



Examination dialogue: An argumentation framework for critically questioning an expert opinion[☆]

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Abstract

Recent work in argumentation theory (Walton and Krabbe, 1995; Walton, 2005) and artificial intelligence (Bench-Capon, 1992, 2003; Cawsey, 1992; McBurney and Parsons, 2002; Bench-Capon and Prakken, 2005) uses types of dialogue as contexts of argument use. This paper provides an analysis of a special type called examination dialogue, in which one party questions another party, sometimes critically or even antagonistically, to try to find out what that party knows about something. This type of dialogue is most prominent in law and in both legal and non-legal arguments based on expert opinion. It is also central to dialogue systems for questioning and answering in expert systems in artificial intelligence. Examples studied are: (1) exegetical analyses and criticisms of religious and philosophical texts, and (2) legal examinations and cross-examinations conducted in a trial setting.

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0. Introduction

This paper deals with the type of examination dialogue in which argumentation and testimony, especially the kinds based on expert opinion – in law courts and in other forums – may be questioned. Of interest is also the way one can critically question the expert's opinion without criticizing the expert him/herself. The methods of the paper are those of the field of argumentation, now much developed from the early work of Hastings (1963), Perelman and Olbrechts-Tyteca's *New Rhetoric* (1969), and van Eemeren and Grootendorst (1984). Since pragmatics covers language in use, argumentation may be seen as a subfield within it. Of course,

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the study of argumentation has its roots in Greek philosophy. It is shown how examination was well recognized as an important type of dialogue called *peirastic* in the ancient rhetorical manual *Rhetorica ad Alexandrum*, and by Aristotle in *On Sophistical Refutations*. Two millennia later, after a long time of being marginalized, argumentation has become a source of methods and tools for computing (Reed and Norman, 2004), especially in artificial intelligence and law (Bench-Capon, 1997; Walton, 2005).

One such tool is expert systems technology. Computational models of the dialogue between a user and an expert system are based on the embedding of one type of dialogue within another (Bench-Capon and Prakken, 2005). The user is trying to get advice or information from the expert source by asking questions (McBurney and Parsons, 2002). But then there is typically a shift to a dialogue interval of a different sort in which the user tries to make sense of what the expert is saying (Cawsey, 1992). The same kind of shift has been observed in work on analyzing and evaluating appeals to expert opinion as arguments (Walton, 1997), where the secondary type of dialogue that occurs after the shift has been called *examination dialogue*. But what is examination dialogue? It was known as an identifiable type of dialogue in ancient writings on argumentation, as noted above. And, of course, its most highly visible use is in legal argumentation, for example in trials when an attorney examines or cross-examines testimony. However, only one groundbreaking paper (Dunne et al., 2005) has extended the dialogue typology of Walton and Krabbe (1995) to provide a formal dialogue model of it. The rest of the literature in logic, argumentation theory, and artificial intelligence seems to have remained uniformly silent about it.¹

With the help of many illustrative examples, this paper identifies the central characteristics of examination as a type of dialogue. Examination dialogue is shown to have two goals, the extraction of information and the testing of the reliability of this information. The first goal is carried out by the asking of questions in order to obtain information from the respondent, and by an exegetical function used to obtain a clear account of what the respondent means to say. This testing goal is carried out with critical argumentation used to judge whether the information elicited is reliable. To perform this function, the information is tested against the respondent's other statements, known facts in the case, and other information thought to be true.

Having the first goal is shown to imply that examination should be classified as a species of information-seeking dialogue in the typology of Walton and Krabbe (1995). In the exegetical part of the second goal, the central speech acts are clarification, explanation, and definition, as opposed to argument. In examination there is typically a shift from an argument mode to a clarification mode, in which one party in a dialogue is trying to make sense of what another person has said by interpreting or reconstructing what was said. This kind of shift is visible in examinations in applications of expert systems technology in artificial intelligence, as well as in legal examinations and cross-examinations in trials. Thus the project has many implications for artificial intelligence and law, as well as pragmatics, argumentation theory, and the study of fallacies in logic like *ad verecundiam* and straw man.² It is also shown how examination occurs in

¹ Any claim that nobody in a field has studied some notion is hazardous, and likely to prove false. And, of course, lawyers have written a lot about examinations of the legal type, especially in trial manuals. Still, remarkably little has been written about examination as a structure of argumentative discourse that would be familiar or easily accessible to those working in modern argumentation theory.

² The *argumentum ad verecundiam* is the fallacy of illicit use of appeal to authority, most often appeal to expert opinion. The straw man fallacy is the misrepresentation of an arguer's position, by distorting or exaggerating it, in order to make it seem worse than it is, and thus to make it more vulnerable to attack.

the subtle argumentative discourse, characteristic of philosophy as a field, in which one philosopher critiques the writing of another.

1. How to question an expert

An expert consultation dialogue is basically an information-seeking dialogue. The questioner is trying to get information from the expert. Often this information is in the form of advice on what the questioner should do in the sort of situation he is in. For example, Bob may need to invest his savings for retirement. He does not want to lose it all in taxes or stock market losses, but he does not know very much about financial matters and he does not have time to research them very thoroughly. Thus Bob will have to take the advice of an expert on what to do. He needs someone he can trust, who is ethical, but is also well informed and knows about taxes and investments. Bob will have to have some conversations with this expert, and he will have to ask questions to try to understand what the expert is telling him and what the implications of that are for his investment actions. To do well as an investor, Bob will need not only to understand what the expert is saying, but to probe into it somewhat critically. Through such a critical examination, he can come to his own decision on the right thing to do, based on all the information he can collect. This information will include not only what the expert is telling him, but also independent facts that Bob himself has collected, and what other experts say. In short, for Bob's decision to be the best it can be, there needs to be a shift from information-seeking dialogue to an interval in which Bob critically examines and probes into what the expert is telling him. Both Bob and the expert need to take part in this conversation interval.

The problem for Bob is to figure out how to do this in a useful or efficient way. He will already know instinctively how to do it, based on his experience and practical knowledge. He may have to probe into the parts of what the expert said that he does not understand because of his lack of knowledge of financial matters, or because of unfamiliar technical terminology. But he will also have to question things the expert said that don't "make sense", meaning that they appear to be illogical or even contradictory, or not consistent with other known facts. The problem for us is to reconstruct the logical structure that overlays Bob's ability to carry out this task in collaboration with the expert source. Bob may know how to go about it, because he has certain practical skills, based on similar tasks he has carried out in the past. But these practical skills do have structures. They are based on routines or common ways of doing things that Bob is familiar with.

One thing Bob will have to do is to probe into and test out what the expert says by drawing inferences, based on common forms of inference. Some of these inferences will be deductive and other will be inductive. But many of them will be based on common forms of inference now called 'presumptive argumentation schemes' (Walton, 1996a). Aristotle showed an awareness of this aspect of examination dialogue when he made the remark that the questioner who questions an expert has to use common forms of thinking (*koina*). In *On Sophistical Refutations* (172a27–172a36), he wrote that peirastic does not require knowledge of any definite subject, but relies on use of common things (*koina*). What are these "common things"? Devereux (1990:280) pointed out that there are passages in the *Rhetoric* and *On Sophistical Refutations* where the term *koina* designates inference forms of the kind called topics (*topoi*). These common forms of thinking, traditionally called "topics" or "commonplaces" in the Aristotelian tradition, are called presumptive argumentation schemes in modern argumentation theory. Aristotle put forward a long list of these topics in his books called *Topics*, *On Sophistical Refutations*, and *Rhetoric*. The best known modern work on presumptive argumentation schemes was carried out by Perelman

and Olbrechts-Tyteca. They identified and analyzed many of the most common argumentation schemes in *The New Rhetoric* (1969); many of them are quite comparable to the topics described by Aristotle. Warnick (2000:120–128) drew up a table showing how 28 of the topics in Aristotle's *Rhetoric* compare to thirteen of the schemes in *The New Rhetoric*. The problem with topics in the past is that, given the dominance of deductive logic, their role as forms of presumptive argumentation seemed to make sense only in rhetorical terms.

A lesser-known work, the Ph.D. thesis of Arthur Hastings at Northwestern University (1963), provided quite an extensive analysis of many presumptive argumentation schemes. Hastings presented a form for each scheme, often roughly worked out, but with good examples, and a set of critical questions matching each scheme. Hastings' analysis is the most useful and systematic of any developed up to that time. It is clear that Hastings also understood the defeasible nature of the presumptive schemes. He presented one premise of each presumptive scheme as a defeasible conditional in the form of a Toulmin warrant. Many of these argumentation schemes are used in the analysis of argumentative discourse due to van Eemeren and Grootendorst (1984, 1992). Among recent work on argumentation schemes, there is Kienpointner's (1992) extensive treatment, which includes deductive and inductive schemes integrated with the presumptive schemes. An analysis of the structure of many common presumptive argumentation schemes was given by Walton (1996a). The listing offered in that treatment is not meant to be complete however. Current efforts to make a systematic classification of schemes, and to analyze the formal structure of each scheme in a more precise model, are underway.

The role of these argumentation schemes is quite important, because it shows how the examination interlude is more than just information-seeking, and involves elements that we normally associate with persuasion dialogue. It looks like the questioner is trying to persuade the expert to change his opinion. But the questioner is not really trying to persuade. He is merely trying to probe into what the expert is saying, both to understand it better by seeing the reasons behind it, and to test it out and judge its plausibility. This sort of dialogue is complex, because it blends information-seeking with persuasion dialogue, and also typically combines argumentation with explanation. Thus examination dialogue of this sort is not a basic type of dialogue. It is a mixed type that is part information-seeking and part persuasion dialogue. Although its main goal is to get information or advice, it uses argumentation to help to achieve this goal.

How does one differentiate between the legitimate appeal to expert opinion as a type of argumentation and the fallacious use of the same kind of argument? The fallacious use is known as the *argumentum ad verecundiam*, or fallacy of appeal to authority. The treatments of the *ad verecundiam* fallacy in past and current logic textbooks have indicated that the tendency to respect the authority of an expert, especially one who has scientific or technical knowledge, is an important factor in explaining why fallacious appeals to expert opinion are so deceptive and powerful. The famous Milgram experiments in psychology (Milgram, 1977) showed how experimental subjects deferred to a scientific expert, even carrying out actions that would cause pain or injury to persons said to be experimental subjects, if ordered to do so by an experimenter thought to be a scientific authority. This deference to the perceived expert can be exploited by an aggressive pushing ahead of the appeal to expert opinion that shields off the respondent's legitimate critical questions in the dialogue. Thus the fallacy of the *ad verecundiam* is not just the use of a weak appeal to expert opinion that fails to address critical questions that need to be asked, or fails to answer them properly. The fallacy is the exploitation of the deference due to expertise to shut down the periphrastic interval, or even to try to block it from taking place. It is not just a weak argument but a sophisticated tactic.

But deference and respect are psychological or ethical notions. How can it be determined whether an appeal to expert opinion is logically fallacious or not in a dialogue model of two

parties reasoning together? The answer (Walton, 1997:241) is to be sought in how the proponent and the respondent engage in dialogue. Suppose the respondent tries to question the expert opinion used by the proponent to back up his view, but the proponent tries to cut off this line of questioning altogether. For example, the proponent might reply, “Well, you are not an expert in this scientific field, so what you say is irrelevant”. One thing especially important to note about this solution to the problem posed by *argumentum ad verecundiam* is that the problem of the fallacy is tied to the peirastic interval, and to how that interval is left open or closed off. This connection was already clearly established by Walton (1997:241).

In the fallacious kind of case of the appeal to expert opinion, the proponent who uses the appeal carries on the dialogue in such a way as to shield off the critical questioning of the respondent, implying (or even stating) that a peirastic interval for asking critical questions is inappropriate in the dialogue the participants are supposed to be engaged in.

A most graphic example used to illustrate how this analysis of the fallacy works is the Lorenzo’s oil case, based on a sequence of dialogue transcribed from the movie *Lorenzo’s Oil* (Walton, 1997:135–136). In this case, the five-year-old son of Augusto and Michaela Odone has been diagnosed with a rare and incurable disease called ALD (adrenoleukodystrophy). The disease is caused by the body’s inability to eliminate certain very long chain fatty acids (VLCFAs) that eventually destroy the myelin sheaths that cover nerves in the brain. Physicians could not cure Lorenzo, and the movie depicts the struggles of the Odone family (not themselves physicians) to try to do something about the deteriorating condition of their son. Eventually, they discovered that a kind of oil – hence the title of the movie – did help their son, but the medical experts consistently refused even to seriously discuss the possibility that this treatment was beneficial. Their argument was that since clinical trials had not been run to prove the worth of the oil as a medical treatment, any evidence appearing to be in its favor should be dismissed as merely “anecdotal”. The part of the case quoted in (Walton, 1997:135–136) is a sequence of dialogue in a meeting of a support group for parents of children with ALD. The parents ask for a show of hands to indicate whether the oil is working to help their children. The chairperson of the meeting argues that this would not be real evidence because it is not from a proper clinical trial based on a use of statistical samples and a control group. This is just one short sample of dialogue, but the whole movie illustrates the frustration of the Odone family, trying to help their son in the face of the refusal of the medical experts to even consider the possibility that someone who is not a doctor could question properly accepted medical treatments or investigate possible alternatives.

What is shown by many cases of this sort is that the appeal to expert opinion has a certain form as an argument, called an argumentation scheme, and that matching this form is a set of critical questions. The argumentation scheme is defeasible, meaning that it only holds tentatively in a dialogue, and can later be defeated as new evidence comes in. The argument can be defeated if an appropriate critical question is asked by the respondent, and is not properly answered by the proponent. Thus the critical questions are an important part of the evaluation of this kind of argumentation. How the proponent of the argument handles them is an important part of the evidence that should be used in judging the worth of the argument.

2. The argumentation scheme for appeal to expert opinion

Obviously, one argumentation scheme is especially fundamental to examination dialogue of the sort typical of Bob’s seeking advice from his expert advisor. It is the argumentation scheme for appeal to expert opinion. This scheme can be presented in the following form, which follows

the way it was presented by Walton (1997:210), but makes the warrant premise explicit. The warrant premise is a defeasible conditional. It has the form of a Toulmin warrant, meaning that it does not hold universally, but only subject to exceptions or countervailing instances that may arise.³

Appeal to expert opinion

Source Premise: Source *E* is an expert in subject domain *S* containing proposition *A*.

Assertion Premise: *E* asserts that proposition *A* (in domain *S*) is true (false).

Warrant Premise: If source *E* is an expert in subject domain *S* containing proposition *A*, and *E* asserts that proposition *A* (in domain *S*) is true (false), then *A* may plausibly be taken to be true (false).

Conclusion: *A* may plausibly be taken to be true (false).

If a respondent asks any of the six basic critical questions (Walton, 1997:223) appropriate for the appeal to expert opinion, the proponent must either give a satisfactory answer to the question asked, or else give up the appeal to expert opinion argument.

1. *Expertise Question*: How credible is *E* as an expert source?
2. *Field Question*: Is *E* an expert in the field that *A* is in?
3. *Opinion Question*: What did *E* assert that implies *A*?
4. *Trustworthiness Question*: Is *E* personally reliable as a source?
5. *Consistency Question*: Is *A* consistent with what other experts assert?
6. *Backup Evidence Question*: Is *E*'s assertion based on evidence?

The argumentation scheme and its set of matching critical questions are the tools that should be used to analyze and evaluate any given case in which appeal to expert opinion has been used as an argument. The scheme identifies the form of the argument and its premises. For the argument to be of this type, it must have the three types of premises represented in the argumentation scheme above. How strong the argument is depends on how well it stands up to critical questioning in the dialogue. But there is a difference between an argument that is merely weak, or poorly supported, and one that is fallacious.

The first step towards understanding the structure of this type of dialogue is realizing that the critical questions matching the argumentation scheme for appeal to expert opinion are the gateway through which the dialogue is filtered. To see how this works, let's once again consider the set of basic critical questions to see how they might apply to the kinds of situations of expert dialogue we are so familiar with in everyday life. When someone like you or I or Bob is confronted with the task of questioning an expert, the task can be highly intimidating. For example, suppose your doctor recommends some kind of treatment like surgery that has serious side effects and will affect your health very significantly. It is hard to question the doctor. He is the expert, and you are dependent on his care. Or suppose your dentist recommends that you have a root canal, an expensive kind of procedure that you have heard is often unnecessary. The dentist

³ Toulmin (1958) proposed a model for the layout of arguments based on claim, grounds, warrant, qualifier, rebuttal and backing. In the model, the conclusion follows from the premises in accordance with a generalization called a warrant that applies to the inference (Hitchcock, 2005:205). The warrant must be justified, but does not have to be universal. Many warrants are defeasible generalizations, the kind that are subject to exceptions.

may even tell you that this procedure represents “optimal” care, suggesting perhaps that you may be able to get by without it. You know very little about dentistry. What should you do? It is easy to just go along with what the dentist says, and harder to question what he says, try to find out more about why he recommends that course of action, or go for a second opinion. If you do go to another dentist for a second opinion, your original dentist may not be very pleased. He may feel that it shows that you don’t really trust his judgment. In short, questioning an expert is not too easy. But in the end, you will be likely to get much better health care if you make the effort to do it.

The first step is to accept that it can be useful to question experts, even though you respect the expert, and treat what he says as having standing and authority. The problem is often to know where to start. The six basic critical questions give an entry point to begin the dialogue. You need to pick which question is most appropriate to the case, or most useful to pursue, and then go from there. Critical question 6 is often the best starting point for an examination dialogue. You need to ask the expert basically why he or she makes the recommendation delivered to you. What is the evidence supporting this claim or piece of advice? That is the question to ask. Often it is a fairly harmless question, and invites the expert to go into his reasons and knowledge. But notice that this particular question is inherently argumentative. It asks for a reason to support a claim that was made. It asks for evidence to back up some assertion made by the expert. Of course, the questioner is typically not himself an expert. So he can’t argue with the expert on an equal footing. But still, reasons have been asked for. So the why-question asks for an argument, or reasons to support a view, and not just an explanation, even though the expert may treat the process as an explanation.

The other basic critical questions may look more like requests for information, but they can be argumentative as well, or lead to argumentation of a kind framed in a critical discussion or persuasion type of dialogue. It has been shown (Walton, 1997) that there are critical subquestions that fall under each of the five basic critical questions matching the appeal to expert opinion. For example, these three critical subquestions (Walton, 1997:217) come under the trustworthiness critical question.

Subquestion 1: Is *E* biased?

Subquestion 2: Is *E* honest?

Subquestion 3: Is *E* conscientious?

Bias, meaning failure to represent both sides of an issue in a balanced way, is an important factor in evaluating appeal to expert opinion. Bias is normal in argumentation. It is not always a bad thing. But an expert who gives advice, is supposed to try to avoid bias. If bias is found in what she says, her advice will be discounted and will be thought to be less likely to be right. Honesty is a matter of telling the truth, as the expert sees it. If an expert who gives advice is found to have lied, this finding can quite seriously detract from the worth of what she says. Conscientiousness is different from honesty, and refers to care in collecting sufficient information. If an expert has been shown to be sloppy or hasty in collecting data, that too can be quite a serious criticism.

Asking any of these critical questions in an examination dialogue can lead to argumentation of a kind that seems more like that typical of a persuasion dialogue. For example, asking any one of the three critical subquestions above can easily lead to an *ad hominem* attack on the expert. This sort of shift is quite common in trials during examination of expert testimony. The examining defense lawyer, for example, may ask the expert witness if she is being paid to testify by the prosecution. If the witness admits she has received a fee, the examiner may then suggest to the

jury that the witness is biased towards one side in presenting her testimony. The rules of evidence allow this kind of *ad hominem* attack on a witness because the trustworthiness of a witness is regarded as relevant. But many other kinds of character attack are barred by the rules of evidence as inadmissible or irrelevant.

The role of critical subquestions is important because they indicate that argumentation schemes are inherently defeasible and open-ended in a way that deductive arguments are not. A critical question can lead to other critical subquestions, thus prolonging a dialogue. This possibility suggests that presumptive argumentation schemes have a certain kind of incompleteness or open-endedness that is characteristic of them. You might think that if the proponent has successfully answered all of the basic critical questions matching a scheme, the argument is then closed. The term ‘closed’ means that the proponent has proved his conclusion and the respondent now has to accept it. But what is shown above is that the respondent could still go on, by asking critical subquestions. Thus presumptive argumentation schemes are incomplete, in an important dialectical sense of the term.

Some people might throw up their hands once this incompleteness has been recognized and say, “See, I told you that these arguments never prove anything!” But that is not the point. The point is that these kinds of arguments can only be judged in a dialogue setting, and they are only closed off once the dialogue itself has reached the closing stage. At any prior point, further critical questions can be asked as an argument is questioned or criticized in more and more depth. That does not mean that the argument never proves anything, or is altogether closed to new evidence, in the way a deductively valid argument is. It just means that what counts as proving, in relation to a presumptive argumentation scheme, is dependent on the context of dialogue. It depends on the type of dialogue. It depends on the stage of the dialogue the argumentation is in. It depends on the burden of proof appropriate for that type of dialogue. The argument cannot be evaluated in a context-free manner, like a deductively valid argument. Its worth or weight as an argument needs to be seen in light of how it shifts a burden of proof or questioning back and forth, from one side to the other, during the course of a dialogue.

Just as the critical questions matching an argumentation scheme form a gateway or filter through which the argumentation proceeds, the critical subquestions function as even finer filters that direct the flow of a discussion. In a given case, the discussion can go one way or another. It might start out with a critical question asked in response to an argument that was put forward. If that question is answered successfully, the dialogue may then go on by the respondent’s asking a critical subquestion. But it could go a different way. The respondent could ask a different critical question instead. Or he could just accept the argument and not ask any critical questions. In a given case, we are never sure which way the dialogue will go. Whether one critical question is more appropriate, or more pressing than another, depends on the subject-matter of the dialogue. But what we can and should judge is how the question is answered, or indeed whether it is even answered at all. If the proponent tries to evade the question, say, by switching to a different topic, or attacking the respondent personally instead of answering the question, these are faults that can be detected. They are argumentation tactics associated with informal fallacies.

3. Evaluating appeals to expert opinion in written sources

In studying examples of appeal to expert opinion in courses on critical thinking, many of the examples tend to be from media sources like newspaper or magazine articles. No questioning of the expert source is realistically possible, and the only evidence one has to go by is the text of discourse given in the case. Thus there are limits to the kind of examination of an appeal to expert

opinion that can take place in this type of case. Even so, it is often quite valuable to use the devices of the argumentation scheme with its matching set of critical questions as applied to the case. By analyzing the structure of the argument and finding critical gaps and weaknesses in it, one can reach a more objective and judicious decision about how strong or weak the argument is, and how much weight should be placed on it as evidence. Even though one cannot actually question the source, one can get a more realistic assessment of its worth by asking critical questions. Thus one may not be so impressed by such arguments, rather than being overwhelmed by them because one lacks resources to put them in a critical perspective.

It is very common to find articles on health and medical issues in the media much of which are based on reporting expert scientific opinions of one kind or another. In an article on hepatitis C, a viral blood infection that is probably four times more widespread than AIDS in the U.S., the issue was raised of how the virus is spread. One question posed was whether one way the hepatitis C virus (HCV) is spreading is through the needles used in tattooing. The *Newsweek* article (Cowley, 2002:51) cited the opinions of two expert sources on this question. The first, quoted below, is a physician named by the article who has published research on the subject.

Dr. Robert Haley, an internist and epidemiologist at the University of Texas Southwestern Medical Center, believes the risk is substantial. In a study published last year, he and a colleague tested 626 people for hepatitis C, then questioned them about different possible risk factors. Drug use was the strongest predictor, but tattoos were in the same league, causing a sixfold increase in risk. And because tattooing was more prevalent than drug use, the researchers concluded that it actually accounts for more cases.

Then the *Newsweek* article went on to quote epidemiologist Dr. Miriam Alter of the U. S. Center for Disease Control (CDC) in Atlanta, whose opinions “supported the opposite conclusion”. Dr. Alter’s opinion was based on other studies, summed up by the article in the quotation below.

In one CDC survey, researchers questioned patients with acute (newly acquired) hepatitis C and found that they were no more likely than other people to sport fresh tattoos. In another study, researchers surveyed 8,000 Texas college kids and found no link between dyed skin and HCV-positive blood tests.

From these results, Dr. Alter concluded that there was no reason to think that anyone with a tattoo should get his or her blood tested. In this case, the comment of the *Newsweek* article that the two experts have come to opposite conclusions looks to be right. They disagree about the link between tattooing and hepatitis C, based on their different statistical findings. In this case, there is a difference of opinion between the two expert sources on whether hepatitis C is caused by tattooing. The reason for the disagreement is that each group of experts has different statistical data they use to support their claim. This sort of disagreement in citing expert opinion is common. It is “my statistics against your statistics”.

In this *Newsweek* article, no fallacy is committed by the appeal to expert opinion. The article merely reports a difference of opinion between the groups of experts. The reader can then look at the evidence on both sides, and make up her own mind on how to proceed. In this case, the critical questioning has already been carried out in the article itself. The conflict of expert opinions has been noted. Thus the consistency critical question has been asked and answered. Also, the backup evidence question has been asked by the article and then answered on both sides by the expert sources. When you examine appeals to expert opinion in newspapers, magazines and other media reports, it is more usual to find appeals that don’t raise these critical questions, and leave them up to the reader.

When it comes to looking at interesting examples of appeal to expert opinion in argumentation, there are many kinds of examples that can be studied. Many of these cases are not fallacious *ad verecundiam* arguments, but are weak arguments based on appeal to expert opinion. They can be weak for many reasons. For example, articles in newspapers, magazines, and other media outlets are very often based on quoting expert sources of one kind or another. Sometimes the expert is not even named. The article will simply preface the claim by a phrase like “according to the experts”. Of course, even though the expert has not been named, he or she may still be a genuine expert and may have given exactly the opinion attributed to her. But the problem is, if the expert was not named in the article, how can the reader judge whether the opinion alleged is really worthy of rational acceptance? If the expert is not named, that avenue of trying to verify or even investigate the worth of the claim is closed off. In this kind of case then, calling the failure to cite an expert source an instance of the *ad verecundiam* fallacy can be justified. In contrast, however, in many cases, the appeal to expert opinion is not so bad that it should be called fallacious. It should be called a weak appeal if the documentation of the claim is lacking in enough of the right kind of detail to give it much support.

A main problem with appeal to expert opinion in written argumentation of the kind typically found in the news media is that the reader can’t access the expert source directly in order to examine her views by questioning her. All the critical reader can do is to judge the worth of the appeal to expert opinion by what is written, and by the information that was given in the article. This kind of case can be contrasted with the appeal to expert opinion typically used in court when an expert witness is brought forward to testify. In this kind of case, the expert can be questioned by both sides, and then the so-called trier of fact, the judge or jury, can judge the worth of the appeal to expert opinion, based on the expert’s having been examined and cross-examined. The rules of evidence regard it as important that expert testimony should be open to scrutiny by both sides in a trial. In many legal cases, a “battle of the experts” can even occur, where experts on both sides testify to opposite opinions.

Analyzing written discourse using argumentation techniques is based on a process of ‘discourse markup’ that takes place before a text of discourse can be cast into a form in which it can be analyzed as expressing an argument. A typical activity in courses on argumentation and logic begins with a text of discourse in natural language that supposedly contains an argument. The premises and the conclusion are identified as specific statements (propositions). The nature of the inferential link between the premises and the conclusion is then identified as deductive, inductive, or something else. In some cases, missing premises are identified. In some cases, a conclusion in one argument can reappear as a premise in another argument, producing a chain of argumentation. The technique of argument diagramming is normally used to exhibit the structure of the argumentation that has been identified. This whole process of getting from the raw text in a natural language case to some representation of the structure of the argument, as in a diagram form, can be called discourse markup. It is clear that a process of discourse markup is part of the typical method of argument identification, analysis and evaluation used widely in argumentation and informal logic. It is, indeed, necessary for any attempt to try and evaluate an argument in a case of natural language discourse. But it is an implicit part of the process that has not very often been identified as important in the past. No systematic attempt has ever been made to study how it works as a systematic process.

The technique of discourse markup for argumentation analysis is closely allied to recent developments in the technique of argument diagramming. An automated system of argument diagramming developed by Chris Reed and Glenn Rowe called *Araucaria* (version 3.0, 2005) can be used as the method for producing argument diagrams to illustrate the problem (Reed and

Rowe, 2001). The technique is analyzed in other recent work in argumentation as well. Part of the process of argumentation analysis developed by van Eemeren and Grootendorst (1984) requires deletion of some of the text that is not significant, and addition to it, for example, in the form of adding missing premises. The work of Snoeck Henkemans (1992) is based around the identification of discourse markers that can be used to help identify arguments in a natural language text of discourse, and to mark premise and conclusions.

It can be argued that the process of discourse markup is similar to the verbal examination of an expert in being dialectical. To say it is dialectical means that the agent marking up the discourse and the proponent of the discourse should be seen as participants in a collaborative, goal-directed dialogue. The general type of dialogue in both instances can be seen as examination dialogue. In an examination dialogue, one party asks questions of the other party in order to try to figure out what the other party is really saying, or really means. The usefulness of this kind of dialogue has already been acknowledged in expert systems technology, where the user needs to question the expert to try to figure out what the expert is really means to say. The problems posed by discourse markup in a case of appeal to a written expert source are similar, but a little different. Instead of just looking at the surface text, the agent doing the markup needs to examine it in a way that is critical but also tries to figure out what the proponent's commitments are in a "charitable" way. In many cases, for example, there can be choices between plausible interpretations of what the argument really is; the agent doing the markup needs to recognize the ambiguity and choose the markup that best seems to represent what the proponent is really trying to say. Being able to work up alternative markups as representing different interpretations of the given text is also a very important skill. The process of natural discourse markup may seem trivial initially, but because of all the notorious vagaries of natural language texts of discourse and the known difficulties in computing of representing them in an exact way suitable for computation, it is actually very hard.

4. The shift to examination dialogue

It now seems that we are in a pretty good position to deal with appeals to expert opinion as arguments, and to judge whether or not a given appeal of this sort is fallacious. The main device needed is the argumentation scheme. But that is not the end of the job. In the beginning of an expert advice dialogue, the respondent was simply trying to get information or advice from the expert. And the expert may have put forward arguments of the form, 'I think you should do such-and-such, and here are my reasons why'. This seems like a simple case of information-seeking dialogue and the appeal to expert opinion could simply be judged as weak or strong, depending on whether the requirements for the argumentation scheme were met. The problem is that most cases of appeal to expert opinion are not this simple. Two kinds of complications are especially problematic. Both involve a shift from an original dialogue to an interval that seems to be a different kind of dialogue.

In most cases of appeal to expert opinion, three parties are involved. The dialogue starts out as a persuasion dialogue or critical discussion in which two parties have a conflict of opinions (McBurney and Parsons, 2002). Then one party cites the opinion of an expert to support his side of the argument. It is typical of such a case that the expert source is not physically present. Often some written source, like an encyclopedia for example, or a scientific report quoted in the media, is cited as the authoritative source that backs up the arguer's opinion. In such a case, the respondent can't actually dialogue with the expert. The best he can do is to ask critical questions about the quoted source document. Thus the actual case is more complex than a simple argument versus criticism dialogue between two parties.

The second complication is that most of the work in argumentation so far has centered on the model in which the two parties in the dialogue are engaging in argumentation with each other. One side, for example, typically presents an argument, and the other either raises critical questions or puts forward a counter-argument or attempted refutation of the original argument. The role of other speech acts, like explanation and definition, has not been much investigated in this central model. Obviously, both explanation and definition are extremely important in argumentation. And there is a literature on both subjects in philosophy, linguistics, and other fields. But the problem is that explanation and definition come to the forefront during an interval in which an expert opinion is examined. Often the main problem is that the user of the offered advice just doesn't understand what the expert is trying to say. The expert may use technical language, for example, that the layperson is not familiar with. What the user has to do, in such cases, is ask for an explanation. Or he may have to ask the expert to define her terms in a way that he can understand. In an examination interval, the notion of explanation often becomes so predominant that the dialogue no longer seems to be a persuasion dialogue or critical discussion. Still, while asking for an explanation seems more information-seeking than argumentative, a strongly argumentative element often intrudes. In order to really understand what the expert is saying, the user frequently has to probe into it, and even try to test it out against what he knows. Thus the examination interval can seem quite complex. It interweaves argumentation and explanation in a way that indicates a dialectical shift to a different type of dialogue.

It seems that it will only be through understanding this shift to the peirastic interval that we can really grasp how the *ad verecundiam* fallacy works. The fallacious cases seem to be the ones where the arguer who appeals to expert opinion tries to preclude or shut down the examination interval. The fallacious cases, according to Walton (1997), are ones where the arguer tries to block off or shut down the possibility of critical questioning of the appeal to expert opinion through the use of certain argumentation tactics. Often these tactics are of a pre-emptive sort, showing that the proponent of the appeal to expert opinion is not really open to critical questioning at all, even though she may give a surface appearance of being so. The evidence for an arguer's openness or closed-mindedness is to be sought in the language she has used and the moves she has made in the examination interval, judging from the evidence of the text of discourse in the case. The main problem is not just one of recognizing or collecting the right kind of evidence (although that is a problem). The larger problem is to set out the normative requirements of what should constitute the proper moves for defending and questioning an appeal to expert opinion. You could say there are two problems. One is finding the right normative model that tells us what is the proper form of questioning and answering in an examination interval. The other is the applied problem of matching these normative requirements to the specific textual evidence found in a given case. The normative model is the more pressing problem at present, because, as noted above, the models developed so far mainly apply to arguments like those used in a critical discussion. These models aren't very helpful when it comes to evaluating dialogues where there has been a shift to an examination interval in which explanation and definition moves are mixed in with argument moves.

One of the most important phenomena in dialogue theory is the dialectical shift, or transition during a sequence of moves from one type of dialogue to another. Of course, in a formal model, such a shift is not permitted. But in any real case of natural language argumentation, such shifts are extremely common. The classic case is the ubiquitous picture hanging case cited by Parsons and Jennings (1997). In this case, two agents have a joint intention to hang a picture. They have a small dialogue on how to do it with the given resources. One agent has the picture, with attached

wire, and a hammer. The other knows where to obtain a nail in a short time, and the first agent knows he knows this. The first agent makes a proposal. If the other agent will get the nail, the two of them can then hang the picture. This simple case is a nice example of a shift from a deliberation dialogue to a negotiation dialogue. At first the two agents were deliberating on the problem of how to go about hanging the picture. They then shifted to negotiating who would carry out which subtask. Reed (1998:249) has shown how to model this kind of shift formally by marking the type of dialogue at key moves in the sequence of moves. Thus the sequence of argumentation moves forward through the one type of dialogue and then through the other. The markers indicate the exact move where the shift took place.

Another kind of case where a dialectical shift is highly characteristic is in expert systems where the user needs to ask the expert to explain something (Cawsey, 1992; Moore, 1995). Within the information-seeking dialogue, there is an interval in which the user sometimes needs to probe into what the expert said, even finding inconsistencies that need to be clarified. In such cases, there is a shift from an information-seeking dialogue to a persuasion dialogue interval. Cases of this sort (Grasso et al., 2000) show how the solving of conflicts in advice-giving involves a shift to persuasion dialogue. In such cases, the speech act of explanation is involved, as well as the speech act of argument. But there is a thread of reasoning that shifts from one context of dialogue to another. This kind of shift is common in multi-agent communication.

Dialectical shifts are known to be associated with fallacies. But even the simple example of the picture hanging case illustrates how a shift from an initial type of dialogue to a second type can be a good thing. In such a case, the shift is based on an underlying embedding of the one dialogue into the other. In this case, the shift to negotiation was helpful, and indeed may even have been necessary, in order for the original deliberation dialogue to lead to an action that solved the original problem the two participants were deliberating about. This constructive type of shift is thus based on an embedding. The general problem now posed is how to tell in a given case whether a shift is based on an embedding or not. This problem is essentially the one posed by Walton and Krabbe (1995) of determining whether a shift is “licit” or “illicit”.

Examination intervals can occur in various kinds of dialogue. Perhaps the most notable kind of case is that of an advice-giving dialogue in which an expert is presenting information to a layperson. At some point in the dialogue, it may be important for the respondent (layperson) to try to get a better grasp of what the proponent (expert) has said. Thus the respondent may have to interrupt the information giving temporarily so he can try to get a coherent picture of what the expert is supposedly saying. Such an interval commonly takes one of three forms. The first has to do with clarification of meaning. The respondent may ask for clarification of a term he does not understand. He may ask the expert to try to explain something in plain English without using technical terminology, for example. The second form has to do with making logical sense of what the expert said. It may appear to the respondent who, after all, is no expert in the field, that the statements made by the expert are contradictory. If so, the respondent will need to try to get the expert to resolve the apparent contradiction. For as long as it is there, the expert’s advice will be useless to the respondent. The third form has to do with the justification for a claim. It may even happen that the respondent, in order to try to get a better grasp of what the expert is saying, needs to question the expert about why she asserts a statement she has made. In this kind of case, the respondent is probing into the justification of the statement. Thus this kind of interval is more argumentative and critical in nature. It seems like a shift from an information-seeking dialogue to a persuasion dialogue.

Another kind of case can be illustrated by the typical argumentation in a Socratic dialogue. There is even a Greek word for it—*elenchos*.⁴ A proponent may have argued for a particular viewpoint. At some point in the dialogue, Socrates begins to probe critically into some specific statement or set of statements used by the proponent in defending his viewpoint. Socrates will focus on these specific statements, and all three forms of intervention above may be visible. Socrates asks about the meaning of key terms. He asks for definitions, sometimes proposes them, and is often critical about questioning them. He often finds what seem to be contradictions. And he typically asks for justification for a claim that was made. There is room for variations, but in a typical kind of case, the shift is from a persuasion dialogue that is underway to an interval in which Socrates concentrates on examining a specific statement or set of statements made by another participant in the dialogue. The shift seems to be from a persuasion dialogue to an examination dialogue. Once the examination interval has ended, the main persuasion dialogue can then resume from where it left off.

One of the most interesting new developments has been the construction of a formal system of examination dialogue by Dunne et al. (2005). This system is especially designed to analyze the common tactic of attacking a respondent's position by exposing internal inconsistencies in his argumentation. The system is constructed within the value-based argumentation framework of Bench-Capon (2003). The system analyzes argumentation in the form of a dialogue between two parties in which one party is examining the arguments that have been put forward by the other. The examiner wins if she shows that the respondent is committed to an inconsistency. This finding is achieved if the party being questioned replies that he denies a particular proposition or has no comment on it, but the examiner shows that he has already revealed through his previous replies, or by evidence already accepted in the case, that he is committed to this proposition. The finding of such an inconsistency is a common form of tactic used in legal examinations in trials, and this system models the tactic by giving it a formal dialogue structure. In this structure, if the proponent asks the respondent his view on proposition *p* at a given point in the dialogue, the respondent must give one of three responses: (1) accept *p*, (2) deny *p*, or (3) say 'no comment', meaning that he refuses to say anything about *p*. But later in the dialogue, the proponent could find an inconsistency by comparing how the respondent replied at one move with how he replied at another move. For example, the respondent may have replied 'no comment *p*' at one move, but then at another move, the proponent may find evidence showing that he either accepted or denied *p*. This evidence may be found by examining some arguments that the respondent had put forward previously in the dialogue. Citing the inconsistency, the proponent can then point out that at least one these replies cannot be correct. The proponent wins if she can justify this allegation, and otherwise the respondent wins.

A type of formal dialogue analyzed by Walton and Krabbe (1995, chapter 4, section 3) is called permissive persuasion dialogue (*PPD*). One unsolved problem (p. 180) is how *PPD* could be extended to handle the kind of case in which during a persuasion dialogue there is a temporary shift where the participants attempt to clarify or define a key term in their argumentation. As noted by Walton and Krabbe (1995:181), the task is to extend the *PPD* dialogue to show how

⁴ The term most often used to describe the process whereby Socrates examines the views of an interlocutor by a connected sequence of questions and answers is *elenchus*. This term, sometimes written *elenchos*, is the Greek term for 'refutation', as used in the title of Aristotle's work on fallacies, *On Sophistical Refutations*. But going by its current meaning in philosophy, it "is used almost universally to refer to the Socratic method of cross-examination" (Gentzler, 1995:242). When referring to the Socratic procedure of questioning described above, the word 'examination' tends not to appear. Instead, the noun *elenchus*, with its adjective 'elenctic' (or 'elentic') tends to be used in the literature on Greek philosophy (Robinson, 1953).

“meanings are changed, developed and intensified during the course of a dialogue”. What are the rules that govern the interval during such a shift from a *PPD* dialogue? How does the interval of meaning clarification and definition proposed fit into the *PPD* dialogue? How can it contribute to the *PPD* dialogue, once it resumes after the interval is closed? These questions have not yet been answered, but the formal dialogue structure for examination advanced by Dunne et al. (2005) offers a way to provide answers. We return to the formal analysis of examination dialogues in section 10.

The same general kind of problem has long been evident in expert systems, in the kind of case where an expert offers information or advice to a user, and the dialogue shifts to an interval in which the user asks the expert to explain something she said. In both kinds of cases there has been a dialectical shift from an initial type of dialogue to an embedded dialogue of quite a different kind. In both kinds of cases as well, the shift can, under the right conditions, be seen as an embedding of the one dialogue into the other. Roughly, this means that the second dialogue helps to support the progress of the initial dialogue in a constructive way. How does such an embedding work? Evidently it involves not only a shift to a different type of dialogue, but also a shift to a different kind of speech act. Thus the problem is partly one of devising conditions for the speech acts of explanation, clarification, and definition that can fit in with the way argumentation is modeled in *PPD* dialogues. Another question is whether criteria can be devised that can help us to judge when such a shift is licit as opposed to being illicit. Illicit shifts are known to be associated with informal fallacies and other logically problematic phenomena (Walton and Krabbe, 1995). To begin to answer these fundamental questions, an analysis of examination dialogue is needed.

5. The three levels of examination dialogue

The word ‘examination’ evokes four primary meanings. The first is indicated by the example of a scientist examining something under a microscope. It conveys the idea of looking at something, some given datum, carefully. Another meaning is the kind of examination typical of testing a student’s knowledge, for example in a “final examination”. A third is the examination of a patient by a physician. The physician looks at the patient’s body, or at the parts that are of concern. As he looks, the physician is collecting data, but at the same time asking questions. A question might prompt a closer look. The input of this data then enables the physician to draw inferences, and to ask further questions that may lead to tests. A fourth meaning refers to the examination of a witness in a court. This fourth meaning definitely refers to a kind of dialogue with a questioner and a respondent. The witness answers the questions of the examiner, and the answers count as legal evidence. When the questioner represents the side opposed to the side for whom the witness testifies in the trial, the dialogue is called a cross-examination.

Is there any meaning common to these four paradigms? It is hard to say. The first does not seem to involve testing, initially. But the examination could be more active in some cases. For example, the examiner might probe into the object under the microscope to see how it reacts. The physician’s examination of his patient may lead to medical tests. And the answers given by a witness in court can be tested out, so to speak, by comparing them with the testimony of other witnesses, or with what this same witness said previously. Thus examination quite typically does involve testing as a possible follow-up of the looking-at stage. But examination does not always require testing. It could be just looking at something carefully.

What is common to all these examples of examination? There seem to be three functions that are the common thread running through examinations, and each level is built on the preceding one. Hence there are three levels in an examination. At the first level there is the collection of

data. Examination is looking at something and collecting information of a factual sort. The second level is that of testing. The data or information is tested to see if it is real, and whether it can be confirmed by a test. Then at the third level, the findings of the first two levels are processed, and conclusions are drawn in the form of hypotheses. The third level comprises a critical discussion of the findings of the first two levels. Evidence for or against the various hypotheses are weighed on a balance, and a conclusion is drawn about how to best explain the evidence.

The kind of case in which an expert is examined in an appeal to expert opinion exhibits these three functions at the three levels indicated above. The first level is that of an information-seeking dialogue. The questioner asks the expert questions of a factual kind about how to do something or what the facts of a matter are. Some dialogues could remain at this simple level. But suppose the matter is complex or controversial, and there are several opinions that might have some evidence for or against them. At the second level, the questioner may need to proceed by testing what the expert has said. How can he do this? The main method is to compare what the expert said with other statements that the questioner thinks represent the known facts of the case, on evidence independent of what the expert said. Some of these statements used for testing may even come from stated opinions of other experts. But other methods can also be used for testing the worth or plausibility of what an expert said. These other methods carry over into the third level of examination dialogue.

At the third level, the questioner can test the statements vouched for by the expert by drawing inferences from them and then using these inferences as parts of arguments. This third level is more argumentative than the first two, and it has a critical edge. The dialogue is no longer just information seeking or testing, in the way it was at the first two levels. It now takes the form of a critical discussion or persuasion type of dialogue in which various arguments for and against the appeal to expert opinion are articulated and discussed. It often seems as though the expert is being attacked, or as though the questioner is trying to refute the expert's stated opinion by bringing up arguments that go against it. This attacking aspect of the third level of examination dialogue is perhaps most visible in cross-examination of an expert witness in law.

At this third level, any of the various argumentation schemes can be used. Although presumptive argumentation schemes are common, deductive and inductive schemes can also be used. A good example is the use of the circumstantial *ad hominem* argument, the type of argument that was identified in the *Rhetorica ad Alexandrum* (Anaximenes, 1946) with exetastic dialogue (on this term, see below). In this form of argument, the questioner takes the statement put forward as an opinion by the proponent, and then relates it to another statement that can be taken to be a commitment of the proponent. This other commitment is allegedly based on the proponent's personal actions or views, judging from evidence consisting of something he allegedly said or did, perhaps at some other time or in a different context. The questioner then argues that these two statements conflict with each other. Citing the alleged contradiction, she then argues that the proponent "does not practice what he preaches". This argument may suggest that the proponent is dishonest or hypocritical, or it may only suggest that he is confused or illogical. In any event, the argument casts doubt on the credibility of the expert. It can be an extremely powerful argument, for example, when used in court. The argumentation at this third level can be thought of as a kind of testing, like that at the second level. But it is not just a testing against factual data, as would occur at the second level. It tends to be highly argumentative, using different forms of argumentation that are not conclusive, but that can throw a stated opinion into doubt by bringing forward arguments that indicate reasons that go against the worth or acceptability of the opinion.

The argumentation at the third level of an examination dialogue, as noted above, sometimes seems like an attack. Use of arguments like the circumstantial *ad hominem* certainly lends credence to this impression in many cases. But the purpose of argumentation at the third level of examination should not be to “shoot down” the party being questioned. If the purpose is simply to attack and discredit the proponent, then the argumentation has shifted to an eristic (quarrelsome) type of dialogue. In legal argumentation, such a shift would be from an examination to an interrogation dialogue. Interrogation is a type of examination dialogue in which the party being interrogated needs to be on guard against venturing any kind of information or concessions. It may later be used as a “confession”, a strong form of evidence implicating him in the committing of a crime (Walton, 2003).

A clear demarcation can be drawn between examination and interrogation (Walton, 2003). The latter is a much more coercive and one-sided type of dialogue in which all sorts of threats, incentives and tricks, like loaded questions and other fallacious tactics, are acceptable argumentation moves. Examination in a trial is often loosely described as a sort of interrogation, but it is highly misleading to categorize it in this way, even though the comparison can be an appropriate one as applied to some cases of cross-examination. In a trial examination, information is brought out by using questions and arguments that probe into testimony, critically testing aspects of it that are implausible. The same kinds of techniques are used in interrogations, but typically in a way that makes the dialogue markedly coercive and one-sided. Interrogation dialogue is a degeneration of examination dialogue in which information is extracted from the respondent by coercive and deceptive argumentation tactics. Such tactics are often associated with fallacies like the *argumentum ad baculum*, consisting of appeals to force, threats, and fear. Such tactics are inappropriate in an examination dialogue.

In a proper examination, the argumentation at the third level should not have the purpose of merely trying to discredit the proponent, or trap him into conceding something that can be used against him. Its purpose should be to find out what the proponent is really saying. But here is the subtlety. Sometimes the best way to do this is bring forward arguments that cast doubt on the opinion put forward by the proponent. Such an argument can have two valuable outcomes. One is that it can lead the proponent to take this counter-argument into account, and then perhaps to modify his original opinion, or express it in a better way, so that it is less open to the objection. But there may be another valuable outcome. By modifying his view, the proponent may also clarify it. He may express his opinion in a sharper, or more qualified form, that makes it not only clearer, but also more useful as information or advice for the questioner. Thus argumentation at the third level can be extremely beneficial to an examination dialogue as a whole, provided the dialogue does not degenerate into a quarrel or an interrogation.

6. Plato and Aristotle on examination dialogue

The notion of examination as a distinctive type of dialogue is extremely important for understanding the kind of philosophical argumentation that is so highly typical in Plato’s dialogues, especially the early ones. Socrates’ typical method is based on a series of questions addressed to an interlocutor in which he compares an answer to previous answers, often revealing problems or apparent contradictions. There are plenty of examples in the dialogues, and in all such cases Socrates’ activity can properly be described as one of examining the interlocutor’s expressed views. For example in the *Laches*, Socrates asks Laches to give his views on what is the common quality called courage (192c–192d). He then asks several other questions that invite Laches to refine his definition, by applying it to specific cases or issues (192e–193e). For

example, he asks Laches who is the more courageous, a person who dives to save someone drowning even though he lacks the skill of diving, or the expert diver. Questions such as these make Laches narrow down his initial definition of courage, making it more precise. After concluding his examination of Laches, Socrates conducts a similar examination of Nicias. The outcome is that the definitions of Laches and Nicias are shown by Socrates to be incompatible. This outcome poses a puzzle. Laches and Nicias, both former soldiers, are supposedly experts on courage, at least one might assume so, based on their military knowledge. And yet they disagree on how to define it. Thus, as Socrates often shows through the process of examination in the dialogues, the experts know less than they think they know.⁵ Many examples of examination dialogue of this sort can be found in Plato's dialogues (Gentzler, 1995). One would conclude that examination as a form of dialogue is fundamentally important for understanding how Socratic philosophical inquiry works, as illustrated in Plato's dialogues. It is easy to overlook the importance of the examination as a type of dialogue in Plato's dialogues, however.

Aristotle took a more systematic approach by trying to classify examination as a type of dialogue, but he appeared to be uncertain about how to classify it exactly. His attempts show some ambiguity, or perhaps it was a subject that he couldn't follow up, or his remarks that survived were fragmentary. Anyhow, his views on the subject are very interesting, and show that he attached importance to examination dialogue as something fundamental to philosophical method.

The first passage that needs to be looked at is the one in *On Sophistical Refutations* (165a40–165b12) where Aristotle classified four types of arguments used in discussions. These types are didactic arguments, dialectical arguments, examination arguments, and contentious arguments. Didactic arguments are those used in teaching. Dialectical arguments defined by Aristotle as ones based on generally accepted opinions (*endoxa*) that “reason to establish a contradiction” (165b4–165b5). Examination arguments are those “based on opinions held by the answerer and necessarily known to one who claims knowledge of the subject involved” (165b4–165b6). Examination arguments can deal with any subject-matter (*On Sophistical Refutations*, 172a32). Their purpose (172a33) is to “attempt to test those who profess knowledge”.

Hamblin (1970:59) noted that Aristotle appeared to be uncertain whether dialectical arguments and examination arguments are distinct and separate, or whether examination arguments are a subclass of dialectical arguments. In *On Sophistical Refutations* (171b7) he wrote, “the art of examination is a kind of dialectic”. But in a fairly detailed passage in the *Topics* (159a25–159a38) he wrote, “the contrast between the three kinds of argument – didactic, dialectical or examination, and contentious – is clearly drawn”. However, in this passage, Aristotle seems to treat examination as a type of argument that has not been explored as well as didactic or dialectical argumentation have been. The two latter types of dialogue have precise rules, whereas there are “no rules laid down for those who argue for the sake of training and examination” (quoting Hamblin's translation of 159a25–159a27 from 1970:59). Aristotle wrote that on this question, “we have no tradition handed down by others” (159a38). In the next few pages (159a38–160b38), Aristotle went on to try to formulate some rules for examination dialogue. The rules depend on whether the position taken up by the respondent is in accord with the generally accepted opinion (*endoxon*) or not. This lengthy passage considering what the rules

⁵ Socrates' (Plato's) way of examination quite often has a strong strategic or even competitive touch, when points of view are added to the commitment set of his interlocutors which are highly detrimental for the defense of their position. An example would be the examination in the dialogue *Gorgias*, where Plato lets Gorgias, Polus and Kallikles answer in a way that they don't refuse to accept even weak or implausible propositions as elements of their commitment sets.

are for examination dialogue will probably seem highly obscure to the modern reader, so a little further comment on it at this point would be helpful. What is interesting to note for the present is that Aristotle did view examination as a distinctive type of dialogue of some importance, and that he attached enough importance to it to try to formulate some rules for it.

Guthrie (1981:155) drew a distinction between two types of examination, defining peirastic discussion as “testing or probing” and exetastic discussion as “examining critically”. Guthrie saw these as two aspects of Aristotelian dialectical discussion used for testing and investigating (p. 155). Such a distinction could be quite useful for argumentation theory, but it is hard to judge how it should be drawn. Perhaps there could be two special subtypes of examination dialogue, or perhaps peirastic is the same thing as examination dialogue, and exetastic dialogue could be a special type that involves criticism of a view. Or maybe it could be the other way around. As Guthrie describes the distinction, exetastic dialogue seems to go beyond testing to actively challenging the other party’s viewpoint. This contrast suggests the following hypothesis. Peirastic dialogue could be characterized as the testing or probing of a view by asking its proponent questions that are designed to clarify and explain the view. The function is one of clarification or explanation. The aim is for the questioner to come to understand the view for practical purposes, even though he is not an expert in the specialized field in which the view falls. In exetastic dialogue, in contrast, the questioner tries to cast doubt on the tenability of the proponent’s previously stated viewpoint by probing into the rational grounds by which it is supposedly supported.

Peirastic (*peirastike*) of the Aristotelian kind is “the art of testing”, as used by someone who can be “unlearned”, to test the claims of those who profess knowledge on a subject (Bolton, 1990:213). But how critical does the tester need to be? Testing, presumably, means comparing the expert’s professed views with the views of other experts or with facts that can be verified by experience. But what if the view being examined is inconsistent with the known facts or with views expressed by other experts? A claim to find a contradiction implies some doubts about an expert’s view, and suggests a basis for criticism, perhaps even potential refutation of that view. Thus the borderline between peirastic and exetastic discussion seems blurred. The Greek terms themselves also overlap, according to Bolton (1990:213).

The two words *peirastike* and *exetastike*, here translated as ‘testing’ and ‘examination’, are derived from roots which overlap in meaning in Greek and, though *peirastike* is a technical term, various cognate forms of the two words are used interchangeably by Aristotle (as they are by Plato) in his general descriptions of dialectical procedure.

One approach would be simply to take ‘exetastic’ as a synonym for ‘examination’ and then use ‘peirastic’ as a term indicating some special subtype of examination dialogue. But since we already have a good term for the general type of dialogue, namely examination, we could use both ‘peirastic’ and ‘exetastic’ to refer to some subtypes that need to be specially distinguished. This approach may or may not be consistent with Aristotle’s usage, but it could be useful for modern argumentation theory.

There is some historical support for taking the term ‘exetastic’ to refer to an especially critical kind of examination dialogue that can involve refutation of the view being examined. In the *Rhetorica ad Alexandrum* (1427b12–1428a17), an ancient manual on rhetoric, *exetasis* is described as a kind of argumentation in which the questioner attacks the proponent of an argument for being inconsistent in his actions and expressed views. The attack is then used to refute the proponent’s argument. The technique of exetastic argumentation is said to be based on “the elucidation of intentions, acts, and words which are contradictory to one another or to the

rest of a man's mode of life" (1427b13–1427b14). This technique of argumentation sounds very much like what is called the circumstantial *argumentum ad hominem* in modern usage. And one can certainly see a connection here between circumstantial *argumentum ad hominem* and examination dialogue. In order to attack a proponent by finding an inconsistency in his expressed views or commitments, you have to, first of all, probe into his previously expressed views or commitments, to try to pin down what they are. This process is surely one of exegesis, or examination of an arguer's professed views to try to determine more precisely what they are.

Aristotle's writings on examination dialogue are sketchy and incomplete. That is quite understandable, however, as he appears to be quite aware that he is striking out into a new area that has not been much explored previously. It is quite understandable that he should be uncertain about whether examination dialogue is a part of dialectic or is a separate type of dialogue in its own right. Both views are partly right. First of all, it is right to think of examination as a part of a dialectical type of dialogue. For example, in the early Socratic dialogues, good examples of dialectic, there are many intervals in which Socrates examines his interlocutor to try to determine exactly what his view is. Such an examination interval is rightly seen as a necessary part of the dialectical sequence of argumentation. And yet despite this inclusion, examination can also be seen as a type of dialogue in its own right that can stand on its own. You can examine someone's views, for example, just to see what they are, without having any further aims of trying to refute them or take issue with them argumentatively. Thus Aristotle's apparent ambivalence about examination dialogue can be seen as posing a puzzle, contradiction, or problem to be solved. How is it that examination dialogue can be a proper part of dialectical dialogue when it can also be a separate type of dialogue that can be complete and legitimate in its own right?

The solution to this problem requires a more thorough analysis of examination dialogue that separates out its components, and defines its goals as a type of dialogue. It also requires a better understanding of how examination dialogue fits in with other types of dialogue, especially the basic types. Finally, it shows the need for a classification system that enables one to identify the different subtypes of examination dialogue.

7. The line between exegesis and criticism

In principle, the three levels of examination dialogue are distinct. Each has a different function in contributing to the dialogue as a whole. However, in any real case of an examination dialogue, it may be difficult to pinpoint the exact borderline between one level and the next. For example, in legal argumentation, suppose a lawyer is cross-examining an expert witness. The cross-examiner might find an apparent contradiction between what the witness is saying now and something he said earlier in the dialogue. The cross-examiner might even ask for the court record to show clearly how the witness testified earlier, and then use that to argue that it goes against what he just said. At this point, it seems we are still at the second level, even though by finding such an apparent contradiction, the questioner is making the expert look pretty bad in the eyes of the jury. Some might say then that the argumentation is already at the third level. As the examiner probes more deeply into what the expert said, and subjects it to questioning about what he supposedly meant, this testing still seems to be at the second or testing level. But as he probes more deeply, it may seem more and more that critical weaknesses in the expert's position are being revealed. Many might therefore feel that the line of questioning has now gone into the third level. The problem is how draw the borderline between the levels in cases that might be quite complex. This problem is particularly stressing when judging the difference between the testing level and the critical discussion level. What criteria can be used in complex cases?

The problem can be articulated in quite an acute form by using the example of philosophical discussion in a case where one philosopher is engaged in an examination of the writings of another. Philosophy is a highly argumentative discipline, and it often appears that the one philosopher is arguing against the view of the other, or even trying to refute the other. What is vital is to distinguish between two levels of philosophical discussion. One is the level of exegesis, in which one philosopher is merely trying to determine, on the basis of the textual evidence, what the other philosopher's position or viewpoint is, as expressed by what he wrote. Of course, a philosopher's views may change, so an apparent inconsistency is not always a sign of confusion, or a fault. Thus testing out a philosopher's expressed opinion by comparing it with another part of his corpus of writing in which a different opinion seems to be expressed could be a constructive and useful exegetical exercise. Finding such an apparent contradiction does not necessarily take one beyond the second level.

When the commentator moves to the third level, he begins to actively question the tenability or plausibility of the other philosopher's views, challenging his reasons for advocating these views. He has now entered into the arena of considering opposed views, and comparing the reasons for and against both the original view and the opposed views. The dialogue at this level clearly has the marks of a critical discussion. A conflict of opinions has been identified, and the arguments on both sides are articulated, analyzed and comparatively evaluated. These are the identifying criteria of the shift to the third level, using the characteristics of the critical discussion as a type of dialogue formulated by [van Eemeren and Grootendorst \(1984\)](#). Basically, the questioner has proceeded beyond the level of testing only by comparing the original opinion against what are taken to be given data, observed facts, or previous statements that can be verified as factual, or at any rate, not in dispute. He has gone to the level of taking the original opinion to express a contestable argument, and weighing it against opposed arguments. One can see there is a different of function between the two levels. The second level has the purpose of finding out what the proponent means. Its function is exegetical, even though testing is the means. The third level can also certainly have an exegetical effect, by making the proponent clarify his views and sharpen his commitments in response to objections. But the function of testing is now clarified by mounting arguments that cast doubt on the tenability of these expressed views as strong arguments.

Exegesis is not a subject one would expect to find systematically treated in modern logic, and it seems like an area that has not been explored at all. I was quite surprised recently when through an internet search under the word "fallacies", I found a book on exegetical fallacies ([Carson, 1984](#)). This book is about fallacies that are common in arguments based on interpretations of biblical Scripture. Carson views appeal to religious Scripture as a reasonable form of argumentation, but one that is prone to many fallacies. In general, he sees exegesis as a rational activity that can be carried out well or badly. The rational part of it comes in by virtue of Carson's normative requirement that exegesis can be a reasoned form of dialogical process in which one party tries to interpret the meaning of a written text of discourse authored by another party. On his view, this process has a critical aspect: "Critical exegesis is opposed to merely personal opinions, the appeal to blind authority (the interpreter's or anyone else's), arbitrary interpretations, and speculative opinions" [Carson \(1984:12–13\)](#). Looking at exegesis from his point of view, one can see that it is a process in which critical argumentation is involved, and that there are various fallacies that can only be properly studied against a background of the exegetical process. Appeal to authority in a dogmatic manner would be an obvious example, but linguistic fallacies, like equivocation, are also primary concerns in Carson's book.

Judging from Carson's way of treating exegetical fallacies, what can one say about exegesis as a distinctive framework of dialogue in which critical argumentation takes place? The first point to

be made is that, generally, three parties are centrally involved. A proponent puts forward an argument, directed to a respondent (or audience), and the argument is based on an interpretation of some text of discourse attributed to a third party, who could be called the source. The proponent uses, as the basis of his argument, an interpretation of what he takes to be the meaning of the text of discourse attributed to the source. For example, the proponent might argue that there is a passage in the Bible that supports pacifism, where Jesus is reported to have said that you should “turn the other cheek”. The respondent might then raise critical questions about what Jesus should be taken to have meant when he used this expression. And he might argue that, contrary to superficial appearances, this passage does not really support pacifism of the kind that the proponent is arguing for. The proponent and the respondent may then have a protracted argument about the meaning of what Jesus said as reported in the Bible, and what implications can logically be drawn from it.

When attempting to define exactly what exegesis is as a type of dialogue, a cautionary remark is in order. It is that the speech act of explanation appears to be interwoven with the speech of argument in exegesis. Certainly rational argumentation is involved, but it is based on a prior claim concerning what the third party or source is alleged to have said or meant to say, as judged usually by reference to some written account. But there is a close relationship between interpreting something someone said or wrote, and trying to explain it. Surely exegesis involves explanation, or is closely tied to it. Interpretation typically involves more than just a literal reading of a text. It also often involves an attempt to make sense of it. This aspect surely ties in closely to explaining, or trying to explain what the text means. Thus the cautionary remark is that exegesis is not just a framework of dialogue that contains argumentation. It does very often contain argumentation, but the argumentation is built on a base of interpretation that is also likely to involve explanation, to a greater or lesser degree.⁶

In philosophical discussions it is easy to step across the fine line between exegesis and criticism without being aware of it. Taking such a step is not generally a bad thing, in itself, for it may be that only by considering objections that a view can be clarified. The problem comes in when criticism becomes hostile, concealing attack under the guise of interpretation. Attacking somebody’s stated views through hostile criticism and counter-argumentation is also not a bad thing, in itself. One might think, for example, of cross-examination of a witness in legal argumentation. But it has been recognized that there are dangers in stepping over the line between interpretation and counter-argumentation. The most frequently recognized danger is the straw man fallacy. Thus another cautionary remark is that exegesis is very closely related to that fallacy. Any act of interpretation of a text of discourse on which an argument is based always runs the danger that it can be a poor interpretation or misinterpretation that was especially designed to support the argument by distorting the meaning of the original text in some way. A whole family of different kinds of fallacies can be involved with bad arguments of this kind, but primary among them has to be the straw man fallacy.

8. The straw man fallacy

The straw man fallacy is committed when two parties are arguing with each other and one party distorts or exaggerates the view of the other party, proceeding then to use that distorted view as a basis for attacking the argument of the other party. *Johnson and Blair (1983:71)* state that the straw man fallacy is committed “when you misrepresent your opponent’s position, attribute to

⁶ See *Govier (1992)* and *Walton (2005)* on the distinction between argument and explanation.

that person a point of view with a set-up implausibility that you can easily demolish, and then proceed to argue against the set-up version as though it were your opponent's". Govier (1992:157) wrote that the straw man fallacy is committed "when a person misrepresents an argument, theory, or claim, and then, on the basis of that misrepresentation, claims to have refuted the position that he has misinterpreted". These accounts of the straw man fallacy make it clear that its structure has three important components. The first is the pair of arguers in a dialogue; the second is the argumentation the two are engaged in; the third is the position or view that each arguer has taken. For the straw man fallacy to be committed in this framework, it is required that each party base his or her arguments on the position or view that the other party has adopted or taken up.

The biggest problem for defining the structure of the straw man fallacy is to analyze the notion of position or view that each arguer has adopted in a dialogue between two parties. The method of analyzing this fundamental notion presented by Walton and Krabbe (1995) is to determine each arguer's position or view using the device of the commitment set of that arguer, a notion derived from Hamblin (1970:264). Hamblin defined a commitment set (or commitment store) as a set of statements that could be listed on a blackboard or in a computer database. These statements represent what an arguer in a dialogue can be said to be committed to, at any given point in the dialogue, as a result of the past moves or speech acts that that participant has made during the sequence of the dialogue. Thus at any given point in a dialogue, according to this theory, it will be possible to determine what an arguer's set of commitments should be taken to be. The method for determining an arguer's commitments depends on knowing the type of dialogue in which the two arguers are supposedly engaged, and the rules appropriate for that type of dialogue at any given stage. Then at a certain point in the dialogue, if an arguer makes a move, like asking a question, making an assertion, or putting forward an argument, that arguer's set of commitments is modified according to the commitment rules governing that type of move. It can be modified by the insertion of new statements, or by the deletion of statements already in it. For example, if an arguer makes the assertion that snow is white at some point in the dialogue exchange, then on the basis of his speech act of asserting it, it can be assumed that he is now committed to the truth of the statement that snow is white. Thus the statement 'Snow is white' would be inserted into the arguer's commitment set. If he retracts commitment to a statement, that statement is deleted from his commitment set. The most vexing problem of constructing formal dialogue systems to represent rational argumentation is that of retraction. Much of Walton and Krabbe's (1995) effort to analyze commitment concentrated on this problem. The rules for retraction need to vary according to the type of dialogue the participants are supposed to be engaging in.

Thus real cases of argumentation in which the straw man fallacy is thought to have been committed need to be examined on a case-by-case basis. Suppose one arguer has allegedly distorted or misrepresented the position of the other, in order to unfairly attack the other's argument. How can we judge, by verifiable evidence, that the alleged position does not accurately or fairly represent the commitment set of the arguer whose view was attacked? The answer is that we have to look at the text and context of the discourse in the case. Whatever records we have of the arguer's previous speech acts and arguments in the dialogue are the basis of the evidence. Using this evidence, we can then draw inferences about which statements the arguer can rightly be held to have committed himself to, using the dialogue rules to draw and verify the inferences. This approach works well enough in some cases.

A typical case of the straw man fallacy cited by Walton (1996b:117) concerns a critical discussion about environmental laws that regulate industrial pollution. One party in the discussion, Bob, has taken what could be called a moderate green position. The other party,

Arlene, then argues against Bob's view by saying that he wants to make the earth into the pristine, unspoiled, bucolic place it presumably was before being populated by human beings. Arlene, labeling Bob's view "preservationist", argues that this view is impractical because it is committed to the elimination of private property and industrial manufacturing. Having attributed this extreme preservationist view to Bob, she then goes on to argue for its impracticality, by citing the probable bad consequences of adopting it. She asks the audience to imagine the unemployment and social destruction of private homes that would result if Bob's view were implemented.

The commitment in dialogue approach can be applied to this case provided there is enough evidence from the given text of discourse in the case for us to judge what Bob's stated position really is, or can properly be taken to be. Of course, in the typical kind of case used to illustrate the straw man fallacy in the logic textbooks, little contextual information about the details of the case are presented. The contention that the fallacy has been committed is entirely based on assumptions. In this case, the assumption is that Bob never made any extreme statements that the world should be made into a bucolic place, or put forward any other assertions or arguments that could rightly be described as committing him to a preservationist position. Presumably, if all the details of Bob's past arguments and speech acts relevant to the straw man issue were available for inspection and analysis, it could be determined whether Arlene really committed the straw man fallacy or not.

Another type of case often cited in logic textbooks relates to the *ad verecundiam* fallacy. In this kind of case, an expert's opinion is cited to back up an argument, but his opinion is misquoted or otherwise misrepresented. In the following example, from Wesley Salmon's textbook (1963:64), an arguer for moral relativism supports his argument by claiming that Einstein proved that everything is relative. The problem with this argument is partly that it is not justifiable to cite Einstein as an expert on ethical matters, even though he was an expert in physics. It is also dubious whether Einstein ever really wrote or said anything that can be taken as a commitment to the claim that "everything is relative" in any sense supporting moral relativism.

Whatever one might say about this case, it certainly suggests that appeals to expert opinion often run the danger of committing the straw man fallacy. Expert opinions cited in support of an argument are often misquoted or otherwise distorted to suit an arguer's needs. In many cases of appeals to expert opinion the opinion allegedly expressed by the expert is not even quoted, as in the Einstein case above. Instead it is rendered in a simplified form that omits necessary qualifications that limit its scope (Walton, 1996b:121–123). The actual wording of what the expert said may be extremely important in judging the commitments implied by it. Once again, this textbook example shows that cases of the alleged committing of the straw man fallacy can only be evaluated properly if the textual data of what was said or written is available for inspection and analysis.

As always with the study of actual cases, whether in legal argumentation or everyday conversational discourse, there are hard cases as well as easy cases. Among the hardest cases are philosophical disputes in which one philosopher is interpreting the writings of another philosopher. Sometimes the one is merely trying to interpret or clarify the meaning of some doctrine or view attributed to the other. But it is common for such a philosophical exegesis to shade off into criticism or even attempted refutation. It is not possible to attempt to study hard cases of this sort here, even though they are very common. The reason is that philosophical argumentation is typically of such a high order of subtlety that any real case tends to be lengthy and hard fought. Such cases take us into the area of metaphilosophy.

In his study of Plato's dialogue method, **Richard Robinson (1953)** gained some insight into the process whereby one philosopher can fall into misinterpreting the views of another. **Robinson (1953:2)** warned of five ways in which misinterpretation commonly occurs. The first, which he calls "mosaic interpretation", is "the habit of laying any amount of weight on an isolated text or single sentence, without determining whether it is a passing remark or a settled part of your author's thinking, whether it is made for a special purpose or is intended to be generally valid, and so on". The problem here is to determine how deep a supposed commitment is. Is it just a chance remark, or is it meant by the author to represent an important new insight that is essential to his viewpoint? The second type of misinterpretation is called "misinterpretation by abstraction". **Robinson (1953:2)** describes this form of misinterpretation as follows.

Your author mentions X; and X appears to you to be a case of Y; and on the strength of that you say that your author 'was well aware of Y', or even that he 'explicitly mentions Y'. Because you have abstracted Y from X, you assume that your author did so too. But such an assumption must not be made on general grounds, for no man has ever made or ever will make all the abstractions possible from any one object present to his consciousness.

The third type is called "misinterpretation by inference". In this type of misinterpretation the author says *A* and *A* implies *B*. It is assumed therefore that he meant to assert that *B* is true. **Robinson (1953:2)** pointed out that this conclusion does not necessarily follow, for the author may not have thought that *A* implies *B*. He may not even have been aware of the suggestion that *A* implies *B*, as **Robinson** pointed out (p. 2). The fourth kind of misinterpretation is that used to insinuate the future. **Robinson** described it (p. 3) as the fault of reading into an author's text doctrines that did not become explicit until later. Perhaps they did not become explicit until after the author was long dead. One can see why this kind of misinterpretation is tempting. A commentator may feel that such a process of insinuation of the future is a way of improving what an author said, making it more "relevant", or making what he said appear to be more up-to-date. The fifth kind of misinterpretation is called "going beyond a thinker's last word" (p. 4). This form of misinterpretation is described by **Robinson** as ascribing to an author not only all the steps he took in a certain direction but the next step as well.

The pattern suggested by **Robinson's** classification of the different ways this kind of misinterpretation typically occurs is that the interpreter goes beyond strictly trying to determine what the view of the other party is, based on what he wrote. Instead, he expands the database by bringing in other considerations, like what happened later, or what the author might have thought if he had continued his line of thinking further. Thus the conclusions the interpreter draws by inference are not based on the author's commitments, as drawn from the textual evidence only. Such misrepresentations of an arguer's commitments, therefore, can rightly be classified under the heading of the straw man fallacy, if the distorted view attributed to the author is used to argue against his position. But as noted above, it would take us too far off topic to try to deal with any such hard cases of philosophical argumentation in sufficient detail. It is perhaps for this reason that the logic textbooks tend to stay away from them. The best we can do here is to acknowledge the distinction between hard and easy cases.

9. Examination and cross-examination in trials

The kind of examination dialogue that is most prominent, and that has been best studied, by trial manuals and other literature, is witness examination in a trial. But this instance of examination clearly involves a dialogue with a witness who is present in court to answer

questions. In a case of appeal to expert opinion (the kind typically studied in logic), the proponent of the argument is not present to answer questions or to say what he really meant. The argument critic has to work with the given text of discourse, usually a short example in which an appeal to expert opinion has been used to support an argument. Thus there is a difference here. In examinations of the kind found in law, the dialogue concept is quite prominent. It is a vitally important part of the process of bringing evidence into the trial setting and testing it by questioning.

The settings and rules of trials vary, and it is not possible to make a sweeping classification of argumentation in a trial as conforming to a single type of dialogue. However, [van Koppen and Penrod \(2003:2\)](#) described a fundamental difference between systems of law in European countries by contrasting the inquisitorial with the adversarial system. The basic dialectical framework of each model of dialogue is essentially different. On the adversarial model, the trial is supposed to be a fair contest between roughly equal opponents in which the arguments of one are pitted against those of the other (p. 2). In an inquisitorial system, the trial is conducted through an inquiry in which facts are collected and the outcome is decided by applying the laws to the facts (p. 3). In the inquisitorial system, there is a strong preference for documentary presentation of evidence, as opposed to the predominantly oral presentation of evidence by witnesses in the adversarial system. The adversarial system tends to rely on rules of evidence to decide admissibility of evidence, and to weigh it, whereas the inquisitorial system tends to trust the judge to give weight to evidence in accord with its reliability.

A trial in the Anglo-American system represents quite a complex kind of dialogue ([Walton, 2002, 2005](#)). Before the trial, evidence is collected, supposedly distributed to both sides, and then admitted or not. Preparations are made by all parties, and then during the trial itself, the two sides take turns presenting evidence and arguments during the various stages. Rules govern the process, and a trier (the judge or jury) decides, according to the rules, which side has been successful ([Wigmore, 1931](#)). Thus the structure of the trial is highly complex. In this short space, it is impossible to do justice to the complex workings of an examination within a trial. However, because examination is so prominent in Anglo-American law, some remarks on the subject will throw light on the importance of the subject of this type of dialogue for jurisprudence.

In studying examination dialogue in an Anglo-American trial, a distinction needs to be drawn between the viewpoint of the trier and those of the advocates on each side. The trier evaluates the argumentation that took place in the trial to arrive at a decision on the outcome. From this viewpoint, the process of examination can be seen as an information-seeking type of dialogue, but the trier also has to be a critical thinker who weighs the arguments on both sides. The lawyers on both sides are advocates. Their objective is to win the case, and for this purpose each lawyer requires not only an argumentation strategy, but also an examination strategy for asking the right questions in the right order.

For the purposes of this paper it is instructive to concentrate especially on the examination of expert testimony in trials, in which experts in areas like forensic science, ballistics, medicine, psychology, and handwriting are asked to testify. The expert is expected to give reasons to support her opinion when questioned. In cross-examination, the opposing counsel may challenge those reasons ([Redfield, 1963](#)). The process of examination in a trial typically contains a good deal of critical questioning of the expert testimony that was offered. According to the Frye rule, the expert opinion must be generally accepted within its scientific field. The Frye rule has now been replaced by newer rules in the Federal Rules of Evidence that allow expert opinions even on newly developed scientific finding or methods that may not yet have been generally accepted.

Trial manuals on cross-examination (Wellman, 1936; Redfield, 1963) offer tactical advice to lawyers on how to examine expert witnesses in court. Redfield (1963:130) described a case in which a physician cited a medical textbook to support his opinion, whereupon the cross-examining lawyer quoted a passage from a medical book that contradicted it. The physician replied, “Well, that is one man’s opinion. I could show you plenty of authorities that agree with me”. The examiner then asked, “Who, for instance?” (p. 130). In another case (Wellman, 1936:87–88), the examiner asked the physician to give the name of a medical authority agreeing with his opinion. When the physician cited a particular textbook by title, the examiner continued the dialogue as follows (rephrased from Wellman, 1936:88).

Counsel: (Reaching under the table and producing a copy of the medical book in question), Where is the passage where the author of the book agrees with your opinion?

Physician: (Embarrassed) I can’t find it now. It’s a very thick book.

Counsel: (Holding out the book) But doctor, isn’t this the book you were just examining this morning?

Physician: (Even more embarrassed) I just don’t have time to do it now.

Counsel: We have lots of time. When you find the passage, you can read it aloud to the jury.

Physician: (No answer for three minutes).

This dialogue can be mapped onto the set of critical questions for the argument from expert opinion by citing the backup evidence question and the consistency question. The cross-examiner can ask the expert to back up her stated opinion by producing evidence, or by quoting other experts who supposedly agree with the opinion. These examples show how cross-examination of expert testimony in a trial fits the model of the exetastic type of examination dialogue.

By legal convention, cross-examination is defined (Park et al., 1998:31) as the questioning of a witness by a lawyer other than the lawyer who called the witness to testify. In Anglo-American law, the trial is adversarial in nature. Although legal examination of witness testimony may seem initially like information-seeking dialogue, the attorney who is examining a witness has the ultimate goal of advocacy. The attorney conducting a strategic examination generally knows the answer to the question before asking it. Trial manuals offer many clever strategies to get answers that will damage the credibility of the witness, like finding a contradiction in his testimony. Exetastic dialogue featuring *ad hominem* attacks is common in legal cross-examinations. The following dialogue (Stone, 1995:165) is a good example.

Q: I won’t keep you long Mr. Jackson, you probably don’t enjoy being here, do you?

A: No, I don’t much.

Q: Is it a new experience for you?

A: Yes.

Q: So you’ve never been in court before.

A: Never.

Q: And so you’ve never been in trouble before.

A: No.

At his next moves, the cross-examiner asked a series of questions compelling the witness to admit he had previous convictions (p. 166). This admission, by contradicting the previous testimony,

proved he had to be lying, damaging his credibility very badly. Once such dishonesty has been revealed, according to Stone (1995:166) “the credibility of his evidence will be in shreds”. Such *ad hominem* attacks on credibility are based on assumptions about the character of a witness, not on factual evidence, of a kind that is empirically or scientifically verifiable (Redmayne, 2002). However, it is typical of trials that much of the evidence brought forward is based on witness testimony (Walton, 2002). Even expert scientific evidence in court is based on the credibility of the expert witness. Thus from a legal point of view of evidence arguments attacking credibility of a witness are extremely important.

Dialectical testing of credibility in examination dialogue is rightly admitted as relevant evidence, and can be extremely important in court, because it is a method of testing the reliability of the evidence given by an informant. In some trials, the testimony of just one witness can swing the balance of the weight of evidence in the case from one side to the other. So the exetastic testing dialogue of examination in which witness testimony is evaluated is vitally important in law. In particular, the attack on the credibility of the witness by the kind of *ad hominem* argumentation illustrated above brings out the exetastic nature of cross-examination as a type of dialogue. These two examples demonstrate very well how examination in trials is best classified as a species of peirastic dialogue that often shifts to exetastic dialogue.

10. The characteristics of examination dialogue

In this section, the elements analyzed in the previous sections are brought together in a theory of examination dialogue that defines its central characteristics. Examination dialogue has two general goals. The first goal is the extraction of information. The characteristic of having this goal means that examination should be classified as a species of information-seeking dialogue.⁷ This goal is carried out by two means. One is the asking of questions by the proponent in order to obtain the desired information from the respondent. The other is the exegetical function, used to try to get a clear and coherent account of what the respondent means. The second general goal is the testing of the reliability of the information extracted from the respondent. This testing function, as we have seen in the examples, uses critical argumentation to try to determine if the information that has been elicited in the dialogue exchange is true. To perform this function, the information elicited is tested against the respondent’s other statements or commitments, other known facts in the case, and other information thought to be true.

The carrying out of the testing function typically involves close criticism of a kind that can appear to be quite adversarial. Socratic dialogues and cross-examination in trial are the examples we studied above. The formal analysis of examination dialogue by Dunne et al. (2005) captures the central dialectical core of how this testing function of examination dialogue essentially works. It is a dialogue in which the proponent wins if she justifies her claim that she has found an inconsistency in the previous replies of the respondent. Otherwise the respondent wins. As in Socratic dialogues and cross-examinations in trials, the questioner in this kind of dialogue has to plan a strategy, and can be quite clever in trapping the respondent, who needs to wary. However, this critical part of examination dialogue is not purely quarrelsome, or an attempt to put somebody down. It has a valuable function in the dialogue as a whole.

In the kind of case considered in this project, an examination dialogue begins with some text of discourse in natural language. It could be a paragraph of text containing an argument, for example. The paragraph will normally have been written by an author who can be identified, and

⁷ Dunne et al. (2005:1560) also classify examination dialogue as a species of information-seeking dialogue.

generally something is known about its context. For example, it may have been taken from a book, and the title of the book may be known. This would be the typical kind of case in which an argument is diagrammed in a logic class, for example. In such a case, the proponent is the agent who has put the argument forward. This agent is the author of the passage in question. The respondent in the dialogue is the argument analyst or critic. The analyst will, let's say, use some method of argument diagramming to mark up the argument as an argument. He will identify the premises and the conclusion, look for missing premises, and try to present the structure of the argument in the form of a diagram.

The first part of the examination takes the form of a markup process whereby the analyst tries to reconfigure the given text so that the argument supposedly contained in it is represented by a set of statements. These statements are designated as premises or conclusions in a sequence of argumentation. This process is non-trivial. It is often hard to get agreement between students attempting this process. In many cases, it can be useful to admit of several possible interpretations. This work takes place at the level of exegesis. Then there is a move to the level of criticism. Some premises may be said to be in need of support. The structural link between them and the conclusion may be queried. It may be questioned whether missing premises are very plausible, or can be supported. Various fallacies may come into play. For example, the argument may be criticized as circular, or as having some other kinds of fault associated with a fallacy, like the straw man fallacy. This work takes place at the level of criticism.

Curiously, the criticism level is easier to grasp from the point of view of dialectical theory. The dialogue can be seen as having the form of a critical discussion in which the critic expresses doubt about the argument attributed to the author. The author is the proponent of an argument represented by the given text of discourse. It is an odd type of critical discussion, because generally the author of the text is not present to take part in the dialogue. Her part in the dialogue is fixed by the text. The critic takes the part of the respondent in the critical discussion. His is the only active part in the discussion. Despite this anomaly, it is still possible to see the dialogue as having the form of a critical discussion. It's just that somebody else has to represent the viewpoint of the author. The critic can perform this task. Or third parties can do it. In a logic class, for example, the students might suggest alternative interpretations or defend the author against criticisms. The critic's analysis will be persuasive only to the extent that it can stand up to or deal with these sorts of criticisms by third parties. All in all, a good case can be made for seeing the level of criticism as having the form of argumentation called the 'critical discussion' by van Eemeren and Grootendorst (1984). Argumentation schemes are a very useful tool for structuring what takes place at this level. The critic can be seen as applying a critical discussion to the argumentation in the given text of discourse to probe for weaknesses in the structure of an argument and to ask the critical questions appropriate for a given type of argument.

Examination dialogue is especially important for evaluating cases of appeal to expert opinion as a form of argument. The argumentation scheme for appeal to expert opinion and the matching critical questions are the tools to be used in analyzing and evaluating such cases at the critical level. The argumentation scheme is also very useful at the exegetical level. By applying this form of argument to the given text of discourse in the case, the examiner can look at the textual evidence to see if that form of argument is represented by the cases or not. During this process, judgments about enthymemes can be made. For example, the examiner may identify non-explicit premises that may need to be added to meet the requirements of the form. Examination dialogue is centrally important for analyzing and evaluating appeals to expert opinion, because the shift from the prior dialogue to the examination interval needs to be taken into account in evaluating this form of argumentation. The respondent has the right not only to ask the appropriate critical

questions matching the scheme. He should also have the right to probe deeply into the meaning of what the expert has said or written, in order to try to make sense of it. This process is non-trivial, because experts often use technical language, and what they say is often reported second hand, and not quoted directly.

When we go beyond appeals to expert opinion cases to consider more general cases, there can be all kinds of arguments used. In such cases, an argument may not match any known argumentation scheme. But this problem can be overcome as more argumentation schemes become known. It's often the level of exegesis that proves to be more of a problem. What kind of examination dialogue is it when the analyst makes up an argument diagram representing an exegetical model of what is taken to be the author's argument? This question is a hard one. The skill involved is comparable to the skill used by a computer programmer who takes a body of knowledge and represents it as a knowledge base. To so represent it, the programmer must put it into a format as a set of propositions. One means of doing so is to use a logical format like quantification theory. The propositions are broken down into a subject-predicate format with quantifiers. Logical inference relationships can then be imposed on the set of propositions so that it is known which propositions follow from others. The resulting configuration can then be called a knowledge base. In a comparable way, an argument analyst in a logic class uses the argument diagram to break down the given text into a set of propositions representing the premises and conclusion of the argument supposedly found in the text. But the type of dialogue here is not that of a critical discussion. Its purpose is simply to identify an argument that can later be subjected to a critical discussion. This stage is one of identification and analysis of the argument, prior to the stage of argument evaluation. The purpose of the dialogue is not criticism. What is it then?

The purpose of the dialogue at this level of exegesis could perhaps be called interpretation or representation. Its goal is for the analyst to find the supposed meaning of the author. The analyst is trying to find out what the author is trying to say. This process is similar to abductive inference. There is a given body of data, namely the given text of discourse in the case. The analyst, however, is not trying to give the best explanation of that text. He is trying to give an account of its meaning, or presumed meaning. The evidence to support or refute any such account is the text of discourse itself. It is a closed body of evidence, in the typical case. Thus the evidence may be incomplete, and more than one interpretation of the text might be plausible. Even so, evidence is there. Yet the process of drawing conclusions from the evidence is hypothetical, in the way that abductive inferences typically are. The analyst produces a hypothesis about what he takes the text to mean. Then the evidence of the text can be used to argue that the hypothesis is stronger or weaker, and additional hypotheses can be formulated. The intent of a hypothesis is not to explain the text of discourse however, although it may help to do that. The intent should be to get an identifiable argument out of it that will fairly represent the argumentation that is supposedly contained in it. One test for the adequacy of an exegesis is how well it fits the proponent's argumentation expressed in the given text. The two tools useful here are the argument diagram and the idea of the straw man fallacy. First, a good exegesis should preserve the main line of argumentation that can be extracted from the text by an argument diagram. Second, a good exegesis should fairly represent the arguer's position. To put the point negatively, a representation fails to be adequate if it does not match with the commitments of the proponent, as far as they can be determined from the text. This kind of failure is closely associated with the straw man fallacy.

Thus examination dialogue has two basic levels or parts, and examination as a whole, in the typical run of cases, needs to be seen as based on a characteristic dialectical shift from the first level to the second. At the first level, the exegetical reconstruction of a text needs to be judged on

its own merits, and not just seen as a vehicle for opening up the argument to criticisms. The exegetical reconstruction must be fair and accurate, based on the reproducible textual evidence. In this clarification mode, meaning may be negotiated between the participants, a position taken by conversational analysts in general. To quote from one analysis (Walton and Krabbe, 1995:20), “meanings are changed, developed and intensified during the course of a dialogue”. The second level can then be seen as more openly argumentative. At this level, the analyst plays the role of critic. His job is to attack the argument, or express critical questions that show up its weaknesses and gaps. It is the joining together of these two levels that represents the structure of examination and defines it as a type of dialogue.

It is very encouraging for research on this subject that examination dialogue has been considered by Dunne et al. (2005) as a dialogue structure that is very important for studying argumentation in artificial intelligence and law. This formal analysis only came to my attention as the manuscript for my own paper was in the final stage of preparation for publication, and hence there can be little space for detailed commentary on it here. The direction this work suggests is very encouraging, however. It suggests that formalizing the dialogue structure of examination dialogue is a promising direction for research in the project of developing automated tools for assisting in legal argumentation. For example, it might be very valuable to have an argument assistant that could be used to help a lawyer conduct an examination of a witness in a trial. Another project worth pursuing is to explore how automated examination dialogue tools might be used in multi-agent systems currently used in electronic communications between agents where one agent seeks information from other agents on the Internet (Wooldridge, 2002).

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