# The Value of Interactional Expertise: Perceptions of Laypeople, Interactional Experts, and Contributory Experts

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## Introduction

In their book *Rethinking Expertise*, sociologists Harry Collins and Robert Evans lay out a framework for classifying expertise which they dub "The Periodic Table of Expertise" (Collins & Evans, 2007). They envision the table to take the form of a ladder, with each rung representing a different level of specialist expertise (Collins & Evans, 2007). Collins and Evans revise pre-existing concepts of this "ladder of expertise" by including a rung called "interactional expertise." Interactional expertise is the second highest rung on the ladder. It is the level immediately below "contributory expertise", which comprises the highest level of specialist knowledge and is populated by PhDs, MDs and the like. According to Collins and Evans, interactional experts are proficient in the language of a specialist domain, but they do not actively practice the science of that domain.

In this paper I will take a deeper look at how interactional experts are likely to be perceived by themselves and by others. In doing so, I will uncover what I believe are shortcomings of the "interactional expertise" label. In particular, I argue that Collins and Evans do not account for the limitations of interactional expertise caused by the way contributory experts and laypeople

perceive the value and credibility of interactional experts. In Section 1, I provide an overview of Collins and Evans' framework for classifying expertise and outline the definition of interactional expertise as conceived by Collins and Evans. In Section 2, I analyze how interactional expertise is assessed and by whom. I examine the operational definition of interactional expertise employed by Collins and Evans, as well as a more inclusive operational definition proposed by Kathryn Plaisance and Eric Kennedy. In doing so, I argue that because laypeople cannot measure interactional expertise, the label is limited in its ability to bridge the gap between science and society. In Section 3, I explore the relationship between contributory experts and interactional experts, considering the potential for tensions to arise due to each party overestimating the value of their respective expertise. I continue with a discussion on the merits of a contributory expert. Then, in Section 4, I discuss the relative merits of interactional experts, and claim that while contributory experts can also possess interactional expertise, they cannot provide the same value as solely interactional experts. I argue that the solely interactional expert can have a different approach to a problem within a discipline because of their lack of contributory expertise in that discipline. I compare this claim to a similar account of the value of differing perspectives seen in design-thinking. In Section 5, I explore how the unique abilities of an interactional expert might lead the interactional expert to inflate the value of their expertise relative to that of the contributory expert. Finally, I conclude that optimizing how interactional expertise is perceived by laypeople, interactional experts, and contributory experts is a critical step towards realizing the full benefits of the interactional expertise concept.

**Section 1**

In their book, Collins and Evans introduce the "Periodic Table of Expertise", a framework for classifying different levels of expertise and knowledge (Collins & Evans, 2007). According to Collins and Evans, there are five levels of specialist expertises, and they can be viewed as the five rungs of a "ladder of specialist expertises". The highest rung on Collins and Evans' "ladder of specialist expertises" is "contributory expertise." Contributory expertise is the kind of expertise associated with those practicing science at its core, such as individuals with PhDs and researchers. Contributory experts have progressed through a five stage model of expertise acquisition, going from novice to advanced beginner, competence, proficiency, and finally to expertise (Collins & Evans, 2007). As a contributory expert, the individual has embodied the skills and internalized the content of the science (Plaisance, 2015). These experts not only contribute to the knowledge in their field, but practice alongside other experts at the core of the discipline. This "enculturation" is fundamental for acquiring the tacit knowledge that must be understood as a contributory expert (Collins & Evans, 2007). In their book, Collins and Evans introduce a new level of expertise, "interactional expertise" which lies immediately below contributory expertise. Interactional expertise is expertise in a disciplinary language, without expertise in the corresponding disciplinary practice (Collins & Evans, 2007). The interactional expert can speak the language of a discipline with the same fluency as the contributory expert, but without actually practicing the skills of the discipline. Interactional expertise does not require the acquisition of a formal degree. Rather, it is achieved by enculturation in the community of a discipline, without complete immersion in the physical aspects of the community (Collins & Evans, 2007).

The addition of interactional expertise as a level of specialist expertise was the product of a desire to better classify knowledge and expertise. The concept of interactional expertise was born out of Collins and Evans' experiences as sociologists immersed in other specialist domains (Collins & Evans, 2007). In their work, they not only collaborate with people of different disciplinary backgrounds, but delve deep into the

language of a discipline such that, in speech, they are indistinguishable from the experts with whom they are working (Collins & Evans, 2007). Essentially, Collins and Evans have each acquired interactional expertise, and recognized a gap in existing expertise classification systems (Collins & Evans, 2007). They identified that they possessed a thorough knowledge of a discipline (in addition to the one in which they were originally trained); which had previously not been recognized as significant. In developing a framework for expertise that included interactional expertise, Collins and Evans aimed to address the gap they had identified between "primary source knowledge" and "contributory expertise" (Collins & Evans, 2007). By creating a new level of expertise, Collins and Evans shed light on the importance of interactional expertise and its unique properties.

**Section 2**

Collins and Evans' development of the interactional expertise label is most successful in attesting value to the knowledge of individuals that are fluent in the language of a specialist domain without practicing the skills of the domain. Likewise, the biggest limitation of the interactional expertise label is its lack of far-reaching credibility. When a hopeful interactional expert is acquiring their expertise, they undergo a progression from "interview" to "discussion" to "conversation" with the contributory expert (Collins & Evans, 2007). They incrementally learn more and more of the language until the contributory expert willingly converses with the interactional expert about the practice of their science (Plaisance, 2015), and is even receptive to critical comments from the interactional expert (Collins & Evans, 2007). When discoursing with experts who were not involved in helping the interactional expert gain their expertise, they must still have their expertise validated by the individuals or groups with whom they are interacting. Moreover, while the interactional expert may be considered credible within the inner circle of the domain in which they have interactional expertise, this does not translate into credibility amongst laypeople farther down the ladder.

Collins and Evans discuss passing an "imitation game" as the marker of a true interactional expert (Collins & Evans, 2007). To succeed, an interactional expert must demonstrate their fluency in the language of a discipline by proficiently answering domain-specific questions posed by a judge such that the judge identifies the individual as a contributory expert. This method for determining interactional expertise is challenged by Kathryn Plaisance and Eric Kennedy in their 2014 paper wherein they build upon Collins and Evans' framework to develop a more pluralistic account of interactional expertise (Plaisance & Kennedy, 2014). The authors critique Collins and Evans' adherence to the imitation game as the defining measure of interactional expertise. Plaisance and Kennedy posit that in limiting the operational definition of interactional experts to those that pass the imitation game, Collins and Evans exclude certain individuals or groups that possess relevant interactional expertise in keeping with the original operational definition of interactional expertise as having "enough expertise to interact interestingly with participants and carry out a sociological analysis" (Collins & Evans, 2002). Plaisance and Kennedy therefore argue for a pluralistic account of interactional expertise, operationally defined by the interactional expert's ability to interact interestingly with contributory experts (Plaisance & Kennedy, 2014).

Both operational definitions, however, require the evaluator to have contributory expertise. The judge in the imitation game and the person who identifies instances of "interact[ing] interestingly" must have contributory expertise in the domain of interest in order to do so. This runs counter to one of the primary objectives of interactional expertise, namely, to increase the uptake of scientific knowledge and mediate between scientific communities and important stakeholders (Plaisance & Kennedy, 2014). If the concept of interactional expertise is to re-

alize its full potential, then individuals with less expertise than an interactional expert (and therefore contributory expert) must be able to assess the credibility of an interactional expert.

As it stands, interactional experts may be trusted by laypeople based on their affiliation with contributory experts. If the interactional expert's credibility is contingent on their association with contributory experts, this can add an additional layer of complexity to the relationship between interactional expert and contributory expert.

**Section 3**

In their book, Collins and Evans discuss how the different specialist expertises relate to one another in terms of their transitivity: on the "ladder of specialist expertises", those at higher rungs inherently have the expertise of all the rungs below them as well (Collins & Evans, 2007). While they establish the transitivity of the levels of expertise, they do not touch on the relationship between experts at different levels. Most lacking is a discussion of the relationship between interactional experts and contributory experts. Such a discussion is crucial because the identity of an interactional expert (and therefore the definition of interactional expertise) hinges on that of the contributory expert. Thus, the inner workings of this relationship are of utmost importance as they in turn reveal both the triumphs and shortcomings of the interactional expertise label.

The relationship between a contributory expert and an interactional expert within a domain has the opportunity to be, and often is, mutually beneficial. However, tensions may arise between the two as a result of inflated valuations of expertise. As mentioned earlier, the contributory expert has traditional formal, training such as a doctorate, and has spent years moving up the academic ranks to achieve this accreditation. Alternatively, the interactional expert has informal experience in the specialist domain. Given the contributory expert's formal expertise in the domain of interest, they might value their own form of expertise more highly than that of the interactional expert. This may be further exacerbated in the case of an interactional expert that is not also a contributory expert in another specialist domain. Interactional experts in this category may already be from marginalized groups, and therefore may have their relevant expertise further under-valued by the contributory expert (Plaisance & Kennedy, 2014). However, to a certain extent, the contributory expert's valuation may be reasonable, and it is important to remember that "it is the contributory experts not the interactional experts who define and develop the content of the language that the interactional expert tries to master" (Collins & Evans, 2007). The contributory experts are the ones actually *doing* the science, and while interactional experts can *talk* about the science, they cannot practice it (Collins & Evans, 2007).

**Section 4**

In establishing the interactional expertise label, Collins and Evans recognize the value of interactional experts and their role as specialists in a discipline. By definition, interactional experts cannot perform the work of contributory experts, but it is equally important to note that many contributory experts are not doing the work of interactional experts. The contribution of interactional experts is made possible by their inherent interactive and reflective abilities, skills which are not always shared by contributory experts (Collins & Evans, 2007). According to Collins and Evans, "interactive abilities" are interpersonal skills that enable an individual to communicate and interact with others. Alternatively, "reflective abilities" are the contemplative, critical thinking skills that are vital for an interactional expert's analysis. The importance of these abilities with regards to the efficacy of the interactional expert can be understood through Collins and Evans' analogy of the interactional expert as a coach. When instructing the player how to perform an action, the coach/interactional expert must have strong interactive abilities if they

are to effectively communicate tacit knowledge to the player/contributory expert (Collins & Evans, 2007). Interactive ability is the mechanism by which interactional experts articulate tacit knowledge to the contributory expert. This task lies solely in the hands of the interactional expert, who has all the tacit knowledge of the contributory expert, but can still access the rules and facts that are inaccessible to the contributory expert, in the same way that an experienced driver often cannot recall how they drove to work.

Another advantage of the interactional expert is that they have a different perspective to think critically about the problems facing the domain of interest. Collins and Evans state that one of the basic principles of their table is that individuals possessing higher levels of expertise also possess the expertise of all the preceding levels (Collins & Evans, 2007). Therefore, contributory experts must also possess interactional expertise, though their interactional expertise can be either latent or realized (Collins & Evans, 2007). According to Collins and Evans, a solely interactional expert in a field can add the same value as a contributory expert in that field who also has realized interactional expertise (Collins & Evans, 2007). While both individuals may be considered to possess interactional expertise in that field, I disagree that they can add the same value as interactional experts. Someone with only interactional expertise in a specific field has a distinct epistemic perspective from someone with both contributory expertise and realized interactional expertise in the same field. While they are both fluent in the language of the discipline, they may speak different dialects that signify where they were "raised", and where they learned the language. The solely interactional expert did not receive the same training as the contributory and interactional expert. They were not taught the same ideologies, and were not "raised" with the same disciplinary norms passed down to the contributory-and-interactional expert via formal education. For this reason, the solely interactional expert can have a different approach to a problem within a discipline resulting from their lack of contributory expertise in that discipline.

The added value of differing perspectives is encountered in design-thinking as well. In his book *Glimmer*, Warren Berger collaborates with top designer Bruce Mau to share how design can improve our lives and transform the world (Berger, 2009). According to Berger, the act of questioning basic assumptions can lead to true innovation. Along with questioning assumptions, reframing familiar problems in unconventional ways can lead to meaningful solutions (Berger, 2009). These two design principles rely on the relative "ignorance" of the designer compared to the client. Without the depth of tacit knowledge tying them down, the designer is able to look at a problem without subconscious assumptions getting in the way of a solution. Paula Scher is quoted in *Glimmer* as saying that "if youre trying to find a new way to think about something that makes it better, it can actually hurt you to have too much experience in that milieu - because you understand the expectations too well. And that can cause you to edit your possibilities based on what you already know 'doesn't work'" (Berger, 2009). In the case of expertise, it is because the interactional expert isn't *doing* the science that they are in a position to challenge *why* the contributory expert is doing something in a certain way, and may then be able to use their objectivity to find a better way to do said task. One may be inclined to object the application of this principle to interactional experts, because by definition interactional experts are just as fluent in the language of a discipline as the contributory experts are, and therefore they *do* know the background knowledge. While they do have more disciplinary knowledge than the designers Berger describes, they have no experience actually performing the actions of that discipline, thereby making this principle applicable.

**Section 5**

In discussing the relative merits of interac-

tional and contributory expertise, it is worth exploring potential complexities that arise in the relationship between interactional and contributory experts as a result of each expert's perception of the other and valuation of the other's expertise. The contributory expert, in keeping with Collins and Evans illustration of a "ladder of expertises", can easily view their expertise as more valuable than that of individuals lower down the ladder, specifically interactional experts. The concept of interactional expertise is defined by the interactional expert's inability to do something that the contributory expert can: practice the science of the specialist domain. However, after proposing that the interactional expert is able to add value in a way that the contributory expert cannot, I now explore the potential implications of this re-weighted interactional/contributory expert relationship. In doing so, I do not intend to assign static value judgements to interactional or contributory expertise. Rather, I examine the range of ways in which interactional and contributory experts perceive each other's expertise. In doing so, I identify opportunities to further develop the concept of interactional expertise in a way that addresses and responds to possible tensions between the two groups.

As previously noted, the contributory expert may over-estimate the value of their expertise based on their formal training and experience practicing the science of the domain. Likewise, the merits of possessing only interactional expertise may cause the interactional expert to inflate the value of their expertise relative to that of the contributory expert. This idea is supported by the findings of a 2007 study on the identities of creative workers in advertising agencies (Hackley & Kover, 2007). Authors Chris Hackley and Arthur Kover interviewed copywriters from several advertising agencies in New York and described how several interviewees "identified themselves as members of an elite whose role it is to use their fine judgment as creative individuals to inspire consumers" (Hackley & Kover, 2007). Hackley and Kover note that creatives assume they understand advertising better than the account managers, even though those in other departments may undermine the professional legitimacy of creative work (Hackley & Kover, 2007). In the same way that the unique skillset of creative workers in advertising has led to elitism amongst certain creative workers, there is a risk of interactional experts developing similar attitudes. Although, this may not be a major cause of concern because the merits of interactional expertise and other integrative skills are less frequently recognized compared to those of highly specialized expertise. However, if a contributory expert's inflated valuation of their own expertise can be traced back to their disciplinary training, then we must also be cautious not to nurture a similar sentiment in interdisciplinary training that heavily values interactional expertise. The inflated valuations of expertise of both interactional experts and contributory experts can threaten the interactional/contributory expert relationship, and in turn the success of the concept of interactional expertise as a whole.

**Conclusion**

The concept of interactional expertise is instrumental in legitimizing the expertise that individuals acquire as a result of enculturation in a specialist domain without practicing the science of that domain. Interactional experts are uniquely positioned to bridge gaps between science and society; however, this ability is limited by the inability of laypeople to identify interactional expertise. Laypeople cannot serve as the judge in Collins and Evans' imitation game, nor can they necessarily determine whether an individual has "interact[ed] interestingly" with contributory experts. Thus, laypeople may perceive a subject's interactional expertise only through their association with contributory experts. This dependence on contributory experts for determining interactional expertise has the potential to complicate the relationship between the two types of experts. This relationship is already layered and complex due to the ways contributory experts and interactional experts each determine

the value of their own expertise. Contributory experts, as the highest ranking experts, may inflate the value of their expertise relative to interactional experts, who do not have traditional, recognized accreditation nor do they actually practice the science of the discipline. However, interactional experts add value in other ways, including by providing different perspectives not influenced by experience *doing* the science. As such, there is also the potential for interactional experts to inflate the value of their expertise relative to that of contributory experts. While not necessarily realized in all contexts, these possibilities are important to consider as the concept of interactional expertise continues to develop, especially because the success of interactional expertise is closely connected to the success of the relationship between interactional and contributory experts. Moving forward, Collins and Evans' framework can be improved upon by further addressing the nuances of the interactional expert and contributory expert relationship. Moreover, improving how interactional expertise is perceived by laypeople, interactional experts, and contributory experts is a critical step towards realizing the full benefits of the interactional expertise concept.

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Maytal Perlman is a student in the Knowledge Integration program at the University of Waterloo. Her academic interests include philosophy of science, health sciences, collaborative design, and drama & speech communication. Maytal is interested in exploring how design and collaboration practices can be used to improve patient care and healthcare outcomes. She began working on this piece as a student in Dr. Kathryn Plaisance's class "The Nature of Scientific Knowledge". Maytal's discussion on the concept of interactional expertise and how its value is perceived by various stakeholders is applicable to any specialist domain, and was inspired by her own experiences receiving an interdisciplinary education. She was motivated to publish in this journal because JIRR provides a space to engage in academic conversation that is not only interdisciplinary in nature, but directly concerns the study and practice of interdisciplinarity.

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