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Walton's Argumentation Schemes

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Abstract: The contribution critically discusses Walton's (and Reed's and Macagno's) argumentation scheme approach. On the one hand, its enormous richness and closeness to the empirical argumentation material is appreciated, but, on the other, fundamental conceptual weaknesses are revealed. Although the approach more recently has been declared to strive for "true beliefs and correct choices" it has not systematically developed the proposed schemes in a way that these goals are reached. Accordingly, many proposed schemes are fallacious from an epistemological standpoint.

Keywords: argumentation schemes, argumentation schemes approach, bottom-up approach, epistemological theory of argumentation, function of argumentation, probabilistic arguments, validity, Walton.

1. Theories of argument schemes and the aims of this paper

Since the 1980's, Douglas Walton has developed an argumention schemes approach to argumentation, which is laid down in a long series of publications, in part coauthored by other scholars. (Some particularly important works are: Walton 1989; 1995; 1996; 1997; 2005; Walton & Reed, 2001; Godden & Walton, 2007; Walton, Reed, & Macagno, 2008; Walton & Sartor, 2013.) A first compilation of a long list of argumentation schemes was: Walton (1996); by now, however, Walton, Reed & Macagno (2008) is the standarad and very handy exposition of this approach with a huge list of argumentation schemes. At the latest with the publication of this book Walton's approach was no longer only one of the few main approaches in terms of theoretical importance in argumentation theory but has also become one of the most quoted.[1] Walton's later coauthors notwithstanding, the approach has been developed by him. Therefore, sometimes I speak of "Walton" only even though the appertaining reference cites a coauthored work of Walton, namely if the respective thought was already present in earlier works of Walton.

Argumentation schemes are a topic in every elaborated argumentation theory; such a theory must be able to account for and to normatively fix a broad variety of argument schemes. Walton's theory, however, is in particular an *argumentation schemes approach* to argumentation, i.e., an approach that mainly consists in empirically collecting arguments of all types, analyzing and evaluating them and bringing them into a normative standard form of an argumentation scheme (Walton, 2005, p. 8). Fully elaborated competing argument(ation) theories usually define

[1] According to a Google Scholar research (executed on the 10th of March 2016), Walton et al., 2008, with 1466 quotations, was probably the most quoted monograph in argumentation theory that appeared in the last 25 years (i.e., since 1990). "Argumentation, Communication, and Fallacies" (1992) by van Eemeren and Grootendorst had 1453 citations, and their "A Systematic Theory of Argumentation" (from 2008) 1347 citations. Some modern classics, though, reach still higher figures: Toulmin's "The Uses of Argument" (from 1958 et passim): 9712 citations plus those from the many translations; Perelman & Olbrechts-Tyteca's "La nouvelle rhétorique" (1958 et passim) together with the English translations: roughly 4725 citations (however, because of the many versions this is very difficult to count); Hamblin's "Fallacies" (from 1970): roughly 1482 citations.

Bondy, P., & Benacquista, L. (Eds.). *Argumentation, Objectivity, and Bias: Proceedings of the 11th International Conference of the Ontario Society for the Study of Argumentation (OSSA), 18-21 May 2016*. Windsor, ON: OSSA, pp. 1-20.

arguments functionally, i.e., they define the function of argumentation—e.g., as producing consensus (in the Prgama-Dialectics of van Eemeren and Grotendoorst or in Habermas' discourse theory), causing or strengthening the addressee's belief in the argument's thesis (in rhetoric approaches like that of Perelman and Olbrechts-Tyteca), leading the addressee to knowledge or justified acceptable belief (in epistemological approaches, e.g., by Biro, Goldman, Lumer, Siegel)—and then they design and define arguments and their validity criteria so as to fulfil this function. An argumentation schemes approach does not do so; instead it empirically collects from argumentation practice often used argument figures, distinguished by their content—like argument from expert opinion, argument from example, from waste, from precedent—analyzes their usefulness, thereby distinguishing good versus fallacious arguments, and describes them in a canonical form. Hence these are bottom-up approaches to argumentation, whereas functionally defined approaches work more top down, combining this, however, with bottom-up studies and checks.[2] There are several of such specific argumentation schemes approaches, beginning with that of Aristotle in his "Topics", continuing in more recent times with that of Perelman & Olbrechts-Tyteca (1958), or e.g., Hastings (1963) and Kienpointner (1992a). The particular feature of Walton's argumentation schemes approach is the specific form of his schemes together with the fact that every scheme includes also critical questions which could be asked by an opponent. Thereby Walton's approach is inherently dialogical, making its success (i.e., "conveying its conclusion" to the respondent (Walton et al., 2008, p. 36)) depend on an opponent's moves.

The aim of this paper is to critically discuss Walton's approach. After presenting this approach in somewhat more detail (sect. 2), its strenghts and, in a first round of a general and more prima facie critique, some of its problems will be outlined (sect. 3). Subsequently Walton's justifications of his approach, in particular his more recent pragmatic, epistemic justification, will be sketched, analyzed and criticized as insufficient and fallacious (sect. 4). Finally, in a second, more detailed round of critique, some of the important and typical of Walton's argumentation schemes, will be analyzed in particular with respect to their epistemic value, viz., the schemes 'Argument from Expert Opinion' and 'Practical Reasoning', and compared with respective epistemologically designed schemes (sect. 5).

2. Main features and the significance of Walton's approach to argumentation schemes

Walton, Reed and Macagno (2008) define: "Argumentation schemes are forms of argument (structures of inference) that represent structures of common types of arguments used in everyday discourse, as well as in special contexts like those of legal argumentation and scientific argumentation" (p. 1). Walton and his coauthors distinguish three main groups of argument schemes, viz., (i) deductive, (ii) inductive, which schematize statistical arguments, e.g., from a set of collected data to a statistical conclusion, and (iii) "defeasible", "presumptive", "plausibilist" or "abductive" schemes (Walton et al., 2008, pp. 1; 10; 12).[3] Because probabilistic

[2] The bottom-up studies and checks serve, among others, to exploit the empirical wealth of actually advanced arguments for theoretical inspiration, to check the applicability of the theoretical approach, and to guarantee the completeness of the proposed argument types. Hence functional approaches oscillate between top down and bottom up but give more weight to the top down move. A more elaborate description of the (ideal-hermeneutic and technical-constructive) method used in a good functional approach in argumentation theory is provided in: (Lumer, 2011b; Lumer, 1990, pp. 7-19).

[3] Astonishingly, the authors do not mention probabilistic arguments, which are not included in the group of presumptive arguments, and they do not seem to count them as "inductive" arguments.

arguments are also "defeasible" in Walton's et al. (2008) terms, and because abduction is a very particular inference type I will call the third group "*presumptive*" or "*plausibilist*". Since Walton, et al. (2008) seem to think the problem of deductive and inductive arguments to be mainly resolved, their argumentation schemes approach is (at least nearly) exclusively intended to capture presumptive arguments and to provide a theory for them, which is a long needed desideratum.[4]

Walton and his coauthors (2008) see their work in the tradition of works on argument schemes, which begins with Aristotle's "Topics" and more recently has been enriched by authors like Perelman & Olbrechts-Tyteca (1958), Arthur Hastings (1963), Manfred Kienpointner (1992a; 1992b), Wayne Grennan (1997) or Bart Garssen (1997; 2001; 2002) (Walton et al., 2008, pp. 3-4; 8-9). Topics, or "topoi" in Greek, are commonplaces; and the main idea of a topical approach to argumentation is to establish collections of powerful contents, i.e., ideas from which to argue convincingly, which then are classified according to again contentual categories. And this content orientation—as opposed to an approach based on formal criteria—is also present in Walton's argumentation schemes approach. Another source of this theory is Walton's long-standing work on fallacies (e.g., 1987; 1995), in which he discusses and analyses traditional fallacies and their spheres much in detail on the basis of a rich database of real arguments, thereby distinguishing real fallacies from useful arguments, which in the tradition, however, often were lumped together. These analyses are, among others, often based on a dialectical method, i.e., asking what a respondent could object to the argument, what the arguer could reply to the objection and so on, thereby coming to an assessment under which conditions the argument could and should be accepted. The argumentation schemes approach then has turned this kind of work into the positive. A third inspiration for the collective work and standard exposition (Walton et al., 2008), which is new with respect to Walton's first compilation (1996), is the aim to make the schemes usable for argument diagramming with the help of computer programs and for artificial intelligence. This has led to giving the schematization a somewhat pragmatic touch present in the degree of concreteness and proximity to everyday reasoning. Though inserting the upshot of the argument schemes into computer programs requires a certain degree of formalization, this is no formalization in the logical sense of individuating the logical syntax for proving an inference's validity. Since this AI element in the approach is irrelevant for the more fundamental questions of the approach's and its schemes' validity, in the following I will not further consider it.

A main idea behind Walton's argument schemes approach is to keep the schemes elaborated by the theory near to everyday reasoning or common reasoning in politics or science. Therefore, Walton et al. (2008) keep the enthymematic form of everyday reasoning, leaving out several premisses which would be essential for the arguments' possible inferential validity, in particular general conditional premisses which could link the explicit singular reasons to the conclusion (p. 18). As a consequence, the minimally formalized enthymeme—where names or singular terms occurring in the enthymeme are replaced by variables, but the rest (predicates, logical operators …) is left as it were—already makes up the argument scheme. However, as a compensation, so to speak, Walton appends to each scheme a precise set of "critical questions".[5] These questions (i) in part ask for justifications or clarifications of the given premisses or (ii) even question them; (iii) another part instead asks for missing premisses; and (iv) some of the

[4] This exclusive tendency is so strong that Walton sometimes even denies the existence of other than presumptive argumentation schemes (e.g., Walton & Sartor, 2012, p. 111).

[5] The idea to add specific critical questions to every argument scheme goes back to Hastings (1963).

critical questions ask for further information, in particular for possible counter-evidences. The last group is Walton's way to deal in particular with presumptive arguments, which are uncertain or, in Walton's terms, "defeasible", such that the conclusion may be false though all premisses are true and though they "plausibilistically" imply the conclusion. Because of their uncertainty, presumptive arguments are non-monotonic, i.e., further information may reveal the conclusion's falseness or its doubtfulness and hence require a revision of the former result. The fourth group of critical questions asks for such counter-evidences.[6] Generally speaking, the critical questions, according to Walton et al. (2008), express the defeasibility of plausibilist arguments (p. 8). So on the one hand in Walton's argument schemes an enthymematical form is preserved, on the other the respondent gets a list of what he might ask or question or attack.

Another characteristic feature of Walton's argument schemes is that they are defined and distinguished from each other in terms of their content, like "argument from position to know", "argument from expert opinion", "argument from sunk costs", "argument from sign", "argument from rules", or "argument for an exceptional case". Being schemes, of course, they contain still *types* of contents (propositions with variables for singular terms), not individual contents. Because of the contentual differentiation, two (according to Walton different) schemes can have the same logical form; several schemes, e.g., have a modus ponens form, among others: the Rhetorical Argument from Oppositions, in the normative as well as in the descriptive variant (Walton et al., 2008, p. 318); the Argument from Bias (Walton et al., 2008, p. 338); variants 1 and 2 of the Argument from Rules (Walton et al., 2008, p. 343). This orientation towards contents may be due to the Aristotelian tradition or due to the aim to remain near to the everyday practice; another reason may be that in particular the fourth group of critical questions, which asks for counter-evidences, can give much more specific indications if the argument's content is determined.

All these characteristic features then lead to argument schemes (plus critical questions) like the following two:

> 1. ARGUMENT FROM POSITION TO KNOW
> *Major Premise:* Source *s* is in position to know about things in a certain subject domain *f* containing proposition *p*.
> *Minor Premise: s* asserts that *p* is true (false).
> *Conclusion: p* is true (false).
> CRITICAL QUESTIONS
> CQ1: Is *s* in position to know whether *p* is true (false)?
> CQ2: Is *s* an honest (trustworthy, reliable) source?
> CQ3: Did *s* assert that *p* is true (false)?" (Walton et al., 2008, p. 309; variables changed to my own system, C.L.)
>
> 2. ARGUMENT FROM EXPERT OPINION
> *Major premise:* Source *e* is an expert in subject domain *f* containing proposition *p*.
> *Minor premise: e* asserts that *p* is true (false).
> *Conclusion: p* is true (false).

[6] Further information can also strengthen the case for the thesis, make it more plausible or even certain. This may happen not only during further research but also in cooperative argumentative dialogues if the respondent is interested in cooperatively settling a question. Walton and co. do not mention this possibility, perhaps because they conceive of argumentative dialogues always (or at least mainly) as adversarial.

> CRITICAL QUESTIONS
> CQ1: *Expertise Question*: How credible is *e* as an expert source?
> CQ2: *Field Question*: Is *e* an expert in the field that *p* is in?
> CQ3: *Opinion Question*: What did *e* assert that implies *p*?
> CQ4: *Trustworthiness Question*: Is *s* personally reliable as a source?
> CQ5: *Consistency Question*: Is *p* consistent with what other experts assert?
> CQ6: *Backup Evidence Question*: Is *e*'s assertion based on evidence?" (Walton et al., 2008, p. 309; variables changed to my own system, C.L.)

If a scheme speaks of a "true" proposition Walton et al., (2008) mostly add also the variant "(false)"—as in the just given examples; this is superfluous since, e.g., the variant of the Minor Premise "*e* asserts that proposition *p* is false" is equivalent to: "*e* asserts that proposition non-*p* is true", where however also the proposition non-*p* is covered by the general variable "*p*" in the positive variant of the Minor Premise: "*e* asserts that proposition *p* is true". Therefore, I will often omit the '(false)' variant.

The critical questions are intended to be tools for a respondent who thus gets suggestions for possible critical replies to the argument. This is one main aspect of the fact that Walton et al. (2008) understand presumptive argumentation as a dialogical enterprise and they design argumentation schemes and their theoretization accordingly. On this line they also define an argument's failure and an argument's success or positive quality as well as the mechanism which leads to the "bindingness" of schemes in dialogic terms: An argument is *defeated* if the respondent asks an appropriate critical question that is not answered by the proponent (Walton et al., 2008, pp. 3, 9). Advancing an argument shifts the burden of proof, and asking the critical question shifts it back again, etc. (Walton et al., 2008, pp. 12, 35-37). In the end holds: "A presumptive argumentation scheme imposes a relation of conveyance on the respondent such that if he accepts the premises, and if the scheme is applicable, and if all the requirements of the scheme are met, the conclusion is conveyed to him by these factors." And this means "that he has now been given a cogent reason for accepting it." (Walton et al., 2008, p. 36.)

The feature of the collective work of Walton, Reed and Macagno which make it a practical standard exposition of Walton's Argumentation Schemes Approach is that it gathers all schemes so far dealt with by Walton and brings them into a uniform and handy format. This collection is called "*compendium*" and contains 60 main argument schemes and a further 44 sub-schemes together, of course, with the appertaining critical questions (Walton et al., 2008, pp. 308-346). Among the 104 listed schemes only 23 are deductively valid and another five are analytically valid, i.e., deductively valid if supplemented by analytically true premises (my classifications and counts).[7] Hence the remaining 76 schemes should be presumptive argument schemes—like the two examples quoted above. Among the presumptive argumentation schemes many resemble general modus ponens; however their Major Premise often contains qualifications like "generally"; this makes the argument "defeasible"; therefore, Walton et al. (2008) call their structure "defeasible modus ponens structure" (p. 365).

[7] The deductively valid schemes are: 4, 11.1, 11.2, 12.1, 12.2, 13.2, 14, 15, 16, 17, 18.2, 21.1, 21.2, 26, 26.1, 32.2, 38, 41, 46, 48, 55.1, 55.2, 55.3, 56; the following schemes are analytically valid: 3, 44, 51, 54.2. The deductive inference forms are: 11.1, 11.2, 12.1, 12.2, 21.1, 21.2, 46, 55.1, 55.2, 55.3, 56 modus ponens; 16, 17 modus ponens with two conditions; 48 iterated modus ponens; 14, 15, 18.2, 41 general modus ponens; 38 general modus ponens with three conditions; 26, 26.1, 32.2 modus tollens; 13.2 alternative. (cf. Walton et al., 2008, pp. 310-344).

So, to come to a first conclusion, Walton's argumentation scheme approach has among others the following strengths. It is empirically supported by a huge data base of argumentation examples; so, the proposed schemes, first, are not simply invented but have their empirical counterparts, second, have a format near to the found arguments, thereby easily to be handled also by layman, and, third, cover a great portion of argument types found in everyday reasoning. The proposed schemes are handily and clearly elaborated in a uniform and tight format and collected in the compendium, which is a very rich reference text. The critical questions appertaining to each scheme, in case of uncertain arguments, remind us of this uncertain nature and give hints to possible confutations or possible relevant information. Most of the schemes of the compendium are accomponied by references to literature (most of it by Walton), where the respective scheme is discussed further, e.g., with respect to its precise meaning and value. However, Walton's argumentation scheme approach (as a general theory of argumentation) also has some weaknesses, to which I turn now.

3. A first critical assessment of Walton's approach

3.1. Problems of argumentation schemes approaches to argumentation in general

Walton's is one of several argumentation schemes approaches to argumentation, i.e., approaches which empirically collect, analyze and evaluate argument types and bring them in a normative standard form which always is defined including also contentual terms. All such approaches suffer from three interrelated argumentation theoretical problems. First, the lists of resulting schemes are long, often very long, never complete and always arbitrary in what they include and exclude. Second, today's approaches should not be contentual but formal, thereby explaining the contents. Third, there is no further (more general) theory behind these lists of schemes, which could explain and guarantee the schemes' validity or some other form of value as well as bring us nearer to a really complete list. I briefly explain these problems.

While the list in Walton (1996) still contained 25 argumentation schemes, in the compendium there are already 104 schemes (Walton et al., 2008, pp. 308-346). The lists in the other extended and important collections provided within the argumentation schemes approach (e.g. Perelman & Olbrechts-Tyteca, 1958; Kienpointner, 1992a, pp. 250-402 (58 main argument schemes plus 15 sub-schemes)) have similar dimensions. In addition, these lists are far from being complete—though Walton et al. (2008) for their compendium affirm something near to the opposite.[8] In their compendium, however, apart from probabilistic arguments most deductive arguments are missing as are many others, e.g., a really comprehensive practical justification of value judgements, of actions or of instruments, arguments for definitions, arguments from definitions, interpretative arguments, arguments from historical sources and historiographic arguments in general, complex arguments of any form. Furthermore, all argument schemes primarily used in scientific contexts, from statistical arguments to arguments in favour of a theory, are missing as well. The compendium of Walton et al. (2008) probably does not even contain 1% of the total of argumentation schemes which could be generated in the same style. Most of their schemes have the deductive or "defeasible" modus ponens form. However, modus ponens in deductive logic is only one type of deductively valid inferences; as a student in a logic

[8] "The defeasible schemes listed in the compendium represent the most common forms of reasoning not only in everyday discourse, but also in special contexts of use like legal and scientific reasoning" (Walton et al., 2008, p. 364).

class I got a list with "the most important deductive inferences" containing roughly 150 formally defined inference types of propositional and predicate logic (i.e., without special logics like modal or deontic logic). Similar conditions hold in probability theory for probabilistic inferences. Theses numbers then can be multiplied by filling these different inference forms with typical contents. Already the extensions of the actually presented lists of argumentation schemes make the respective approaches and their inherent method for assessing arguments confusing, laborious to handle, and hard to memorize—which all leads to difficulties in learning argumentation skills (cf. Hansen 2011). Large extension of a subject matter by itself is not an essential objection—e.g., vocabulary lists are much longer and nonetheless unavoidable in foreign language acquisition. However, large extension is an objection with some weight if it is possible to construct an approach to argumentation schemes which is more concise and comes much nearer to completeness. And this is possible with the help of a much more formal approach, which leaves the contentual completion of formal schemes as well as, the other way round, the idenfication of the form of a concrete argument mostly to the user (cf. e.g., Lumer, 2011c; Lumer, forthcoming).

On the other hand, the lists compiled in argumentation schemes approaches mostly contain many superfluous entries. In the compendium of Walton et al. (2008), e.g., all the subtypes of the argument from popular opinion (pp. 311-313) intuitively seem to be too near to other schemes already listed or to be fallacious.[9] More generally, most of their listed deductive schemes admittedly (Walton et al., 2008, p. 365) have the *modus ponens* or the general *modus ponens* form, whereas the defeasible schemes mostly have the form of what the authors call a "defeasible modus ponens" (Walton et al., 2008, p. 365). If the compendium in general already contains so many schemes, why do so many schemes of the same form have to be included into the list? Why does it not suffice to include only the *form* of the arguments so that countless specializations of this form can be constructed by the users of the compendium?—If a list of argument schemes, on the one hand, is grossly incomplete and, on the other, many entries seem to be superfluous this is some evidence for the possibility that the list is arbitrary.

Walton's schemes as well as those of other argumentation schemes approaches are essentially defined in contentual terms, such that, as just said, many listed schemes have the same logical form (see also above, sect. 2). However, such a contentual approach in important respects is similar to learning a foreign language by memorizing complete forms of sentences (with just some names to be filled in) and their meaning, instead of learning the vocabulary and the grammatical rules. With such a method, one's linguistic and argumentation competence will be quantitatively very restricted, capturing only a minor fraction of a language's resp. the argumentative domain's richness. In terms of argumentation schemes this must lead to a quite incomplete compendium. Furthermore, one will not understand the sentences' structure, and in the argumentative domain one will not understand why an argument is good, argumentatively valid and proving its thesis or at least showing the thesis' acceptability. Such understanding can only be reached by a formal approach, since the deductive validity of a deductive argument and thereby the "transfer" of the truth value depends on the logical-syntactical form of the

[9] Just two examples: Scheme 4.2. (Position-to-Know *Ad Populum* Argument) says: "Everybody in this group *G* accepts *A*. […] This group is in a special position to know that *A* is true. […] Therefore, *A* is (plausibly) true" (Walton et al., 2008, p. 311). This is only some generalization of scheme 1 (Argument from Position to Know): "Source *a* is in position to know about things in a certain subject domain *S* containing proposition *A*. […] *a* asserts that *A* is true […]. *Conclusion: A* is true […]" (Walton et al., 2008, p. 309). And scheme 4.1. (Pop Scheme): "Everybody in a particular reference group *G* accepts […] *A*. Conclusion: *A* is true / or: you should accept […] *A*" (Walton et al., 2008, 311) is simply fallacious.

argument's propositions; and the validity of a probabilistic argument depends on its form in probability theoretic terms as well as arithmetic equations; similar considerations hold for practical arguments for value judgements.

Argumentation schemes approaches to argumentation compile their lists of argumentation schemes on the basis of empirical research in data bases. This is essentially a bottom-up method of empirically collecting schemes without any deeper theory. These approaches do not develop a functional conception of arguments, which establishes what the (standard) function of arguments is, for subsequently constructing arguments, argument schemes or, still more generally, argument meta-schemes (Lumer, forthcoming) which are able to fulfill this function or to assess whether they fulfill it. And without such a functional account which leads to a real theory, neither the completeness nor the simplicity of a compendium of schemes can be achieved; furthermore, the quality of the arguments cannot be justified and new good arguments cannot be invented.

The question of whether and why an argumentation scheme is good or valid and hence to be included into the compendium of argumentation schemes is particularly important in argumentation theory and, as just said, can be answered satisfactorily only with the help of a functional theory. Therefore, Walton et al. (2008) have tried to give a general answer to this question (mainly in section 1.8., "How Are Schemes Binding?", pp. 34-38), which however only confirms that they do not have any good explanation and theory and, as a consequence, no good justifications why to include a scheme into the compendium or exclude it. First they try to explain the "bindingness" by what they call the "shifting burden of proof theory of the binding nature of argumentation schemas" (Walton et al., 2008, p. 35): Putting forward an argument fitting to one of the schemes included in the compendium shifts the burden of proof to the respondent, who now, by posing critical question may shift the burden of proof back to the arguer. However, what is going on here is next explained in terms of cogency and argument suffiency: A cogent presumptive argument that meets the criteria of acceptability, relevance and sufficiency of premises, puts some pressure on the repsondent to either accept the conclusion or to give a good reason why not. This normative cogency means that a rational arguer should accept the conclusion under these conditions (Walton et al., 2008, p. 35); if she does not she is illogical (Walton et al., 2008, 36). Next, a further attempt is made to explain the bindingness by the "relation of conveyance" (Walton et al., 2008, 36), which for presumptive schemes however leads back to the notion of shifting the burden of proof in a dialogue and this again to the cogency with its necessity for a rational person to accept the conclusion because otherwise she would be illogical or unreasonable (Walton et al., 2008, 36). To cut a longer analysis short: I find this hard to understand; this moving back and forth between four ideas (burden of proof, cogency, logical rationality, conveyance) about the "bindingness" or more generally the goodness of argumentation schemes shows more the authors' helplessness in explaining the value of and the meta-criteria behind their schemes than explaning anything. The most basic concept in the end seems to be '(logical) rationality'. However, we are never told, why accepting a thesis on the basis of an argumentation scheme included into the compendium would be reasonable or logical and not accepting it unreasonable or illogical. The concepts of truth and knowledge are lacking entirely, and the burden of proof idea has something of an agonistic conception of argumentative dialogues; 'shifting the burden of proof' could turn out to be like a move in a game of chess: defined by the rules but without epistemic or alethic content.

3.2. Some specific problems of Walton's argumentation schemes approach

Prima facie most distinguishing of Walton's theory as compared to other argumentation schemes approaches is the addition of critical questions to the schemes proper and thereby a dialogical conception of argumentation. To begin with the last point: The quality, validity or acceptability of an *argument* and hence the truth, probability or acceptability of its conclusion can hardly be a question of dialogue and burden of proof because we can use these arguments privately, for ourselves or scrutinize e.g. written arguments of arguers who are unreachable for us (dead, staying in distant places, etc.) for epistemic purposes, i.e., for examining whether the thesis is true. In such cases there is no respondent and no burden of proof.[10] In addition, if I present a bad argument to a clever or to a simple addressee where the latter accepts nearly everything and the former nearly nothing of my argument this does not change anything with regard to the quality of my argument—whereas the necessary dialogic character of arguments puts an element of arbitrariness into the argumentation: how does the responendent react? The fact that an arguer can pose the critical questions herself and then reply to them shows that for the critical process intended by Walton and company no dialogue partner is needed, neither a real nor an internalized dialogue partner. If I direct one of Walton's critical questions to myself this need not even mean that I try to figure out how other people will or would react, it can simply be part of a self-assurance whether the thesis in question is really true. After posing the question I may again scrutinize the premisses, the inference relation or, in case of uncertain arguments, more directedly look for conflicting information. That it is another person who makes an objection is not essential for questioning the truth, but it is the objection's content, e.g., a hint to an error in an inference or a premise, to an information in contrast to the thesis etc. Instead, in Walton's approach, posing critical questions and shifting the burden of proof presupposes real argumentation partners; and if the critical question is not posed or the burden of proof not shifted back then the argumentation is successful. Furthermore, argument schemes in other argumentation schemes approaches and arguments in argumentation theory in general are sequences of judgements (some say also: of assertions). Their conceptualization as necessarily dialogical is an unjustified reform. Of course, arguments can be embedded in argumentative dialogues. But by making the critical questions an essential part of the argumentation, this possible dialogical embedding gets obligatory or, more precisely, the argument(ation) itself is already dialogical.

Keeping in mind this possibly non-dialogical role of critical questions, let us examine more precisely, with the help of the already considered scheme for arguments from position to know, what their function is, in particular to what extent they can play the role to explain and guarantee the plausibility of the thesis in orderly composed presumptive arguments. The scheme with the critical question were:

[10] Ian Dove has once replied to this objection that even if an adequate partner for a dialogue is missing this does not make dialogicity of argumentation problematic, one can imagine an ideal or abstract partner; Plato is not present for answering to our critical questions, but we can figure out nonetheless whether an advocat of Platonism would be able to answer to our critical questions. And if I myself am the argument's addressee, I can function as an arguer as well as an addressee (Dove, 2011, p. 3). However, this is a misunderstanding. I would not deny Dove's point; it is obviously true. But instead of being in opposition to what I have said it is near to what I wanted to say: The fact that we can imagine ourselves what the dialogue partner might say shows that the argument's validity is independent of a dialogue partner.

> 1. ARGUMENT FROM POSITION TO KNOW
> *Major premise:* Source *s* is in position to know about things in a certain subject domain *f* containing proposition *p*.
> *Minor premise: s* asserts that *p* is true (false).
> *Conclusion: p* is true (false).
> CRITICAL QUESTIONS
> CQ1: Is *s* in position to know whether *p* is true (false)?
> CQ2: Is *s* an honest (trustworthy, reliable) source?
> CQ3: Did *s* assert that *p* is true (false)? (Walton et al. 2008, p. 309; variables changed to my system, C.L.)

Questions CQ1 and CQ3 only ask for the truth of the premises, which could be done for every premise of every argument. Hence, these critical questions do not add anything new regarding presumptive arguments. (As a matter of fact, however, Walton and his coauthors give a special twist to CQ1 and CQ3: CQ1: What kind of expertise does *s* exactly have to be in a position to know about *p*? Or CQ3: What exactly did *s* say that implies *p*? But even this more specific understanding of CQ1 and CQ3 only points to critical aspects of the premises, where their examination—if there was any—might have been superficial and the result false. Such hints can be useful but this does not change anything with respect to the question of the schemes validity: It invites more careful attention in checking the premisses' truth, but it does not contribute anything to answering the question whether, why, "to what degree" the conclusion is true if the premisses are true.) The only new point is touched upon in question CQ2: Is the source honest (trustworthy, reliable)? A too obvious objection regarding this question, however, is: why has the answer to this question not been inserted into the argument as a further premise in the first place? The authors ask this question themselves (Walton et al. 2008, pp. 18-21, 32 ff.), but they do not give a real answer to it. The main reason seems to be that in this way the enthymematic structure of everyday reasoning is preserved such that their reconstruction is better accessible and nearer to this practice (cf. Walton et al., 2008, p. 18). However, first, the connection to our everyday reasoning can also be preserved by distinguishing between ideal schemes, which contain all necessary premises, and non-ideal but still valid schemes where under certain conditions, in particular if the missing parts are constructable from the given, some premises may be left out—as it is done in the epistemological approach.[11] Second, it is much clearer to put all the necessary premisses into the argument scheme because in this way it is revealed on which conditions the thesis' truth or acceptability depends, so that the fulfillment of these conditions can be systematically checked by the arguer and the addressee; all the premises will be examined, and having now the complete set of premises, as well as the conclusion present, the inferential relation can also be reviewed much better. So let us assume that the judgement '*s* is an honest (trustworthy, reliable) source' is added to the above cited scheme as a further premise. This does not yet make the scheme deductively valid, it remains an uncertain scheme. Now, however, no

[11] Cf. e.g., Lumer (2005a, pp. 235-236): Conditions A2.2 and A5.4 of the definition of an 'argumentatively valid argument' permit us to leave out reasons of the ideal version, however, within certain limits, namely that the ideal version can rather easily be constructed from the rest that remains. The special conditions for singular argument types in Lumer (1990, pp. 258-259, 277-278, 362-363, 365-366) always distinguish between ideal and not ideal though still argumentatively valid arguments by means of a "liberalization rule", which permits us to leave implicit certain reasons. (In Lumer, (forthcoming) the steps from a not ideal though argumentatively valid argument to the ideal version are explained in more detail.)

critical question is left over, the critical question approach of presumptive arguments has vanished, leaving behind a presumptive argument scheme without any theoretical approach to explain its validity, acceptability or quality.

As just said, the scheme obtained by putting the further premise contained hidden in the critical questions into the scheme itself, i.e., 'Source *s* is in position to know about things in a certain subject domain *f* containing proposition *p*. *s* is an honest (trustworthy, reliable) source. *s* asserts that *p* is true. *Conclusion: p* is true.', is neither deductively nor analytically valid. Even if someone is in a position to know about *p* he need not know whether *p*, even if he asserts that *p*: he may not have examined at all whether *p*; the verification may have been false nonetheless; he may have forgotten the correct result, etc. And even if the source knows the truth about *p* and is generally honest and trustworthy he may have a particular reason in this situation to tell lies. The facts stressed in the premises only make it probable that the source knows whether *p* and that he is truthful, thereby making *p* probable as well. This result, however, suggests an adequate reconstruction of the example as a probabilistic argument, e.g., as:

Basic probability establishing argument from prosition to know:

P1: Source *s* is in position to know about things in the subject domain *f* of *p*.
P2: *s* is an honest (trustworthy, reliable) source.
P3: *s* asserts that *p* is true.
P4: If an honest person asserts a proposition *x* which is in his sphere of competence then *x* is true in the vast majority (about 95%) of cases.
(P5: The addressee has no better relevant information about *s* and *p* than that expressed in P1-P4.)
T *p* is highly probable (has a probability of 0.95).

Such a probabilistic reconstruction provides a clear structure for the argument in question and a strong epistemological underpinning, namely probability theory. Probability theory would constitute the basis of an enormous wealth of probabilistic argument schemes. However, Walton's, Reed's and Macagno's compendium does not contain any probabilistic argument.

Rather, Walton rejects this possibility of a probabilistic reconstruction of uncertain arguments like the argument from position to know explicitly. Salmon (1964) had already made a proposal for a probabilistic reconstruction of arguments from position to know—by the way, with similar critical questions as in Walton's conceptualization. (The main difference of Salmon's scheme (1964) as compared to the reconstruction just given is that Salmon locates the uncertainty in the transition from the premises to the conclusion and does not qualify the conclusion itself as uncertain (e.g., by inserting a degree of probability smaller than one into it).) Walton (1996) argues against Salmon's proposal that it leads to problems: If the argument attributes a (high) probability of *w* to the proposition *p*, then, according to the axioms of the probability calculus, the probability of not-*p* is 1-*w*. If, however, now another person (also in a position to know about *p*) asserts that not-*p*, then we have to assign to not-*p* also the probability *w* – which however with *w* being high, i.e. *w* is in any case far above 0.5 and hence $w \neq 1\text{-}w$, is impossible according to the probability calculus. Therefore, such arguments are not probabilistic (Walton says "inductive") (Walton, 1996, pp. 64-65.) However, first, it is a general rule in probability theory, which often remains unstated but has even been made explicit by Salmon (1964), that only the best information at hand should be used as premises for a probabilistic inference. This rule has been made explicit as premise P5 (the No Better Information premise) in

my own reconstruction of the argument from position to know; and Salmon (1964), when explaning his argument scheme, explicitly says—without inserting this as an explicit premise into the argument—that the complete data (with respect to the considered case) has to be used as the inferential basis. So, Walton's extension of the example would violate both provisos (premise P5 as well as Salmon's rule of the complete data): The newly acquired information about the second person in a position to know asserting the contrary of *p* would obviously be relevant information, thus making the old argument obsolete or outdated and it would require a calculation on the basis of the thus enlarged data base. Second, Walton's argument against the (simplistic) probabilistic conceptualization of arguments from position to know, *mutatis mutandis*, holds for his own argumentation scheme of Arguments from Position to Know as well. And this scheme does not contain any way out like my premise P5; hence Walton's argument refutes his own scheme really.

Walton (2005) justifies the dialogical conceptualization and the inclusion of critical questions with the non-monotonicity of presumptive argumentation. He writes: Presumptive argument schemes cannot be context-free analyzed like deductive arguments, because new evidence may make the argument default. Therefore, these arguments have to be analyzed and evaluated in light of their context. And the right means to bring in this contextual embedding is the dialogical conceptualization of "argumentation as a sequence of moves made by two participants in a goal directed-dialogue". (Walton, 2005, pp. 7 ff.; cf. also Walton, 2005, pp. 8 ff.). Walton is right in holding that the non-monotonicity of uncertain arguments requires to include a contextual element into their respective schemes. However, this contextual element need not be the embedding into a dialogue. The reference to a data-base (as in the above premise P5 of the basic probability establishing argument from prosition to know) provides this context relation as well; and it is more adequate because it makes clear of what the usability and usefulness of an uncertain argument really depends on, viz. that no better information is available.

So, Walton (with Reed and Macagno following him), has decided, for rather weak reasons, to give the argument schemes an enthymematic form but adding to the schemes the critical questions: (i) Some of these critical questions, as we have seen above, ask for what in most other accounts would be implicit premises, (ii) other critical questions instead question the given premises or (iii) ask for their justification, (iv) still others, e.g., CQ5 for the argument from expert opinion (Walton et al., pp. 15, 33, 310), ask for information, in particular counter-evidence, which might undermine the applicability of the argument. Even if one accepts the critical question format, these different functions of the critical questions should be specified. This holds for reasons of clarity, because insufficient or problematic answers to questions with different functions have quite different implications: (i) If a missing premise is false the argument is unsound (and thus argumentatively invalid) and of no epistemic use. (ii) The same holds if a given premise is false. (iii) If a given premise cannot be justified it may still be true, however, and the argument argumentatively valid but the argument is no longer adequate in the present situation since the arguer and the addressee have no epistemic access to this premise; but it may be adequate perhaps later on, after acquiring new information. (iv) If a critical question has brought up counter-evidence, the no-better-information condition (cf. above P5 in my reconstruction) is violated; this leaves the argument argumentatively valid (or invalid) as before but now it is no longer adequate and will not be so in the future because its restricted information basis has been overcome, it is now outdated. Whereas critical questions for missing premises (i) and for a justification of a given premise (iii) ask for further information and can be posed by the

addressee without committing him, questioning a given premise (ii) or bringing forward counter-evidences (iv) are moves where the *addressee* has to provide information. Hence the latter two moves, properly understood, are not *questions to the arguer*, who then has to reply, but *invitations to the addressee* to look for possible counter-evidences or contrasting information and to produce respective counter-arguments himself. This implies that Walton's and his coauthors general criterion for a successful defeat—"if the respondent asks one of the critical questions matching the scheme and the poponent fails to offer an adequate answer, the argument defaults" (Walton et al., 2008, p. 9)—cannot be true. (Walton et al., (2008), in the general part of their book, differentiate functions i, ii and iv, and state that the latter type of question is a question for a possible rebuttal and together with attack on a premise (ii), however, in contrast to question (i) and (iii), has to be supplemented by bringing in counter-evidence, so that these two questions are accomponied by a burden of proof of the *respondent* (pp. 32-33). Nonetheless, the three authors do not include a hint to these different functions and the respective dialogical obligations into their compendium.) Furthermore, again even if one accepts the enthymematic format of the schemes, either the enthymeme or the critical questions should contain all necessary premises for making the argument inferentially valid. However, many of the argumentation schemes in the compendium are not complete in this respect. In particular often the real major premise, which connects the given premises with the conclusion, is missing. This holds, e.g., for the above quoted scheme "Argument from position to know", which does not contain any counterpart to the major premise P4 in my own (probabilistic) reconstruction of this argumentation scheme.[12] This is a very serious defect since thus an essential condition of the thesis' truth or acceptability remains unmentioned and, therefore, will not be checked in considering the argument and in examining its thesis. (I have not found an argument of Walton or his coauthors for why these essential premises are not included into the schemes.)

As a consequence of the discussed problems many of the argumentation schemes in the compendium (Walton et al. 2008, pp. 308-346) are not argumentatively valid from an epistemological point of view: They do not satisfactorily lead an addreessee to a justified belief in the thesis via listing sufficient conditions for the thesis' truth or acceptability, thereby inviting us to check these conditions. And I do not see that these critical schemes of the compendium are good in some other major functional respect. More precisely, 79 (76%!) of the 104 schemes are argumentatively invalid: Four of these 79 schemes (viz., schemes 21.1, 21.2, 38, 41) are deductively valid but contain a false premise. Further 18 plausibilist schemes (viz. schemes 1, 2, 4.2, 4.3, 4.4, 13.1, 22.3, 27, 28, 30, 31.2, 40, 54.1, 54.3, 58, 59.1, 59.2, 60.) are not argumentatively valid but can easily be repaired by rather simple additions, mostly in the way taken above, in the reconstruction of the scheme 'argument from position to know' (i.e. by

[12] These major premisses are mostly those which in Toulmin's theory are called "warrants" (or "(material) inference rules"). Walton et al. (2008) also refer to them in this way (pp. 32). This (implicit) reference to Toulmin and his theory of material inference rules may explain why the authors resist to include these premisses into the schemes themselves (though it still remains astonishing why in the cases they do not include a question for these premisses into the set of critical questions they do not do so). But it reveals also their somewhat hidden reliance on this strongly criticized and untenable theory of material inference rules. After all, the missing major premisses, i.e., Toulmin's "inference rules", are not inference rules at all, they do not say 'from *p* you can infer *q*, i.e. if *p* is true *q* is necessarily true as well', instead they are (often) material implications: 'if *p* then *q*' or 'for all *x* holds: if *x* is *F* then *x* is *G*'. And Toulmin's backings may be reasons for these material implications but they are definitely not reasons for an inference rule; inference rules would have to be justified with a much more elaborate theory. Toulmin's theory instead altogether lacks a theory of inferences which could explain why his inferences are truth-preserving. (For further criticism see e.g., Cooley, 1959.)

inserting the major premise, minor premises asked for in the critical questions, by making the argument probabilistic etc.). The other 57 (viz., schemes 4.1, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 5, 6.1, 6.2, 6.3, 6.4, 7, 8.1, 8.2, 9.1, 9.2, 10.1, 10.2, 18.1, 19.1, 19.2, 20, 22.1, 22.2, 22.4, 22.5, 22.6, 23, 24, 25, 26.2, 29, 31.1, 31.3, 31.4, 31.5, 32.1, 33.1, 33.2, 33.3, 33.4, 34, 35, 35.1, 36, 37, 39, 42, 43, 45, 47, 49, 52, 53, 57) of the argumentatively invalid schemes cannot easily be repaired: too many premises are missing, or the missing premises are not obvious, or their thesis is too strong and it is not obvious how to weaken it, or their structure is altogether inappropriate; the practical argumentation schemes and the arguments from analogy nearly all have the latter defect. The border between what is easily repairable and what is not is not very precise, but this does not change the dimensions of the problem of argumentative invalidity. Apart from the particular defects listed, the basic failure leading to the invalidity problem is the lack of a real theory behind the approach. The most obvious kind of theory in this case would be an instrumentalist theory, i.e., a theory which would determine the standard function of arguments and then design argument schemes as means to fulfil this function. In particular Walton's approach does not try to guarantee the epistemological function of arguments, i.e., to generate rationally justified belief (by leading an addressee in recognizing the fulfilment of some sufficient conditions of the thesis' acceptability). Accordingly, the specific makeup of the single schemes is not justified in terms of such a functionality, i.e. by showing that the schemes fulfil some validity standard. (Futhermore, even the precise formats (e.g., whether the thesis includes a modifier like "plausible" and, if yes, exactly which one) are quite inhomogeneous and their choice often seems quite arbitrary, the effect of a momentary decision.) More generally, without a functional approach neither the completeness (or something near to completeness) nor the simplicity of a compendium of schemes can be achieved; furthermore, the quality of the arguments cannot be justified and new good arguments cannot be invented.

4. A detailed epistemological critique of Walton's argument schemes

As just said, argument schemes should be justified comparatively in a complex practical argument which shows that they are the best among the relevant options. Are Walton's argumentation schemes good or even the best as compared to their alternatives? The present section will examine one major example of Walton's schemes with respect to this question, thereby giving particular attention to its epistemic value: argument from expert opinion.

Arguments from expert opinion in the compendium are schematized as follows:

> ARGUMENT FROM EXPERT OPINION
> *Major premise:* Source *e* is an expert in subject domain *f* containing proposition *p*.
> *Minor premise: e* asserts that *p* is true (false).
> *Conclusion: p* is true (false).
> CRITICAL QUESTIONS
> CQ1: *Expertise Question*: How credible is *e* as an expert source?
> CQ2: *Field Question*: Is *e* an expert in the field that *p* is in?
> CQ3: *Opinion Question*: What did *e* assert that implies *p*?
> CQ4: *Trustworthiness Question*: Is *s* personally reliable as a source?
> CQ5: *Consistency Question*: Is *p* consistent with what other experts assert?
> CQ6: *Backup Evidence Question*: Is *e*'s assertion based on evidence? (Walton et al., 2008, p. 310; variables changed to my system, C.L.)

(The critical questions are differentiated much further in Walton et al., 2008, pp. 92-93, 381-382.) However, beside this quote, there are several (sometimes only partial) formulations of the scheme in Walton et al. (2008) which contain a number of variants. First, the just quoted form of the conclusion

(i) "*p* is true (false)."

is repeated several times (Walton et al., 2008, pp. 91; 310; 381; examples: 404; 405; Walton 2002, p. 50; Walton & Sartor, 2013, p. 117). Intermingled with these occurrences, the conclusion

(ii) "*p* may plausibly taken to be true (false)."

is also used (Walton et al., 2008, pp. 14; 19; 20 (twice); 244 (furthermore in examples: 27; 28: 401); Walton, 1997, p. 210; Walton, 1996, p. 65). But also a conclusion

(iii) "Plausibly *p*."

(Walton et al., 2008, p. 243) appears. Sometimes the preceding premises are even (essentially) the same, which is really astonishing. I have not found an explanation of this variation. The fact that these variants are used interminglingly (in Walton & Sartor, 2013, p. 117, e.g., version (i) is used, immediately following, however, in the conclusion of the argument from witness testimony, version (ii) appears) could indicate that Walton et al. (2008) take these variants to be equivalent, which, of course, is not only plainly false, but it would also grossly underrate the significance of these (and further) variations. Version (i), '*p* is true.' does not contain any modifier and thus no longer indicates that the thesis has not been proved to be true, that it is a conclusion of an uncertain argument. According to its content, this conclusion should be used like the conclusion of a certain argument, hence as (nearly not) defeasible. And this may lead to grossly wrong epistemic decisions if, e.g., counter-evidences are provided. So it is better to insert a modifier into the thesis to indicate its uncertain epistemic status. Version (ii), '*p* may plausibly taken to be true', contains an epistemic modifier, but not an understandable one. (What does "may taken to be true" mean? Why a triple reservation: "taken to be true", "may", "plausibly"?) Version (iii), 'Plausibly *p*.' is much better in these respects, but it is not clear either. A further problem is that the modifier "plausibly" is only qualitative and hence cannot express the reached degree of certainty, which however may be important to know, e.g., if two incompatible theses both are "plausible" or, for practical reasons, if we want, e.g., to decide whether to simply run the risk that *p* is false or that taking counter-measure for the case that *p* is false (*p* could be 'no fire will break out' or 'no earthquake will strike') is better. And if *p* itself is a probabilist judgement, then the two degrees of uncertainty cannot be combined. For these reasons it is better to use a probabilist qualifier in the thesis, which may be really numeric, '*x*%', or in common language ranking terms like 'extremely / very / rather / somewhat (un-)likely'. Of course, often when rationally using an argument from expert opinion we do not have established relative frequencies at hand. But in these case we may at least estimate these relative frequencies.

However, the insertion of such a quantitative qualifyer into the thesis requires a justification for which quantity is to be inserted here. Of course, the adequate basis for this

would be the real major premise of the scheme, i.e., a judgement about the relative frequency of experts being truthful. This quantitative value of the relative frequency then would reappear in the singular conclusion as degree of probability. Of course, often when rationally using an argument from expert opinion we do not have established relative frequencies at hand. But in these cases we may at least estimate these relative frequencies. Above, the lack of this general premise in Walton's schemes has already been criticized as suppressing the possibility to check the fulfilment of an important necessary condition for the inference's validity. Here, then, we have to add a further reason why inserting this premise into the scheme is important: it provides us with the information about the degree of certainty based on the relative frequency. And this relative frequency may vary, e.g., with respect to the scientific discipline (think, e.g., of metereology or philosophy versus physics) or the subject matter; furthermore the arguer may have more or less specific and pertinent information about the trustworthiness of experts at her disposal, about experts or groups of experts in general and about the specific expert quoted—e.g., only about the trustworthiness of experts in general, about the trustworthiness of medical doctors, about the trustworthiness of honest medical doctors, etc. And with this we come to another variety in Walton's argument schemes from expert opinion: He, Reed and Macagno also discuss the insertion of a respective major, conditional premise into the scheme, viz.,

> Version II and Version IV: "*Conditional Premise:* If source *e* is an expert in a subject domain *f* containing proposition *p*, and *e* asserts that proposition *p* is true (false), then *p* may plausibly taken to be true (false)." (Walton et al., 2008, pp. 19-20)

Or

> Version III: "*Conditional Premise:* If source *e* is an expert in a subject domain *f* containing proposition *p*, and *e* asserts that proposition *p* is true (false), and *e* is credible as an expert source, and *e* is an expert in the field *p* is in, and *e* asserted *p*, or a statement that implies *p*, and *e* is personally reliable as a source, and *p* is consistent with what other experts assert, and *e*'s assertion is based on evidence, then *p* may plausibly taken to be true (false)." (Walton et al., 2008, p. 20.)

Though Walton et al. (2008) say that the schemes of the argument from expert opinion which contain these conditional premises "would work", they discard them with a superficial reason (p. 20). In any case these premises contain again the term "may plausibly taken to be true", to which also again the above exposed objections apply; what is needed here instedad is a relative frequency judgement. Furthermore, the authors seem to think that (in case one wants to insert such a conditional premise) it has to be determined which one. But this is not true; both (with some modifications) could work. Which one of the two or of further variants should be used in a particular situation depends on the specificity of the available information, expressed also in the likewise variable singular premises about the further specifications of the case: trustworthy, honest, etc., expert, evidence used by him. And this means that the critical questions representing further premises (credibility of this expert (CQ1), personal reliability (CQ4), use of evidence (CQ6)) should be inserted into the scheme as well if the respective information is available. (The field question (CQ2) and the opinion question (CQ3) are demands to justify the premises already given. The answers to them are not part of the argument's core but enlarge it to a complex of arguments.)

One of the critical questions, the consistency question CQ5: 'Is *p* consistent with what other experts assert?', neither questions one of the explicit premises nor stands for an implicit premise but asks for further relevant information which might undermine the argument or require its revision. However, that other experts assert opposing views about the target proposition *p* is only *one* possibility that one of the persons involved has relevant information which require us to no longer use the present argument—instead of inconsistent expert opinion, also reports of someone's experiences may be available, or the addressee himself is an expert and has already examined the thesis *p*. This means for the scheme's applicability a more general condition that no further relevant information is available has to be fulfilled, and this condition should also be expressed in the ideal version of the argument though it is usually not made explicit in the everyday forms of the argument.

Furthermore, the scheme should be based on principles which guarantee the inference's validity, such that if the premises are true, also the conclusion is true or acceptable. I see only one group of principles which could guarantee this, viz., those of probability theory. Accordingly, the argument scheme 'argument from expert opinion' should be orientated towards probability theory and also use the categories thereof.

Positively implementing the requirements taken from these criticisms, a better argument scheme from expert opinion could be this:

Basic probability establishing argument from expert opinion:
P1: Source *s* is an expert in subject domain *f* .
P2: Proposition *p* is in the subject domain *f*.
P3: *s* asserts that *p* is true.
P4: If an expert s_x in a subject domain f_y containing p_z asserts that p_z is true then p_z is true in the vast majority (about *w*%) of cases.
(P5: NBI: The addressee has no better relevant information about *s* and *p* than that expressed in P1-P4.)
T *p* is highly probable (has a probability of *w*).

This scheme is a specialization of the more general scheme of 'basic probability establishing argument' ('*a* has the quality *F*. In most cases ⟨relative frequency *y*⟩ where an *x* is *F* this *x* is also *G*. ⟨NBI: The addressee has no better information about *a* and *F*s and *G*s.⟩ Therefore, most probably ⟨with a probability of *y*⟩ *a* is also *G*.' (cf. Lumer, 2011c, pp. 6, 9, 23)), which elaborates one principle of probability theory (the Foundation Principle (Lumer, 2011a, p. 1146)) in an argumentative form. This foundation in probability theory guarantees the scheme's validity. Similar schemes could be formulated for cases where more information is available. I think the above discussion of Walton's argumentation scheme 'argument from expert opinion' shows that the basic probability establishing argument from expert opinion is much better than Walton's respective argumentation scheme.

5. Conclusion

Walton and his coauthors, as we have seen, have developed a new and important approach to, in particular, resolve the problem of the foundations, validity and exact setting of uncertain arguments. The particular way they follow is an argumentation schemes approach, which combines enthymematic argument schemes with critical questions. The approach is

methodologically based on an extensive analysis of a huge data collection of empirically found arguments, classification of these arguments and their intuitive assessment. The wealth and richness of the provided material and of the observations about it are really impressive.

On the other hand, however, the analysis undertaken in this paper has revealed a series of defects of this approach. The main methodological problem is the bottom-up approach used, which does not lead to a real theory. With respect to contents the main problem (at least until and during the time of establishing the compendium) is that no function of arguments is determined, which prevents an instrumental construction of criteria for valid arguments which would fulfil this function. If one accepts an epistemological determination of the function of arguments, as more recently Walton also does (Walton & Sartor, 2013), most of the argument schemes in the compendium are not argumentatively valid because they are not based on epistemological principles. And, the schemes' abundance notwithstanding, the compendium is quite incomplete in not including many important argument types—which is due to the concretistic approach.

In the course of the paper I hope to have shown on several occasions that one can do better in these respects by basing the construction of criteria for valid arguments on epistemological theories and principles like deductive logic, probability theory and rational decision theory.

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