

# Expertise: A Practical Explication

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**Abstract** In this paper I will introduce a *practical* explication for the notion of expertise. At first, I motivate this attempt by taking a look on recent debates which display great disagreement about whether and how to define expertise in the first place. After that I will introduce the methodology of practical explications in the spirit of Edward Craig’s *Knowledge and the state of nature* along with some conditions of adequacy taken from ordinary and scientific language. This eventually culminates in the respective explication of *expertise* according to which this term essentially refers to a certain kind of service-relation. This is why expertise should be considered as a predominantly social kind. This article will end up with a discussion of advantages and prima facie plausible objections against my account of expertise.

**Keywords** Expertise · Practical explication · Authority · Competence · Responsibility · Difficulty · Credit · Honorific term

“*Experto credite*”. (Virgil, *Aeneid*, Book XI)  
“[E]xpert knowledge is ‘ideology’ taken as fact”. (Turner 2001: 127)

## 1 Introduction

When inquiring into the meaning of *expertise*<sup>1</sup> we are confronted with a peculiar kind of tension. On the one hand, due to the division of labor we are regularly confronted with or even dependent on expert authority, whether directly or in cases of appeals to expert opinion (cf. Gelfert 2011). On the other hand, these persons are often blamed for imposing restrictions and undermining our autonomy. Interestingly, a growing part of public and scientific discourse takes up this critical stance to expertise. According to Stephen Turner (2001: 127), these critics, typically inspired by Michel Foucault, hold that many expert claims “have produced discursive structures – ‘ideologies’ – that were unwittingly accepted [...] as fact, but were actually expressions of patriarchy, racism, and the like”, while the economist Noreena Hertz (2013: 81)

<sup>1</sup> Some guiding remarks may be useful here. A word in quotation marks (“expertise”) designates, as usual, the word as a word. If not otherwise contextually apparent (by phrases like “the notion of expertise”, “the explication of expertise”, etc.) an italicized and bolded term (*expertise*) refers to the concept expressed by that word, while set in regular print (expertise) it designates the respective phenomenon. When “expertise” is set in capitals and equipped with some index (EXPERTISE<sub>[f,c,p]</sub>), this is a reference to a certain approach to *expertise*, which will be introduced in due course, whereas in italics with an initial capital letter (*Expertise*<sub>[f,c,p]</sub>) it refers to a special aspect of the phenomenon of expertise, and in regular print (Expertise<sub>[f,c,p]</sub>) it points to particular manners of speaking. As we will see below, this provides us with the means to disentangle crucial aspects of the expertise-talk.

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stresses that we are living in “a tyranny of the experts”, and Steven Fuller (2006: 348) identifies the widespread dependence on them as “the biggest single problem facing the future of democracy” (see also Majdik, Keith 2011a: 371).

This might overstate the case in question. For the conflict between advocates and critics of expertise boils down to a dissent over the proper proportion of *autonomy* and *trust* needed to attain individual human flourishing.<sup>2</sup> The critics emphasize the lack of the former, whereas the advocates highlight the necessity of the latter. As one of the strongest advocates of expertise, John Hardwig (1985: 340) takes notice of exactly this phenomenon. He considers the emphasized strive for autonomy to follow a “romantic ideal which is thoroughly unrealistic [...] and] if I were to pursue epistemic autonomy across the board, I would succeed only in holding relatively uninformed, unreliable, crude, untested, and therefore irrational beliefs”.<sup>3</sup> What is more, Hardwig (1985: 343) defends the harsh thesis that “*rationality* sometimes consists in deferring to epistemic authority and, consequently, in passively and uncritically accepting what we are given to believe”.

This is not the place to inquire into these issues. Rather, I pursue the question of what it takes to be an expert, since without answering this question in the first place, it is hard to see how the dispute introduced above could ever be settled. For that reason, I will try to carve out the notion of expertise. Roughly, I will claim that someone is an expert for a domain if and only if she is a respective authority who is competent enough to reliably and creditably fulfill difficult service-activities accurately for which she is particularly responsible. These core characteristics of the concept of expertise will be introduced by an application of Craig’s (1990) methodology of practical explication. More exactly, some preliminary arrangements will be made in Sects. 2–4, before the methodology of practical explication is introduced in Sect. 5 and applied to *expertise* in Sects. 6–9. Finally, I will sum up the most essential results and will briefly address some possible objections in Sect. 10.

## 2 The Prospects of a General Explication of Expertise

Many advocates of expertise identify the complexity of modern societies as the rationale for expertise due to which “we cannot but rely on expert judgment and expert services in many domains of life” (Mieg 2006: 754; see also Gelfert

2014: 190). Even though this can hardly be denied, there is no shared minimal notion of expert and expertise as a common ground for more detailed investigations. On the contrary, Peter Kuchinke (1997: 72) correctly laments that “[d]espite a spate of publications on the subject and frequent use of the term, our understanding of the antecedents, processes, and consequences of [...] expertise is limited”, whereas James Shanteau (1992: 255) claims that there are “almost as many definitions of ‘expert’ as there are researchers who study them”. However, it is not only that a satisfying definition of expertise is still a desideratum or faces “serious difficulties” (Mieg 2006: 743), but also that at least some protagonists of the debate consider such an attempt to be of questionable usefulness (cf. Slatter 1991: 153), “stubborn” (Scholz 2016) or even as outright unproductive. Accordingly, Carl Bereiter and Marlene Scardamalia (1993: 4) claim that like most ordinary language terms *expertise* “defies precise definition, and to impose a definition on it at the outset would be a sophomoric exercise almost guaranteed to stifle productive thought”.

Indeed, there are good reasons for such a pessimistic stance. For instance, the use of *expertise* within different sciences displays considerable disparities: On the one hand, there is the *psychological* talk. This mainly identifies expertise with an intrinsic cognitive property of persons, that is a property experts possess regardless of their relation to other people, their society, institutions, etc. The main idea of this approach is that “[e]xpertise reside[s] [...] in the heads of experts” (Hoffman 1998: 93), while the “context of expertise is systematically faded out” (Mieg 2006: 751). Accordingly, this branch of research concentrates on exceptional individuals having “considerable skills, knowledge, and mechanisms that monitor and control cognitive processes to perform a delimited set of tasks efficiently and effectively” (Feltovich 2006: 57).<sup>4</sup> On the other hand, there also is *sociological* talk about expertise, according to which expertise mainly represents a relational

<sup>2</sup> Axel Gelfert (2014: 8) mentions a similar conflict between social *trust* and first-hand *evidence* within the philosophy of testimony.

<sup>3</sup> This is a point widely acknowledged within the philosophy of testimony (cf. Adler 2012, Gelfert 2014: cp. 1, 9).

<sup>4</sup> These claims are restricted to the results of *cognitive* psychology mainly. Here the cognitive core features of expertise are often thought of as “automaticity and a recognition-primed form of decision making” (Stichter 2015: 106), though many related features could be also highlighted such as metacognitive monitoring capabilities, special access to long term memory, etc. (cf. Feltovich et al. 2006). However, this is not in any respect denying the unquestionable merits of *developmental* psychology in general or of Anders Ericsson et al. (1993) famous deliberate practice approach to expertise development (i.e. roughly the idea that it takes around 10 years of intense, improvement-oriented exercise under the guidance of external support to master a special domain of performance, be it more intellectual (playing chess), athletic (playing basketball), artistic (playing oboe) etc. There is a straightforward reason for my negligence of these prominent findings. For it is one thing, to define the notion of expertise, and it is quite another, to characterize contingent features of its development (cf. fn. 40).

property of persons. Most commonly, expertise is understood as a normative status (or role) which provides its bearer with some sort of authority and is often ascribed independently of her capacities to fulfill this role. The essential idea is “to understand expert as a form of interaction rather than [...] a person” (Mieg 2001: 43). Markus Rhomberg and Nico Stehr (2007), for instance, characterize this interaction more closely as mediation “between producers of knowledge and users of knowledge”. From their perspective, the main function of expertise is sharing some knowledge for the benefit of someone else.<sup>5</sup> Thus, if this interaction is the defining feature of *expertise*, what makes somebody an expert is *considering* her to exhibit a respective role. It is exactly in this vein that Neil Agnew et al. (1994) advocate their minimum criterion of expertise “to have at least one reasonably large group of people [...] who consider that you are an expert; in this sense, expertise is socially selected”.

Apart from that, there is a further perspective to which we should pay some attention, namely an *epistemological* talk about expertise<sup>6</sup> which essentially differs from both the *psychological* and the *sociological* perspective. At the bottom line, these philosophers refer to experts and expertise in terms of epistemic properties. According to them, either a certain quality and/or a special quantity thereof is involved in properly ascribing expertise. For some having *true beliefs* represents the crucial property (cf. Coady 2012; Goldman 2001; Hikins and Cherwitz 2011); others stress the importance of *knowledge* (cf. Goldberg 2009; McBain 2007; McGrath 2015; Pappas 1996, 1994; Turner 2001), *justification* (cf. Weinstein 1993) or *understanding* (cf. Scholz 2016, 2009), whereas still others put emphasis on a combination of epistemic conditions like having *understanding* (of relevant terms, arguments etc.) and delivering *propositional justification* (cf. Watson 2016)

<sup>5</sup> Within the framework of this main function several special roles of expertise can be mentioned: Experts, for instance, cut off “reflection so that action can be taken accordingly”, reduce complexity “to create certainty in decision making”, create legitimacy, define situations, set priorities for action, make recommendations, etc. (cf. Rhomberg, Stehr 2007; see also Stehr, Grundmann 2011).

<sup>6</sup> Two supplements are mentionable here: For one thing, there also is notable discussion about *expertise* in *jurisprudence* (cf. Best 2009; Brewer 1998) and *economics*, that is more specifically in the *human resource development* (cf. Cornford, Athanasou 1995; Germain, Ruiz 2009). Germain and Ruiz (2009) represent a comparative study amongst 36 leading scholars of human resource development concerning the notion of expertise to which I will refer due course in order to give evidence for some claimed usages of *expertise*. For another thing, there are philosophical discussions about expertise which more closely resemble the psychological discussion and mainly focus on the automaticity of expert performance and related properties (cf. Dreyfus 2005; Montero *forthcoming*) or stress a more *téchné*-oriented intellectualist account of expertise requiring understanding and explainability as crucial conditions of (practical) expertise (cf. Annas 2011).

or arriving at *almost certainly known* and *true* propositions (cf. Fricker 2006).<sup>7</sup> To my mind, however, the whole idea of highlighting some distinctive (epistemic) desiderata against others is misguided, since there are by far too many kinds, understandings and usages of *expertise* in ordinary and scientific language. This is why such an endeavor appears to be questionable.<sup>8</sup>

Nevertheless, we should not prematurely throw the helve after the hatchet, since there could still be other fruitful ways to characterize *expertise*. One convenient reaction to this problem consists in taking a family-resemblances route, according to which there are especially ordinary language terms which do not possess any singularly necessary and collectively sufficient conditions, but only have partially overlapping complexes of features. This is the approach Zoltan Majdik and William Keith (2011b: 289) propose for characterizing *expertise*:

[Expertise] is not comprehensible in a conceptual definition, but only in its varied uses and enactments. [...] [T]here is not – even deep down on a conceptual level – one kind of expertise, but kinds of expertise that resonate with kinds of problems.

A related strategy is applied by Oliver Scholz (2016), who characterizes *expertise* by means of Goodman's (1984: 135) symptoms approach according to which a “symptom is neither a necessary nor a sufficient condition but rather a feature that we think may, in conjunction with others, make more probable the presence of a given disease or other notable state”.

<sup>7</sup> To put in different terms, the epistemological (or philosophical) treatments of expertise often tend to identify expertise with a *disposition* in terms of epistemic desiderata, while the psychological treatment of expertise tends to identify expertise with its *causal basis*. The social scientific treatment of expertise in turn often reduces expertise to a certain *status*. As I will argue for in due course, none of these identifications is appropriate.

<sup>8</sup> Without going into detail, I will offer a brief outline of my dismissal of the epistemic desiderata approach to expertise. Although having some epistemic desiderata is crucial for being a pertinent expert, defining expertise by means of them is highly problematic nevertheless. For one thing, this is because it is difficult or even impossible to individuate and quantify beliefs which are most probably the subjects of these desiderata (cf. Latus 2000: 30f.; Schmitt 2000: 272). But then it seems difficult to operationalize such a definition of expertise which renders these attempts pointless. Even if, for the sake of the argument, it could be assumed that a numeric value of epistemic attainment could be non-arbitrarily determined, there still is the pressing question whether this numeric value is significant at all. This is because some of the epistemically distinguished expert beliefs could be highly irrelevant or insubstantial on the one hand, or the emphasis of particular epistemic attainments could be contextually negligible on the other. Hence, it seems appropriate to acknowledge the importance of epistemic desiderata generally without defining expertise in terms of them.

Admittedly, this represents an established strategy to examine fluid notions and ordinary language terms in particular. However, every strategy comes with its price which is particularly high in case of the family-resemblances and similar solutions. Roughly, this is because instead of saying something positive and substantial about the notion of interest, these strategies often restrict themselves to the modest and more negative claim that no such positive feature can be considered as essential.<sup>9</sup> As opposed to this, I will assume that such a stance can at best be the *consequence* of a thorough inquiry, but never provides an appropriate *starting point*. So without having probed into more unifying strategies, these pessimistic (family-resemblances, symptoms or fluidity) solutions to *expertise* appear premature. Though it might be utterly correct to reject the idea of essential (epistemic) desiderata of *expertise*, this does not give rise to a pessimistic attitude concerning its fundamental definability. According to this, I will argue that these pessimists by far overstate the evidence in question. More exactly, in what follows I will explore into a hitherto unnoticed approach to expertise which fares much better with the evidence at hand. But before we can get started, we have to make some preparatory arrangements first.

### 3 Introducing the Explicandum

According to Rudolf Carnap's (1950: 3) well known introduction, the task of an explication consists in "transforming a given more or less inexact concept into an exact one or, rather, in replacing the first by the second. We call the given concept (or the term used for it) the explicandum, and the exact concept proposed to take the place of the first (or the term proposed for it) the explicatum. The explicandum may belong to everyday language or to a previous stage in the development of scientific language".

In case of *expertise*, the explicandum term tentatively is that "x has expertise (in domain d)" which allows for at least two different readings: First and foremost, it refers to the competences a given agent possesses. This is the *competence-sense* of the explicandum (or *Expertise<sub>c</sub>*, for short) which is best displayed by the predicate of being an

expert, that is "someone is an expert (in domain d)". According to this, the following tentative approach can be identified:

(EXPERTISE<sub>c</sub>) Someone is an expert (in domain d) iff she is competent enough (with respect to d).

But there also is a second use of the explicandum which refers to the results of *Expertise<sub>c</sub>* rather than its possession. To this can be referred as the *product-sense* of the explicandum (or *Expertise<sub>p</sub>*, for short) and is best displayed by the phrase "something is an expertise (of domain d)". It is this latter sense of *expertise* which often gets neglected and prevents a better understanding thereof. Again, the corresponding approach could be tentatively defined as follows:

(EXPERTISE<sub>p</sub>) Something is an expertise (of domain d) iff it is competently caused by *Expertise<sub>c</sub>*.<sup>10</sup>

Furthermore, *Expertise<sub>c</sub>* is *partially* synonymous with a number of related predicates like someone "is an authority (in domain d)", "is a specialist (in domain d)", "is a professional (in domain d)", "is a genius (in domain d)", "is wise (in domain d)", "is an intellectual (in domain d)", etc. But as it turns out on closer inspection, none of them is fully synonymous with it. Moreover, *Expertise<sub>p</sub>* appears to be partially synonymous with something "is competently caused" and "manifests competences (of domain d)". But again, these predicates are not tantamount with our given explicandum, i.e. are insufficient explicata. In order to justify these claims, I will propose my (practical) explication of expertise.

### 4 Introducing Conditions of Adequacy

But before we can pick up pace, we have to introduce conditions of adequacy (CoA, for short) for my subsequent explication. Depending on how properly they are motivated, the resulting explication can later be justified against this backdrop.

Insofar as my preceding delineation is approximately correct, a first condition of adequacy is hard to deny. This

<sup>9</sup> Two brief remarks: First, Alvin Goldman (2016) recently suggests a series of varying definitions of expertise with reference to the seeming vagueness and fluidity of expertise-ascriptions. However, it is highly questionable whether such a disparity by its own can ever establish a corresponding disunity of its underlying term, or not rather begs the question. For it is precisely the point of giving an explication in the first place to transform a highly inexact (phenomenon-)term into a more exact one. Excluding this very possibility right from the start appears to be undue. Second, a notable exception might be Scholz (2016) who carefully highlights and classifies varying features of expertise possession throughout scientific disciplines.

<sup>10</sup> Correspondingly, the Oxford English Dictionary characterizes the noun "expertise" as either the "quality or state of being expert" (this corresponds to the *competence-sense* of *expertise*) or an "expert's appraisal, valuation, or report" (this corresponds to the *product-sense* of *expertise*). Furthermore, the noun "expert" refers to persons who "gained skill from experience", possess "special knowledge or skill" and are thus "regarded as an authority", whereas the adjective "expert" is reference to being "trained by experience" or "skilled", that is to "personal qualities or acquirements". So it is hard to deny that personal acquirements such as experience, skill and knowledge represent crucial dimensions of *expertise* (cf. "expertise, n.", "expert, n." and "expert, adj.1." *OED Online*. Oxford University Press, December 2015. Web. 18 February 2016).

is that a satisfying explication of expertise has to meet the requirements which are set by its already introduced dimensions of meaning:

(CoA<sub>1</sub>) A plausible explication of expertise has to distinguish its competence-sense and its product-sense.

Although most characterizations of *expertise* even fail to satisfy this demand, it is barely sufficient. For it somehow seems to be unsatisfying to give an explication of expertise which explains both senses without clarifying their relation in greater detail. Since only by explaining this relation two otherwise independent constraints are integrated into a two-fold notion of expertise. When such a unifying condition is missed, however, we actually do not arrive at an explication of expertise, but at best of its competence and product-sense which clearly is amiss. Therefore, we have to raise the bar a bit further:

(CoA<sub>2</sub>) A plausible explication of expertise has to explain the relation between its competence-sense and its product-sense.

On closer inspection, however, a basic semantic constraint of the competence-driven talk about expertise deserves further consideration. This is “being an expert” and “being a layperson” are used as a contrastive pair of phrases (cf. Germain, Ruiz 2009: 621), meaning that the understanding of the former partly depends on the meaning of the latter, and vice versa. Accordingly, we do not fully grasp what it takes to be an expert, if at the same time not being aware of a plausible contrast class (i.e. the laypersons, for instance).<sup>11</sup> This contrastivity plausibly amounts to a third condition of adequacy:

(CoA<sub>3</sub>) A plausible explication of expertise has to explain the semantic contrast between *expert* and *layperson*.

Thus, it seems far from being an overstatement to claim that the talk about expertise would lose its point, if there would not be laypersons<sup>12</sup> for whom they can be experts. It is in the light of this circumstance that the questions towards a semantic point of *expertise* naturally arises. Put

<sup>11</sup> Etymologically, this is the most important semantic contrast (cf. Williams 1985: 129). On reasons which will become apparent later, however, I prefer the more fundamental contrast between *expert* and *client*. This is why a group of laypersons should be considered as just one paradigmatic contrast class amongst others (for some alternatives see Scholz 2016).

<sup>12</sup> For sure, corroborating scientists could still function as experts amongst themselves even if there would be no laypersons anymore. The underlying issue, however, is that if there is no pertinent contrast class of clients anymore (relevantly less competent scientists for example) for which they could function as experts, the ascription of expertise is pointless as will be argued for.

differently, why is it that *expert* and *layperson* are used as contrastive notions? So, an underlying semantic feature is to be identified which indicates such a point or function even on the semantical level: Accordingly, we often talk about the “role” or “status of experts” or notice that someone “functions as an expert”. Regardless of what exactly this role refers to, it seems reasonable to assume that this indicates something like a conceptual function<sup>13</sup> of *expertise* to be noticed which motivates the following condition:

(CoA<sub>4</sub>) A plausible explication of expertise has to illuminate its conceptual function.

Interestingly, this latter constraint gets further support by and is correlated with the sketched sociological discussion which considers expertise mainly as a normative status or role (see also Germain, Ruiz 2009: 626), whereas the third condition pertains to comparative capacities of individuals which are mainly discussed in the psychological and epistemological talk about expertise.<sup>14</sup>

But by considering expertise as a normative status the sociological discussion reveals another constraint which also permeates ordinary language, to wit, that *expertise* not only exhibits a *descriptive*, but also has an *ascriptive* dimension. By using it, we can point to supposed liabilities, make accusations, ascribe responsibility or agential creditability (cf. Hart 1948: 187f.). Put differently, “[e]xpertise (...) often functions as a value judgment” (Kuchinke 1997: 73). Thus, when stressing “She is the expert!” the responsibility for a joint action can be repudiated, whereas emphasizing “The success is due to her expertise!” alludes to the creditability of an achievement. These and further judgments are not to be considered as primarily true or false, but rather as contextually appropriate or inappropriate (cf. Hart 1948: 182). This is because claiming that “She is the expert!” does not primarily *detect*, but *ascribe* an expertise-status. As will be set out later, this rests on the appreciative dimensions of creditability, responsibility and

<sup>13</sup> Notice that “conceptual function” is structurally *ambiguous*. For one thing, this is reference to the function or practical utility of expertise conferred by its notion, more precisely, a function which is part of a *specific* conceptual content. For another thing, “conceptual function” can refer to the denoting or expressive function of concepts more generally, that is the *general* function to tag those very things which fall under the pertinent concept (cf. Williams 2013: 17f.). If not otherwise made explicit, “conceptual function” always refers to the former sense.

<sup>14</sup> This functionality of expertise is implicit within a number of characterizations, for instance as persons “asked for *advise* when important and difficult decisions have to be made” (Germain, Ruiz 2009: 627, my italics), when understood as *problem-solver* (cf. *ibid.*: 624) or by separating expertise from mere competence by claiming the expert to be “able to apply and *transfer* knowledge” (*ibid.*: 629, my italics) or to “*tell* you how to fix those faults and get things working once more” (Cornford, Athanasou 1995: 10, my italics).

reliability enough underlying expertise-ascriptions. Thus, and in accordance with Hart, we can assume that *expertise* represents a *defeasible* notion, that is a notion which default ascription can be retracted given some kind of relevant defeat (see Sect. 9 *The Constructive Step*). Or to put it differently, expert-status always is provisional and having some positive indication thereof just represents *prima facie* reason for ascription (cf. Williams 2013: 13).

It is because *expertise* is most commonly used in positive and appreciative contexts that *honorific* usages will guide my inquiry.<sup>15</sup> One striking example is the *maximalist* use of *expertise* typically found in cognitive psychology. Here, experts are often considered as skilled agents who *excel* most others (cf. Chi 2006: 23) and are capable of performing extraordinary performances. Another appropriate example might also be *minimalist* and purely honorific usages of *expertise* which are exemplarily represented in appreciative statements of the following kind: (A father to his son) “Hey, you are quite an expert!”. But, since the ascriptive dimensions of *expertise* actually go far beyond their dominant honorific applications, the following condition of adequacy seems justified:

(CoA<sub>5</sub>) A plausible explication of expertise has to explain its ascriptive, that is especially its predominantly honorific usages.

Now we introduced five conditions of adequacy which are *prima facie* plausible, since they not only semantically derive from ordinary language, but also reflect different usages within special sciences. By setting these criteria, the meaning of *expertise* will be explicated in terms of its use. This appears to be a good starting point and framework for a proper explication of expertise which will be carried out hereafter.

## 5 The Methodology of Practical Explication

The method of a practical explication is intimately related to Edward Craig’s (1990, 1986) works concerning a genealogy of *knowledge*. As opposed to the traditional methodology of concept analysis Craig proposes an alternative account which he claims to be synthetic. This is

<sup>15</sup> But recall that expertise has plenty of critics within scientific discourse (cf. Sect. 1 *Introduction*) who would straightforwardly deny this predominant honorific use, or at least strive to change outlook. However, such a depreciative attitude concerning expertise plausibly rests on features which are subject to an appreciative use in the first place (just think about the close relation between having *authority* and *power*, or having *specialized knowledge* and loosing *the big picture*). So, basically, pejorative usages of *expertise* such as *nerd* are not entirely independent, but rather derived from a more fundamental and honorific idea of *expertise*.

because it introduces the meaning of a term by assuming its practical function first upon which corresponding material implications are introduced and rationalized incrementally.<sup>16</sup> For that reason, Michael Williams (2013: 20) characterizes this method as a “function-first approach to meaning-analysis” which is best described by Klemens Kappel (2010: 72):

[A] practical explication of a certain [... term] proceeds by stipulating first, certain facts about us, such as facts about our physical environment, our biological set-up, our social organization, and second, certain aims or interests that we typically have, or have in certain more specific circumstances. Against the background of such stipulations we can see that there is a certain need, and we can stipulate that the [... term] to be explained [... is responsive to] that need. This is a practical explication of the [... term] in question.

To be more exact, methodologically, three steps should be distinguished: First, some essential background assumptions concerning the relevant environmental circumstances, biological set-up, social organization and resulting aims have to be taken into account (see Sect. 6 *The Preparatory Step*). Against this backdrop, second, a *prima facie* plausible hypothesis about what the respective concept does for us and “what its role in our life might be” (Craig 1990: 2) is put forward (see Sect. 7 *The Hypothetical Step*). And finally it could be asked, what a “concept having that role would be like, [and] what conditions would govern its application” (Craig 1990: 2). This obviously is why Craig highlights this approach as synthetic (see Sect. 9 *The Constructive Step*).

In what follows, this methodological procedure should be applied to *expertise* as understood in my preparatory arrangements. Accordingly, some background assumptions which plausibly underlie expertise-ascriptions are exposed first. More precisely, a general view of some essential features of being a restricted sentient being will be proposed. Although these assumptions cannot be defended in full length, this hopefully won’t be problematic, since they are supposed to be self-evident.

<sup>16</sup> But as Williams (2013) correctly mentions, despite its methodological priority the practical function of a term not only *rationalizes* its material implications, but these material implications also *enable* the practical function at the same time. In other words, “usage enables function; function constrains usage” (Williams 2013: 18). Thus, it is obvious that in principle such an explication is always prone to malign kinds of circularity.

## 6 The Preparatory Step

The broader picture which is proposed here concerns sentient beings and their unavoidable need to deal with scarce resources. As a matter of fact, these beings have potentially infinitely many interests and desires, the fulfilment of which is inherently pleasant, and a likewise restricted amount of executable efforts to fulfill these interests, the execution of which is inherently unpleasant. This limitation is due to the fact that sentient beings are by nature not only cognitively and temporally restricted, but also in many other respects like natural abilities, skill acquisition, location, motivation, etc. Therefore, the proportion between fulfilled interests and executed efforts needs to be improved, that means getting better returns on our investment. In order to achieve this, we heavily depend on two basic strategies. We can either control our *individual* expenditure of effort or we can *socially* expand the available resources.<sup>17</sup> Where the former strategy basically consists in executing efforts economically and purposefully, that is its execution has to be efficiently directed at the most relevant ends, the latter strategy socially widens the available sources of effort by asking some other agents for support. For this purpose, a climate of cooperation is needed. Despite their indisputable merits, both strategies have to be attuned in order to optimize their outcome. This is where individual efforts have to be economically directed at an efficient selection of social support, or put differently, we need to economically select promising agents (recognized authorities, for instance) apt for fulfilling our more salient interests. There is no doubt that in modern societies this kind of cooperation in forms of collaboration and division of labor has proven to be the most powerful means to overcome the elementary natural restrictions of sentient beings.

In order to keep this cooperation going, a climate of mutual trust is essential. Therefore, a framework of credentials and reputation is needed which supports what is called indirect reciprocity<sup>18</sup> and cooperative attitudes thereby. This is important to protect trust and cooperative practices from unilateral exploitation by frauds and impostors. However, reputation not only indicates great competence or authority, but on the flipside it is also correlated with great responsibility. This is because the greater the reputational authority of agents, the bigger the attributed trustworthiness, that is the proportion of trust someone can place in them. But since attitudes of trust are particularly “vulnerable” (cf. Adler 2012) and in cases of expert

agency often “blind” (cf. Hardwig 1985) “[a]ny form of social life will depend on some system of incentives and sanctions” (Williams 2013: 19) to support trust and avoid malign exploitation by free riders. As a byproduct of its application, such a system provides track records of its subjects (i.e. reputations) which lay ground for indirect reciprocity. That is given good reputation individuals can trust people who helped others before. This is how a reputational framework encourages cooperators and discourages frauds.<sup>19</sup>

As a result, reputational systems are meant to keep various forms of cooperation ongoing by identifying and assessing relevant authorities. The better the given rating, the more trustworthy the recognized authority, the more unrestrained the trust which is placed in it which, in turn, is accompanied by greater responsibility. So, being a recognized authority also is being particularly responsible.<sup>20</sup> We will come back to these issues in due course.

<sup>19</sup> Two comments are in order here: First, since these facts about sentient beings are “so general [...] that one cannot imagine their changing whilst anything we can still recognise as social life persists” (Craig 1990: 10), Craig’s condition of adequacy for the preparatory step is clearly met. Second, to motivate the above story about restricted sentient beings and the conditions of their cooperation, let me briefly anticipate two crucial results of my later explication: For one thing, *expertise* is a reputational or honorific term which is part of the reputational system just outlined, and for another thing, refers to a service relation which improves the social expenditure of available agential resources and so to a special kind of cooperation.

<sup>20</sup> This is not the place to fully disentangle the intimate relations between *trust* and *responsibility*. However, there are two dimension of trust which are worth highlighting here. According to Paul Faulkner (2007), trust can be generally understood as the willingness to be dependent on others. This willingness, in turn, can be due to two sources: If it is grounded by a belief about the reliability of the trusted, he talks about predictive trust, and if it is grounded by “the presumption that the trusted will respond in a certain way to our dependence” (Faulkner 2007: 312), he talks about affective trust. In case of expertise, both notions are instructive. This is because the idea of *predictive* trust is suitable to explain how honorific terms like expertise enable trust and ongoing cooperation by being part of a reputational system. Put differently, having the reputation of being an expert is good prima facie evidence for being relevantly competent or reliable. But in a similar respect, we can also trust our car to start in the morning. In contrast, *affective* trust is suitable to explain the special responsibility which belongs to experts. To see this, consider that a client’s trust in experts often is relatively blind (cf. Hardwig 1985, 1991), since the expert’s reasons for a certain activity are often semantically and/or epistemically inaccessible by the client. As a consequence, the knowledge of this particular dependence carries with it experts’ special responsibility towards the client, who’s trust puts herself in special danger of being betrayed. In other words, trust on reputational experts is at least partly based on the client’s presumption that the expert will recognize the particular dependence as a reason to act sincerely and be moved by it. This establishes a special responsibility on behalf of the expert to satisfy this expectation. The familiar bottom line of these considerations is that trust on expertise partly is trust on the assumed *competence* or reliability and partly trust on the *sincerity* or proper motivation of experts.

<sup>17</sup> For sure, reducing our interests and desires represents a third route to cope with this coordination problem. But due to obvious reasons, this is of no further interest here.

<sup>18</sup> Indirect reciprocity is defined as the phenomenon that individuals help those who help others. Consequently, it is crucial to explain how cooperative attitudes and reputations develop (cf. Nowak, Sigmund 2005).

## 7 The Hypothetical Step

If the given picture of restricted sentient beings, their trust and need for cooperation is at least approximately correct, this provides a proper ground for the emergence of the need to conceptually distinguish between comparatively competent and incompetent agents. To identify and mark these people is crucial to reflect others social sources of potential support (which seems to be the core idea of reputation by the way). As suggested above, this is important to help others with efficiently attaining their most pertinent ends and fulfilling respective interests thereby. Facing this need, the following seems to be a *prima facie* plausible hypothesis about what *expertise* does for us: The conceptual function (point, role) of *expertise* is to flag those very agents who are competent enough to substantially improve the social deployment of available agential resources.<sup>21</sup> As it is plausible that fulfilling a certain need for transport is the conceptual point of *car* (cf. Kappel 2010: 71) so it stands to reason that the fulfilment of a certain need for individual and societal resource allocation is the point of *expert*. Put negatively, if sentient beings never had developed the need for transportation or resource optimization, the emergence of *car* and *expertise* would appear to be completely nebulous. This is claiming that *expertise* serves to meet a general need and possesses a function as part of its conceptual content (as is more obvious in case of *screwdriver*, for instance). In other words, *expertise* essentially is a functional notion (cf. CoA<sub>4</sub>).

This idea gets further support by taking notice of some widespread uses of *expertise* in ordinary language. Consider, for example, the prominent talk about expertise in contexts of commissions: In this *first* case, experts are usually regarded as a kind of service provider in situations of the following character: There is a severe problem which urgently calls for a solution and some relevantly competent, responsible and otherwise appropriate people who get commissioned to find a solution. Usually, these people are called “experts”.

Although the *second* case is different, it seems relevantly analogous in crucial respects: Imagine that at some evening Gustav Gambler invited friends to play several board games. At some point of the evening the group decides to play a scientific quiz which requires some role assignments on behalf of the participants, since every player has to read and answer questions, if necessary, pertaining a specific scientific domain. For this purpose, every player gets its own stack of cards. When eventually only one stack remains, this is given to the host by saying: “And Gustav is our expert for ornithology this evening”. Admittedly, this is far from being

<sup>21</sup> “Agential resources” is reference to the most fundamental ‘currency’ of sentient beings, that is their purposefully exercised *efforts* and *competences*, the latter of which reduces the deployment of the former.

a paradigm use of *expertise*, since it appears to be a mere role assignment. However, even if this use is considered as undue, it is highly instructive anyway. This is because it gives some indication of an essential feature of *expertise*, to wit, its *functionality*. When compared with the aforementioned service providing idea and the more general talk about the role of experts and someone’s functioning as an expert we now arrive at a more outlined and homogeneous picture of expertise’s functionality as a conceptual characteristic. So it appears justified to claim the following as representing a *prima facie* plausible hypothesis about the conceptual function of expertise:

(CONCEPTUAL FUNCTION) The conceptual function (point, role) of expertise is to substantially improve the social deployment of available agential resources apt for an accurate attainment of cliently relevant ends<sup>22</sup> (whereas the conceptual function of *expertise* is to flag this very property).<sup>23</sup>

Though being fundamental, this need not be the only function of *expertise*. Even more basically, experts could be claimed to have a function of *discharge*. For one thing, this entails improving the social deployment of available agential resources, that is relieving clients in their *factual* issues. However, sometimes this is not the salient aim of appeals to expertise. As it is widely acknowledged, it can also be employed to shift agential *responsibilities*, that is to get rid of the burden of accountability, due diligence and liability (cf. Williams 2013: 24f.) in order to give way for decision making for example (see fn. 5). This is getting apparent by taking notice of accusations or excuses like

<sup>22</sup> In a nutshell, it could be claimed that expert performance is a service which is *accurate enough*. And accuracy can be understood as a relation between the product of this performance and some standard in view of which it is evaluated as accurate, inaccurate or more accurate than another product (cf. Buekens and Truyen 2014: 217). These standards, in turn, are “set by agents in view of their projects and the subject matter they investigate” (Buekens and Truyen 2014: 221). So, basically, expert service could be understood as expert performance which is accurate enough for the contextually salient projects and corresponding needs.

<sup>23</sup> Two comments are in order now: First, “agential resources apt for an accurate attainment of cliently relevant ends” just regards those resources which essentially pertain to a cliently relevant product in question. As a result, all other things being equal, someone is no inferior expert just because his consultation takes enormous efforts. This might be a reasonable aspect of the practical question which expert to *consult*, but is no factor of the theoretical question which expert is *better*. Second, the conceptual function of *expertise* does not require the expert to attain at the “cliently relevant end”. For the social deployment of available agential resources can be achieved either by more efficiently attaining a cliently relevant end or by competently ceasing the client’s unwise strive for it—for instance, if the client’s aim cannot be ultimately attained (e.g. finding the Holy Grail or turning impure metals such as mercury into gold or silver by alchemist means) or is not in the client’s best interest (e.g. because the desired end is dangerous for her or otherwise problematic).



“*She is the expert!*” as introduced before. Therefore, a conceptually correlated function can be stressed:

(CONCEPTUALLY CORRELATED FUNCTION) A conceptually correlated function (point, role) of expertise is to shift agential responsibilities from decision makers to authorities in order to relevantly relieve these clients by reference to expert authorities (whereas a conceptually correlated function of *expertise* is to flag this very possibility).

As I take it, this is a downstream issue because it plausibly requires the main function of improving the social deployment of available agential resources claimed by CONCEPTUAL FUNCTION. This is why it seems undue to yield responsibilities to someone not being an authority in the first place. However, it is not only that CONCEPTUAL FUNCTION seems to be more fundamental, CONCEPTUALLY CORRELATED FUNCTION even is not a definitional feature of *expertise*, but rather something that expertise enables us to do (though both functions are certainly inextricably interwoven).<sup>24</sup>

Consequently, I will restrict myself to cases of expertise which directly pertain CONCEPTUAL FUNCTION. This functional approach to expertise is further supported by a widespread sociological perspective which finds its proper expression within the following claim:

“Expertise constitutes a special relationship between a subject matter, a public, and one who masters and manipulates the former *for the latter’s benefit or need* [...]” (Hartelius 2011: 1, my italics, see also Agnew et al. 1994; Mieg 2006: 743).

Yet, this does not represent a sociological peculiarity. Rather this kind of approach could also be found in ancient philosophy: “For Socrates, a real expert makes [...] caring for *common goods* the supreme goal of practising her expertise” (Hardy 2010: 18, my italics).

Correspondingly, a purely functionalistic approach to expertise can be defined which not only fits the general needs of sentient beings outlined before, but also harmonizes with a more widespread perspective on expertise and common phrases like “the *role* of experts” or “someone *functions* as an expert” in ordinary language:

(EXPERTISE<sub>F</sub>) Someone is an expert (within domain d) iff she is *considered* to fulfill CONCEPTUAL FUNCTION.

Approaches like this are similar to what is disparagingly referred to as *reputational* (cf. Goldman 2001: 91),

*subjective* (cf. Scholz 2009: 190) or *relational* (cf. Collins, Evans 2007: 2) expertise. Goldman characterizes reputational expertise as parasitic to what he calls *objective* expertise which is defined in ‘veritistic’ (i.e. truth-linked) terms (cf. Goldman 2001: 91). The basic idea is that once “the objective sense is specified, the reputational sense readily follows” (Goldman 2001: 91), that is a reputational expert is someone who is widely taken to be an objective expert, whether or not he really is one. As a consequence, Goldman strongly rejects the reputational dimension of expertise as a necessary or sufficient condition of being an expert:

“To *be* an expert [...] it is neither necessary nor sufficient to have a reputation for being able to help others solve problems or execute tasks [...] Thus, mere reputation has little or nothing to do with actual expertise.” (Goldman 2016: Sect. 1)

What might initially appear as evident, finally represents an overstatement (see also Germain, Ruiz 2009: 625). This is because *reputational expertise* need not be cashed out in objectivist terms, that is as just being considered as an objective expert (cf. Goldman 2016). By contrast, I will defend a functionalist reading thereof by claiming that *reputational expertise* is best understood in functional terms, that is in line with EXPERTISE<sub>F</sub>. Amongst many advantages, this brings along the possibility to take our everyday use of *expertise* more seriously (cf. Hinton 2015: 544). Particularly, “expert” in ordinary language may refer to agents who either fulfill CONCEPTUAL FUNCTION or are ascriptively taken to fulfill this role (see CoA<sub>5</sub>). For instance, we can plausibly claim equity analysts to be experts for the future development of stock prices even though their predictions usually fail due to the complexity of their given task. Put differently, equity analysts can be said to have reputational expertise in forecasting stock prices not because they might have competences in other ways reliable, but due to their pertinent role ascription. Admittedly, in order to fulfill this role these experts are usually thought to possess pertinent competences, but this role (or *Expertise<sub>p</sub>*) is conceptually independent from having relevant competences (or *Expertise<sub>c</sub>*). If this proves to be correct, quite the opposite relation could be claimed: namely that the reputational sense of *expertise* is more fundamental than its objective sense; even though both are closely interrelated as will be argued for.

Now, such a functionalist approach appears to be a proper springboard for the constructive step of my practical explication. On this basis, we are well positioned to ask, how this notion needs to be shaped in order to fulfill the supposed conceptual function. If, eventually, the resulting concept of expertise comes close to the current usages, this is strong evidence for the proposed conceptual function and

<sup>24</sup> Though being much earlier in use (cf. Williams 1985: 129) the modern roots of *expertise* apparently resides in trial settings. Here “expert” was reference to experienced “witnesses (...) to detect handwriting forgeries” (Fuller 2006: 342); interestingly, a clear-cut example for both functional roles.

the given explication. This final explicatory step will be a main task for the remainder of this paper and is associated with the expectation of drawing a more coherent picture of *expertise*. But before starting to ‘synthesize’ *expertise* three accesses to CONCEPTUAL FUNCTION should be addressed first. This leads to a variety of approaches to *expertise* to which I will refer to as EXPERTISE<sub>F</sub> for *functional* approaches, EXPERTISE<sub>F-P</sub> for more *output-oriented* accounts and EXPERTISE<sub>F-C</sub> for predominantly *competence-driven* approaches.

## 8 Understanding the Conceptual Function

Recall that someone is an expert (more precisely: an *Expert<sub>f</sub>*) in a reputational or functionalist-sense if and only if she is considered to fulfill CONCEPTUAL FUNCTION (by designation, initiation, etc.). This amounts to be a purely functional approach to *expertise* which neatly fits to the fourth condition of adequacy (see CoA<sub>4</sub>), or:

(EXPERTISE<sub>F</sub><sup>\*</sup>) Someone is an expert (within domain d) iff she is *considered* to improve the social deployment of available resources apt for an accurate attainment of cliently relevant ends (i.e. iff she is *considered* to fulfill CONCEPTUAL FUNCTION).

Moreover, someone is an expert in a more substantial sense just in case she reliably enough fulfills CONCEPTUAL FUNCTION (*Expert<sub>f-p</sub>*, for short). This can be said to represent an output-oriented account to *expertise*, or EXPERTISE<sub>F-P</sub>. Thus, you can refer to someone as an expert though her fulfilling CONCEPTUAL FUNCTION is not properly creditable to her or represents a case of agential luck. Accordingly:

(EXPERTISE<sub>F-P</sub>) Someone is an expert (within domain d) iff she reliably enough improves the social deployment of available resources apt for an accurate attainment of cliently relevant ends (i.e. iff she *fulfills* CONCEPTUAL FUNCTION).

Finally, most often someone is considered to be an objective expert just in case she is competent enough to fulfill CONCEPTUAL FUNCTION as opposed to a contextually relevant contrast class<sup>25</sup> (*Expert<sub>f-c</sub>*, for short). This amounts to a competence-driven approach to *expertise*, or

<sup>25</sup> Though certainly being vague and generated ‘on the fly’ (cf. Goldman 2016: Sect. 1) these contrast classes are not arbitrary. Rather they are contextually determined. The problem with this assumption however is that it is not less difficult to carve out the relevant context at hand (is it the context of the bearer, ascriber or of a third person), not to mention the more general problems with individuating such contexts in more detail. However, it seems safe to assume that by and large the ascription of context-sensitive terms in ordinary language is not at issue yet. Plausibly, this is all we need for the *definition* and *ascription* of expertise.

EXPERTISE<sub>F-C</sub>, which is able to explain the semantic contrast between *expert* and *layperson* (see CoA<sub>3</sub>). But as a consequence, someone can be an expert despite her actively refusing to achieve CONCEPTUAL FUNCTION, that is even if she keeps her expertise a secret (cf. Goldman 2016: Sect. 1):

(EXPERTISE<sub>F-C</sub>) Someone is an expert (within domain d) iff she is *competent enough* to improve the social deployment of available resources apt for an accurate attainment of some client’s benefit (or iff she is *competent enough* to fulfill CONCEPTUAL FUNCTION).<sup>26</sup>

As already emphasized, uses of *expertise* in line with functionalist (EXPERTISE<sub>F</sub><sup>\*</sup>) and competence-driven perspectives (EXPERTISE<sub>F-C</sub>) are relatively widespread not only in scientific discourse, but also in ordinary language. In contrast, usages in line with output-oriented accounts (EXPERTISE<sub>F-P</sub>) most likely resemble the talk about expertise in context of computer science and so-called expert-systems (cf. Buchanan et al. 2006). However, this talk is deviant or non-standard.<sup>27</sup> As I will take it, this can be easily explained by the assumption that *expertise* is basically employed as an honorific term which expresses appreciation to its bearer. However, since computer-systems are no proper subsections of appreciation, their being considered as and even fulfilling CONCEPTUAL FUNCTION is in no way creditable to them (see also below, Sect. 9 *The Constructive Step*). This is why every use of *expertise* in line with this output-oriented approach is non-standard and goes directly against the fifth conditions of adequacy (see CoA<sub>5</sub>).

As I take it, this differentiation represents an appropriate starting point for the constructive step of my practical explication, since my approach is able to combine these accounts into a more encompassing picture of *expertise* and so reconciles divergent ways of talking in ordinary and scientific language.<sup>28</sup>

<sup>26</sup> A functionalist account of expertise need not be understood in terms of service-activities. Instead, it could be explicated with reference to the outcomes for which the pertaining competence is ability to do. But then *expertise* loses its distinct point as compared to *competence* (so that such an account falls prey of a confusion of two distinctive properties).

<sup>27</sup> It is beyond question that some grade of circularity lurks here. This is because my implicit reference to a standard-use of *expertise* is certainly influenced by my later explication. The most straightforward defense line available might be the reference to a common dictionary (see fn. 10): As we have seen, this prompts the assumption that personal acquirements such as experience, skill and knowledge (i.e. *Expertise<sub>e</sub>*) are crucial for having expertise. If that proves to be correct, every approach restricted to EXPERTISE<sub>F-P</sub> is ultimately questionable.

<sup>28</sup> However, this still is not a comprehensive taxonomy, since some protagonists of the current expertise-debate could be located somewhere in between. Jamie Watson (2016), for instance, offers an

## 9 The Constructive Step

But before practically explicating my account of expertise, a preliminary remark is in order. It primarily is for methodological reasons that the functionality of expertise will appear as basic in the first place. However, such an approach does not automatically commit oneself to a conceptual priority of this functionality. Rather it is equally possible to explicate expertise focusing on any of its hitherto introduced dimensions, whether this is *Expertise<sub>f</sub>*, *Expertise<sub>c</sub>* or *Expertise<sub>p</sub>*. Adherents of competence-driven accounts, for instance, will set expert skills (or *Expertise<sub>c</sub>*) as focal point, whereas advocates of output-oriented accounts will focus on expert products (or *Expertise<sub>p</sub>*). Fair enough, but it will be crucial to take the relations amongst these dimensions into account: that is *Expertise<sub>c</sub>* needs to be spelled out in terms of competence to responsibly achieve something as part of a service-relation, and *Expertise<sub>p</sub>* represents creditably and responsibly caused products which results from these services. As long as these relations stay intact, the resulting explication will be able to handle the above conditions of adequacy and so represents a satisfying account of expertise.

Starting from CONCEPTUAL FUNCTION and its service relationship idea, the following consequences seem natural: First, that being an expert represents a three-place relation. That is someone is an expert *e* for at least one client *c* and a range of products (or tasks) *r*,<sup>29</sup> briefly: R(e,c,r).<sup>30</sup> Second, that *expert* fundamentally is a normative conception, that is a notion which prescribes how someone has to behave *as an expert*. If this is correct, expertise can be said to represent a primarily *social* in contrast to a *natural* kind, contrary to what is often assumed in cognitive sciences. So once the notion of expertise is taken away, experts immediately cease to exist. This is because without ascribing *expertise* in the first instance, the crucial service-functionality cannot be in place; or to quote Stichter (2015: 126): “If someone

Footnote 28 continued

epistemic facility account of cognitive expertise which at the same time shows some traits of a more output-oriented account (i.e. EXPERTISE<sub>c-p</sub>, for short). The same applies to a definition given by Elisabeth Fricker (2006: 233).

<sup>29</sup> Individuating expert’s products by tasks is a crucial modification. Since for one thing, it neatly harmonizes with the proposed service functionality of *expertise*. For another thing, it provides the means to escape the Generality Problem of characterizing domains of expertise to which Scholz (2016: Sect. 2.5) correctly alludes.

<sup>30</sup> To keep things simple, the products of this relation already presuppose relevance, that is fulfill a client’s pertinent interest. If, however, someone is uncomfortable with saying this and wants to construe *product* in a more generic fashion instead, expertise could be also understood as a four-place relation between an expert *e*, a client *c*, a range of products (or tasks) *r* and a special framework of problem solving *f*, briefly: R(e, c, r, f). Conceptually considered, this seems to be a neglectable complication of the matter.

loudly declares ‘I’m an expert’, then we can always reply ‘Only if we say you are’”. But whatever it is that was formerly referred to by “experts” (comparatively competent agents, for example) will still exist; just without being expertise anymore.<sup>31</sup>

Having said this, we can proceed with practically explicating expertise. In order to fulfill the conceptual function of *expertise* an agent needs to be relatively competent, that is more competent her contextually salient reference group. This purely comparative threshold is widely acknowledged as uncontroversial<sup>32</sup> and neatly fits the semantic contrast between *expert* and *layperson* (see CoA<sub>3</sub>). In other words, in order to be an expert someone needs to be more competent than a contextually relevant contrast class, that is someone who is a pertinent authority. Thus, someone is an expert just in case:

(AUTHORITY) she is more competent than a contextually relevant contrast class.<sup>33</sup>

But despite first appearance, *expert authority* is an intricate matter because its underlying notion of expert competence is complex as well. For one thing, this is because competences (like abilities, capacities, powers and virtues) are agential dispositions to achieve particular ends (cf. Kelp *forthcoming*, 2015; Miracchi 2014). As such they not only allow for the repeatability of performances, but also for their modally stable exercise. To put it differently,

<sup>31</sup> Though the difference between *natural* and *social* kinds is not clear cut, there are some properties which are supposed to establish this distinction nevertheless. Natural kinds such as water and magnesium are often characterized by “(a) properties that are necessary and sufficient for membership in the kind, (b) microstructural properties, (c) intrinsic properties, (d) modally necessary properties, and (e) properties that are discoverable by science” (Khalidi 2013: 515), whereas purely social kinds (or social artifacts) such as Santa Claus and the Easter Bunny are considered to be (f) mind dependent, (g) subject to ‘looping effects’, (h) ontologically subjective or (i) value-laden (cf. Khalidi 2013: 516). Based on this juxtaposition, expertise is best understood as a *hybrid* kind which comprises aspects of natural kinds (the possession of *superior competences*) as well as social kinds (the ascription of a *service function*). Since to social kinds is most usually referred to a residual category (that is everything that does not represent a natural kind), I will follow this usage in due course.

<sup>32</sup> For sure, there are exceptions: Harry Collins (2011), for instance, defends a notion of ubiquitous expertise: “While traditional analyses take the word ‘expert’ to refer only to rare, high-level, specialists, SEE considers that ordinary language-speaking, literacy and the like exhibit a high degree of expertise even though everyone has them – they are ubiquitous” [for similar considerations see Caplan (1989: 74f.) and lately even Goldman (2016: Sect. 1)].

<sup>33</sup> It is worth mentioning that authority is usually taken to be a non-functional state of affairs. Yet, Joseph Raz is a notable exception, for he conceptualizes legitimate authority as “the role and primary normal function [...] to serve the governed” (Raz 1986: 56) and so within a framework of service function.

the possession of competences implies achieving relevant ends non-incidentally or safely. But more decisively, competences are complex because they are subject to agential evaluation. The underlying reason again is two-fold: First, as dispositions expert competences can reliably enough fulfill the conceptual function of expertise and so are *appreciable* (this evaluation already is part and parcel of being an authority). Second, as being considered to fulfill this function expert authority also involves experts' agential *responsibility*. This is because once conceptualized within the framework set by CONCEPTUAL FUNCTION, a norm to improve the social deployment of available agential resources readily follows. Put another way, expert competences are fundamentally supposed to serve this social aim for which attainment experts are ultimately responsible. Charles Huenemann (2004: 250) even goes "so far as to define an expert as someone who is [...] *responsible* for a particular domain".

Recall that *responsibility* has at least three different dimensions (cf. Williams 2013: 24f.). First, there is *accountability* which consists in the disposition to rationalize or give an account of your expert activity when required. Second, there is *due diligence* which consists in living up to some agential norms and having a corresponding understanding of the domain of agency. Third, there is *liability* which consists in being a proper subject of sanction, that is a subject of autonomous agency. However, as I take it, expert performance does not require experts to always act in virtue of a conscious representation of norms or an understanding of the respective subject matter. For this would be an overly intellectualist account of expert agency. Instead, what is important for being an expert, just is being a subject of appreciation and exercising one's responsibilities on demand. This establishes a *default and query* structure of expert agency (cf. Williams 2013) which takes into account important findings of the psychology of expertise by the way (for details see Stichter 2015: 120ff.). However, against the backdrop of CONCEPTUAL FUNCTION a fourth dimension of responsibility needs to be highlighted which readily follows from the fact that *expertise* represents a reputational notion, that is a notion which implies trustworthiness. Facing this, it is important to stress an obligation to often enough engage in the fulfillment of the conceptual function. Accordingly, if a claimed expert never discharges his duty, the default ascription of expertise quickly is defeated. Thus, expert-status is *defeasible* and once standardly ascribed can get lost by ignoring respective responsibilities for instance.

However, these are intricate matters which deserves further scrutiny. For now, however, we have to content ourselves with the result that having expert authority implies particular agential responsibilities. Accordingly, someone is an expert just in case:

(RESPONSIBILITY) she is particularly responsible for fulfilling relevant tasks, i.e. for fulfilling CONCEPTUAL FUNCTION.

So at the bottom line, the ascription of expert authority not only is appreciation of relative competences, but also comprises corresponding grades of agential responsibility. This is particularly noteworthy with regard to the conceptually correlated function of expertise introduced as shifting agential responsibilities from decision makers to authorities. Put another way, *expert authority* is an ascriptive term comprising aspects of appreciation and responsibility. This is one reason why having exceptional *competences* should not be confused with having *expertise*.

However, expert authority is a purely comparative matter. But as Goldman (2001: 91) correctly mentions, expert competence additionally calls for a "non-comparative threshold" of relevant attainment to avoid marginal cases of expertise-ascription. In a similar fashion, Markus Seidel (2014: 208) calls for a "certain minimum" of respective desiderata, while Jamie Watson (2016) for a "substantial proportion" thereof. Considering the fact that AUTHORITY cannot ensure the fulfillment of CONCEPTUAL FUNCTION, this seems to be an important requirement to ensure experts' productivity. For expert authority could lack competence enough to either bring about the cliently intended product or to cease the rational strive for it. Therefore, someone is an expert just in case:

(COMPETENT ENOUGH) she is competent enough to reliably<sup>34</sup> improve the social deployment of available resources apt for the benefit of a contextually relevant group of clients.

A core advantage of this threshold is defining *Expertise<sub>c</sub>* by means of *Expertise<sub>p</sub>*, that is withholding a more detailed characterization of expert competences in terms of specific desiderata by reference to the intended results of expertise (by way of example, see Fricker 2006). On that reason, this threshold could be characterized as pragmatic and *non-comparative*, while still not *absolute* as required by Goldman (2016: Sect. 1) for instance.

But this still is not enough to avoid vexing trivializations of expert competences, as ascribing *expertise* appreciates agents particularly worth highlighting, that is represents an honorific term (see CoA<sub>5</sub>). This is why another threshold appears to be in place which requires expert competences

<sup>34</sup> It is surprisingly difficult to explicate the reliability-assumption pertaining competences. For sure, we can claim competences (types) to be reliable if and only if most of their actual and close counterfactual exercises (tokens) produce proper ends. Basically, this is reference to the *fallibility* and *modal robustness* of reliability which is most usually taken for granted (cf. Comesaña 2011: 184). But then the question arises, how to cash out "most" and "modal robustness", to say nothing of the nasty generality problem.

apt for accurately, responsibly and reliably performing *difficult* tasks, that is attaining more substantial results. Although this is not the place to defend a full account of *difficulty*, I will assume two crucial characteristics nevertheless: The first feature is its essential *relationality* (cf. Bradford 2015: 27f.). So a given task usually is difficult for some contextually relevant reference group and at the same time easy for some other. The second feature is its essential *appreciability*. In general, this is because *achieving* (difficult) tasks always manifests “fundamental human capacities” (Bradford 2015: 131), i.e. basically, effort and autonomous agency. But more particularly, this is due to the fact that difficult tasks are usually considered as substantial attainments contextually worth highlighting. These are those endeavors that “evoke a sense of awe, admiration, and of being impressed” (Bradford 2015: 4). The former kind of appreciation could be considered as *internal* to agency, whereas the latter is *external* and nicely captures the honorific dimensions of expert agency. As a result, an expert needs to be competent enough to relatively easily succeed in difficult service-activities. Or more exactly, her attaining relevant products requires a significantly lower amount of agential resources than from a contextually salient reference group. Thus, someone is an expert just in case:

(DIFFICULTY) she is competent enough to relatively easily succeed in service-activities which are comparatively difficult for some contextually relevant reference group.<sup>35</sup>

As already claimed, such a threshold is crucial in order to avoid vexing uses of *expertise* and so is tribute to the more absolutist intuitions introduced above. As a consequence, competently reading a recipe for Bolognese sauce to your wife does not amount to expert agency even if you are more capable than her (see AUTHORITY), due to a division of labor particularly responsible for that (see RESPONSIBILITY) and also competent enough to achieve (see COMPETENT ENOUGH). This clearly is because reading recipes does not display any significant obstacle for the most relevant reference groups, or put it differently, since DIFFICULTY is not fulfilled.

Even though this is great progress, it cannot amount to a general definition. This is because DIFFICULTY chiefly highlights the *external* aspect of appreciation which needs to be complemented by the *internal* one (see above). Put

<sup>35</sup> It is not arbitrary that the term denoting the contextually relevant reference classes varies within these conditions (from “contrast class” to “clients” and “reference group”), although usually being co-extensional. More exactly, this opens the possibility for lacking authority, while being capable to achieve difficult activities and having *Expertise<sub>c</sub>* in some way, without being a respective *Expert<sub>c</sub>* at the same time (and in the same respect).

differently, expert products not only require the accurate *fulfillment* of difficult service-functions, but creditably *achieving* them. So given someone is an expert, she non-deviantly *achieves* service-functions by reliably manifesting relevant competences. In accordance with that, I want to claim that someone is an expert just in case:

(CREDIT) her achieving to fulfill difficult service-activities is creditable enough to her and depends on an etiologically proper manifestation of competences on the one hand and acquisition of that very competence on the other.<sup>36</sup>

Interestingly, this condition lays ground for a series of explanations of why people are often hesitant to attribute full expertise, for example, to ‘scientific’ findings which are discovered unintentionally (due to insufficient manifestation of competences), to doping cheaters winning the Tour de France (due to improper acquisition of ‘competences’ or abilities) and to computer-systems, that is to so-called expert-systems. This is because whilst these systems can reliably fulfill difficult services functions (compare expert-systems in diagnostic medicine), their respective outputs are not *creditable* to them and so do not represent achievements (rather the design engineer or the original informants are to be praised for the pertinent successes).<sup>37</sup> The underlying reason for this is that computer-systems are no proper *subjects of appreciation* at all. For one thing, this is because they are not *sentient* entities and so cannot spend purposeful *effort* (which is intrinsically valuable) in the respective activities.<sup>38</sup> For another thing, this is due to the fact that they do not operate *voluntarily* and so plausibly cannot be claimed to be fully *responsible* for fulfilling the proposed service-function (cf. Williams 2013: 24f.). For even if computer-systems could reflectively give *account* of their processes and outputs to some extent and would process with self-awareness as well as *due diligence*, they still cannot be said to be *liable* for their activities or to be proper subjects of sanctions. In a nutshell, this is because

<sup>36</sup> It is crucial to stress both aspects, since the attribution of full credit can be not only withdrawn due to a deviant (i.e. lucky) causal origin of pertinent successes by competence, but also due to a deviant origin of this competence itself (consider, for example, cases of bodily-enhancements and the widespread attitude to depreciate their respective ‘achievements’). For further discussion, see also Kelp (2015) and Millikan (2000: cp. 4).

<sup>37</sup> If not otherwise made clear enough, it is worth highlighting that expertise should only be attributed to sentient beings, that is to potential subjects of appreciation (cf. CoA<sub>5</sub>). This is why potential functional equivalents of expertise such as computer-systems, organizations, institutions etc. can never be experts, or at best vicariously.

<sup>38</sup> Accordingly, different from what Goldman (2016: Sect. 1) recently claims, Google ought not be considered as an (meta-)expert for anything. At best, Google can be said to *function as* an expert without ever *being* one.

computer-systems are not sentient entities and cannot spend efforts in autonomous agency. This is why they should not be considered as experts or even having competences in any substantial way. To modify a common topos taken from the philosophy of testimony: Instead of being *producers* they are mere *sources of products*. Certainly, more needs to be said to justify these claims, but this is not the place to get lost in details. Instead, *credibility* is to be established as a proper explicatum term for *expertise*.

Summarizing the foregoing explicata, DIFFICULTY and CREDIT evidently capture the underlying reason for experts' claimed appreciability. To put it differently, *expertise* represents an honorific term because expert activities are relatively difficult within a given context while being creditable to the expert's competences. It is not far to seek how this cherishes the misleading intuition that *expertise* just refers to *exceptional* capabilities and so to agents who excel most others. But since none of both conditions do require any such restriction, the identification of *expertise* with *exceptionality* or high-level performance is amiss.

Finally, and contrary to what Majdik and Keith (2011b: 289) claim to be implausible, "deep down on a conceptual level" we eventually arrive at a general definition of expertise:

(EXPERTISE<sub>F-C-P</sub>) Someone is an expert for a range of products (or tasks) *r* if and only if she is an authority concerning *r* and competent enough to reliably and creditably fulfill difficult service-activities within *r* accurately for which she is particularly responsible.

In fact, this is quite an open or structural definition of expertise which needs to be enriched contextually. However, the bottom line is the following: (1) Someone's (a) *having expertise* (or *Expertise<sub>f-c-p</sub>*, for short) is defined as competence to achieve difficult service-functions for which the bearer is particularly responsible (just think about the competences of emergency physicians in action), while something (b) *is an expertise* iff it manifests *Expertise<sub>f-c-p</sub>* (say a patient who has been stabilized by an emergency physician at the accident location). Furthermore, (2) usually someone is an *expert* (a) in an *objective* sense iff she has relevant *Expertise<sub>f-c-p</sub>* (such as a sufficiently competent and responsible emergency physician), while someone is an *expert* (b) in a *reputational* sense iff she is only considered to fulfill CONCEPTUAL FUNCTION (such as an insufficiently competent and responsible emergency physician, i.e. an *Expert<sub>f</sub>*).

## 10 Concluding Remarks and Objections

After having explicitly developed single conditions of *expertise* in the light of the above conditions of adequacy, it is hardly surprising that the resulting account perfectly

harmonizes with these conditions. Nevertheless, to round off the given attempt this is still worth highlighting. But before, we need to briefly recapitulate the proceeding course of practical explication.

We started this inquiry by a *prima facie* plausible hypothesis about the conceptual function of expertise, to wit, a service-function to substantially improve the social deployment of pertinent agential resources apt for an accurate attainment of cliently relevant ends (cf. CONCEPTUAL FUNCTION). Then we proceeded by reflecting on what is essential to fulfill this very function. Trivially, improving the deployment of these resources implies at least two agents' different amount of pertinent competence (cf. AUTHORITY). What is more, to fulfill this function the relevantly superior agent needs to be competent enough to either accurately bring about cliently intended ends or to cease the rational strive for them alternatively (cf. COMPETENCE ENOUGH). But an expert's being competent enough for this service-function goes hand in hand with her particular responsibility as an expert, since agential cooperation needs agents on whom we can rely on. This is claiming that her special responsibility is based on both, her having sufficient authority within the given context and her being considered as an expert. Thus, a crucial feature of my account is that expertise can be undermined by insufficient reliability or by irresponsibility alike (cf. RESPONSIBILITY). In order to substantially improve the conceptual function of expertise, however, the pertinent services are restricted to difficult activities, meaning that the expert spends a significantly lower amount of agential resources to perform than a contextually salient reference group would do (cf. DIFFICULTY). Although this establishes expertise as an honorific term, it still ignores an important dimension which is the sufficient credibility of these services to the achiever: namely that expert services saliently manifest respective competences which exhibit a contextually proper history of origin (cf. CREDIT).

By combining the foregoing conditions, we eventually arrived at an encompassing account of expertise (i.e. EXPERTISE<sub>F-C-P</sub>). The question now arises, how this approach fits the conditions of adequacy introduced above. According to the *first* condition, a plausible explication has to take account of the competence-sense and product-sense of *expertise*, while according to the *second*, the relation between these correlated phenomena needs to be explained. Evidently, this is already achieved by understanding expertise within the framework set by CONCEPTUAL FUNCTION. Furthermore, AUTHORITY provides a straightforward explanation for the semantic contrast between *expert* and *layperson* which is stressed by the *third* condition of adequacy. By the same token, CONCEPTUAL FUNCTION substantially illuminates the role of experts by analyzing it in terms of a service-function to substantially improve the

social deployment of pertinent agential resources apt for an accurate attainment of cliently relevant ends. This is the requirement claimed by the *fourth* condition of adequacy. Finally,  $\text{EXPERTISE}_{F-C-P}$  is well prepared to explain the ascriptive usages of *expertise* which ensure its predominantly honorific use. As explained in length, this is due to  $\text{DIFFICULTY}$  and  $\text{CREDIT}$ . So *expertise* represents an honorific term, for experts by definition are set to accurately fulfill difficult service-functions (see  $\text{EXPERTISE}_F^*$ ) and are thought not only to be competent enough to do so, but also to creditably and responsibly manifest pertinent competences thereby. This is how  $\text{EXPERTISE}_{F-C-P}$  allows for accusations like “*She is the expert!*” and praises such as “*The success is due to her expertise!*” and so fully takes into account the introduced conditions of adequacy.

On the flipside of this account some generic consequences might be worth highlighting which directly affect alternative approaches. First and foremost, my overall objection against alternative accounts to *expertise* is an argument of imbalance between different dimensions of expertise, that is an imbalance between the *function*, *competences* and *products* of expertise. More particularly, having *expertise* and having the respective *competences* should not be conflated with each other which is a peril of holding purely competence-driven accounts and disregarding experts’ functionality thereby. Furthermore, and relatedly, being *appreciated* as an expert should not be confused with *exceptionality* or high-level performances, for the ascription of expertise depends on too many contextual factors. Moreover, having *expertise* should neither be confused with a *role* ascription nor with the respective *reliability* to fulfill it. The former mixing-up comes close to a purely functional approach to expertise, whereas the latter confusion easily results from output-oriented accounts which unduly ignore the creditability relation between someone being an expert and something being an expertise. In a nutshell, these are the most notable punch-lines directly resulting from my above explication of expertise.

However, it seems fair to mention that  $\text{EXPERTISE}_{F-C-P}$  also invites some criticism. This is why, I will briefly anticipate and comment on three of those possible objections:

First, being an expert (i.e. an  $\text{Expert}_{f-c-p}$ ) does not imply continuously delivering respective products, but only reliably and creditably manifesting competence in relevant activities, when trying. Fair enough, but what to say about the case of someone who lives a solitary life and never displays her vocal talent to others or Crusoe before he met Friday? According to Goldman (2016: Sect. 1), such a person retains *expertise* as she retains *competence*. Against the backdrop of  $\text{EXPERTISE}_{F-C-P}$ , however, this equation misses the point. This is because *competence* needs to be understood as competence to achieve something for which

it is competence to do, as opposed to expertise which is competence to accurately, reliably and responsibly achieve a difficult service-function fully creditably. To put it in another way, expertise is a competence which can get lost, while its underling and enabling competence remains intact. Thus, with the above cases it is all about the details: Given that Crusoe’s salient context is such that there is nobody for whom he can function as an expert or even no nearby counterfactual scenario in which he could plausibly do so, he probably is no expert though maybe highly competent. For under these circumstances the expertise ascription is defeated by losing its point (see  $\text{AUTHORITY}$ ).<sup>39</sup> And given that the vocal talent is known to be highly skilled, she could principally be honored with *expertise*, regardless of her distinct reluctance to display her underlying competence. But again, this ascription will be quickly defeated by intentionally failing to fulfill her corresponding function and so behaving irresponsibly in some sense (see  $\text{RESPONSIBILITY}$ ).

Second, it could be objected that my approach has difficulties with explaining some prominent usages of *expertise* in cognitive psychology, where grandmasters of chess or individual athletes are often discussed as paradigm cases of experts. Now a problem arises, since their usual performances apparently do not exhibit any social improvement of pertinent agential resources. But if so, they cannot have expertise in the pertinent sense. However, it is unclear, whether this really is a substantial disadvantage of my account or not even a merit. In keeping with  $\text{EXPERTISE}_{F-C-P}$ , grandmasters of chess could still be considered as highly competent agents, but fall short of being experts nonetheless (with the important exception of grandmasters or athletes in teaching functions of course). As a consequence, I propose a diagnostic reply to this objection by claiming that these usages of *expertise* are subject to a confusion of two distinct properties: *competence* and *expertise*.<sup>40</sup>

Finally, it could be objected that a definition of *expertise* against the backdrop of elementary needs a restricted

<sup>39</sup> The underlying reason is that expertise can be understood as a disposition to fulfill  $\text{CONCEPTUAL FUNCTION}$ , when trying under appropriate circumstances, that means if  $\text{AUTHORITY}$ ,  $\text{RESPONSIBILITY}$ ,  $\text{COMPETENCE ENOUGH}$ ,  $\text{DIFFICULTY}$  and  $\text{CREDIT}$  is fulfilled. But if there is no actual or nearby counterfactual reference group against which Crusoe can be said to be an authority or his activity could be claimed as difficult, expertise cannot be manifested and so loses its point.

<sup>40</sup> A similar objection applies to another kind of approach to *expertise* which defines expertise in terms of stable, but nevertheless contingent developmental factors ( $\text{EXPERTISE}_D$ , for short). Exemplarily, Collins defines expertise in terms of linguistic socialization, that is immersion into a relevant linguistic community and thereby acquiring tacit knowledge (cf. Collins, Evans 2007: 3), whereas Montero stipulates experts to be “individuals who have engaged in around ten or more years of deliberate practice, which means close to daily, extended practice with the specific aim of improving, and are still intent on improving” (Montero *forthcoming*). Regardless of how exactly *expertise* is chased out, a definition within this framework

sentient being reasonably has (or CONCEPTUAL FUNCTION) is too permissive and too restrictive at the same time. On the one hand, it is too *restrictive*, since there is expertise in many unnecessary subject matters, such as gambling, music etc. On the other hand, it is also too *permissive*, since even swimming pool cleaners or tree trimmers could easily fulfill such a function. To the former objection I want to reply that many people indeed have interests in listening to music so that there can be and often are service relations of the respective kind. But if this is the case, there is no reason why EXPERTISE<sub>F-C-P</sub> cannot be fulfilled by musicians. As regards the case of gambling, it is hard to see how this represents a case of expertise at all, given that gambling is closely entangled with obsession and luck instead of reasonable attempts and competence. The second objection can be rejected by questioning its implicit premise that swimming pool cleaners and tree trimmers can never be experts even if they are more competent than their relevant clients and the activity is not only robustly difficult for a contextually pertinent reference group, but also non-deviantly caused by an authority who responsibly fulfills the pertinent service function. Beyond all question, these are no exemplary usages of *expertise*, but they share the same conceptual structure and so can be considered as instances of expertise nevertheless. So, if *expertise* should not be identified with *exceptionality*, something I have argued for, then there is no in principle reason why swimming pool cleaners and tree trimmers cannot have *Expertise<sub>f-c-p</sub>*.

As always, not everybody will be convinced and more needs to be said to complete the proposed picture of *expertise*. Nevertheless, I am optimistic that the forgoing discussion provides some useful observations and means to classify, assess and shape the current state of debate, and by doing so sheds some new light on an overly familiar phenomenon. In particular, by having developed a practical explication, I have proposed a (prototypical) notion of expertise which still allows for derived variations and extensions thereof. It is now open to further debate how fruitful this attempt finally proves to be.

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Footnote 40 continued

never captures the nature of expertise. Not only does it fare badly with the introduced conditions of adequacy, but it also is prone to cases of intuitive expertise which clearly miss the criteria set by EXPERTISE<sub>D</sub> (some prodigies or exceptionally untalented persons might be plausible examples in this regard). So my argument basically is that these accounts fall victim of a vicious confusion of *criteria for* and the *nature of* expertise.

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