intrinsic* influences, they should never be *extrinsic* – that is celebrated or otherwise endorsed. To make political influences extrinsic is to negate the form-of-life of science.[3] The

Table 1
Characteristics of political and technical phases.

		Phase	
		Political	*Technical*
Nature of	*Politics*	Extrinsic	Intrinsic
	Rights	Stakeholder	Meritocratic
	Representation	By Survey	By Action
	Delegation	By proxy	Impossible

second row of the table indicates that in the political phase contributions to the outcomes of technological debates in the public domain can be justified if the parties have a stake in those outcomes – fairness within a democratic process is the criterion of inclusion – whereas in the technical phase participation can only be justified on the ground of relevant expertise or experience (i.e. merit). The third row indicates that political contributions can be represented by surveys or votes by those who have a stake in the matter whereas technical contributions are intrinsic to the person of experts because of the way they must continually respond to the details of changing circumstances to which the non-expert population has no access. The final row follows from this in that a political actor can employ someone else to act for them and represent their position whereas an expert cannot ask someone else to take their place unless they are equally expert.

In subsequent publications (e.g. Evans & Plows, 2007; Weinel, 2010; Collins, Weinel, & Evans, 2010) the relationship between technical and political phases has been set out in more detail, although the core principle that, in a democracy, the political phase should always take priority, remains unchanged. Instead, the developments have led to a richer understanding of how the focus can switch from political phase to technical phase and back again. Thus, for example, we now distinguish between 'upstream mediating' processes through which political concerns and preferences become formulated as technical questions that require expert analysis and 'downstream mediating' processes through which the outcome of this expert analysis is used to inform policy outcomes. When receiving expert advice the defining feature of SEE is not that such advice must be followed – that would be technocracy – but that the nature and strength of the consensus that informs that advice must not be misrepresented by policy-makers. In other words, policy-makers or citizens do not have to heed expert advice but they should not pretend that such advice does not exist or that is something other than it is.

In Part I we saw one way the distinction between technical and political phases could be applied when we imagined that strong fluxes of gravitational waves, the existence of which has been rejected by the technical community, if combined with the effects of living near power lines might cause cancer. We agreed that this could change the way previously rejected claims were assessed but this would not be a change in the technical phase – the likelihood of the existence of strong fluxes would remain the same and would continue to justify their rejection as far as decision-making within the technical community was concerned. But a change in the political phase would be invited – something very unlikely, according to the scientists, might have to be taken more seriously by those with political responsibility. Keeping the two spheres separate resolves the problem that the *technical* judgements within the esoteric world of gravitational wave physics could become affected by power-line scares. We know, of course, that esoteric judgements can be affected by political judgements but we still need to make the distinction in order to hold the position that these affects should never be extrinsic, only intrinsic, and that it remains the duty of scientists to strive to try to exclude political influence on

[2] We leave out managers because they are a more complicated case.

[3] Though we agree with Heather Douglas (2007, 2009) that science cannot be value free in any absolute sense, we think she may not have given enough consideration to some of the problems of extending technical judging rights to the citizenry – See Collins and Evans, under submission.

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