ORIGINAL RESEARCH

Disentangling Critical Questions from Argument Schemes

Alfonso Hernández[1]

Abstract

Critical questions have been understood in the framework of argument schemes from their conception. This understanding has influenced the process of evaluating arguments and the development of classifications. This paper argues that relating these two notions is detrimental to research on argument schemes and critical questions, and that it is possible to have critical questions without relying on argument schemes. Two objections are raised against the classical understanding of critical questions based on theoretical and analytical grounds. The theoretical objection presents the assumptions that are embedded in the idea of argument schemes delivering questions to evaluate arguments. The analytical objection, on the other hand, exposes the shortcomings of the theory when critical questions are used to evaluate real-life argumentation. After presenting these criticisms, a new theory of critical questions is sketched. This theory takes into account the dynamics of dialectical discussions to describe the function of critical questions and their implications for evaluating arguments.

Keywords Argument schemes · Critical questions · Evaluation conditions · Formal features

1 Introduction

The study of critical questions has been developed from the notion of argument schemes (Hastings 1962; van Eemeren and Grootendorst 2004; Walton et al. 2008; van Eemeren and Henkemans 2017; Yu and Zenker 2020; Baumtrog 2021). Although there are various definitions of argument schemes, they are generally understood as justification patterns meant to establish the acceptability of a proposition. In turn, critical questions are conceived as sets of questions meant to evaluate the justification patterns and, therefore, critical questions are byproducts of schemes

✉ Alfonso Hernández
   jose.alfonso.lomeli.hernandez@usi.ch

1   Università della Svizzera Italiana, Lugano, Switzerland

with the purpose of evaluating concrete arguments. I refer to this theory as the classical approach to critical questions.

The classical approach to critical questions raises multiple concerns. The first one is the so-called completeness problem (Walton et al. 2008: 31), which refers to the number of questions that are needed to complete the evaluation of an argument. If all the critical questions of a scheme are recalled when evaluating an argument, in principle the evaluation should be complete. However, there is no guarantee that critical questions are enough to evaluate an argument because there is no way to know whether the set of questions was complete or not.

The second problem arises from the first one, which is about the reducibility of critical questions to the premises of schemes (Hinton 2021: 56). A way to secure that the set of critical questions is complete, is by having a question for each premise of the scheme, but in that case, schemes by themselves would suffice to evaluate arguments. If there is a one-to-one relationship between critical questions and the premises of a scheme, expressing the premises as interrogative sentences would be enough to evaluate arguments and, thus, there would be no need for having critical questions. From this perspective, evaluating an argument means checking whether it matches its scheme adequately or not, and the role of questions is reduced to an identification procedure.

An alternative position is that schemes do not suffice to evaluate arguments by themselves because a single premise might give rise to various critical questions that need to be specified to bring a meaningful evaluation (van Eemeren 2017: 18, in the footnotes). Although the specification process of critical questions is paradoxically unspecified, it is acknowledged that questions can be included in the list by attending to the context where the argumentation takes place (van Eemeren 2017: 24). However, the need to supplement critical questions with elements that are independent from the schemes defies their problem-validity[1] as sources of critical questions. The acknowledgement of these three problems raises concerns about the nature of critical questions, and the accuracy of the available theories to account for real-life practices where questions are used to evaluate argumentation.

The research question addressed in this paper is whether critical questions should depend on argument schemes or not. Traditionally, the default assumption is that critical questions go hand in hand with argument schemes, but the problems previously described make it necessary to revise this assumption. In this paper I defend that critical questions should not depend on argument schemes. To do so, two objections against the classical approach are presented. The first objection is theoretical, whereas the second one is analytical. After presenting these objections, I will sketch a theory of critical questions without relying on argument schemes. This alternative

---

[1] A model is problem-valid if it can perform the task for which it was developed. The notion was introduced by van Eemeren and Grootendorst as a criterion to evaluate the appropriateness of the discussion rules of a critical discussion (2004: 16, 22). In their case, the discussion rules are problem-valid because they are conductive to resolve a difference of opinion on the merits. In this paper, I talk about the problem-validity of argument schemes to refer to their capacity to deliver critical questions to evaluate arguments.

theory considers what questioning can do for evaluating arguments in a dialectical framework.

The structure of this paper is as follows. Section 2 presents the theoretical tensions between argument schemes and critical questions. It is explained that each notion puts unnecessary constraints on the other because they have different purposes. Section 3 unfolds the analytical challenges encountered when using critical questions according to the classical approach. A concrete example is used to show the inability of the standard theory to describe or reproduce the argumentative moves performed by arguers. Section 4 outlines a theory of critical questions that relies on the argumentative moves performed by antagonists in question-and-answer practices. Finally, Sect. 5 presents future lines of research on critical questions.

2 Theoretical Tensions Between Argument Schemes and Critical Questions

The notion of argument scheme is rather problematic because there is no clear understanding of it. Leaving aside its historical background that goes back to Aristotle, schemes can have different meanings depending on the theoretical assumptions you make. Schemes can refer to linguistic or inferential structures, sources of argumentation, computational relations between propositions, and even guidelines for corpus annotation. However, the two theories that have developed this notion more deeply are pragma-dialectics and the informal logic movement.

In pragma-dialectics, schemes represent a kind of relationship between premises and a standpoint to promote its acceptability (van Eemeren and Grootendorst 2004: 4). Although this description is highly metaphorical—because the only relationships between premises and standpoints are justification and opposition—in pragma-dialectics schemes depict linguistic patterns that emerge when people justify a standpoint. According to the theory, depending on the linguistic features of an argument, arguers will bring the discussion into a specific dialectical route to evaluate the merits of the argumentation. Although emphasis is put on the linguistic features of arguments, the theory remains normative because participants must display specific linguistic behaviors to perform the evaluation of arguments. Once the protagonist provides justification for a standpoint, the antagonist raises critical questions to test the acceptability of the standpoint in view of the semantic implications contained in the argumentation.

In the informal logic movement, schemes are taken as inferential structures that represent common types of arguments (Walton et al. 2008: 1), or put differently, as formal representations of stereotypical patterns of reasoning (Walton and Reed 2003: 195). Although these definitions give the impression that schemes are meant to capture frequencies in argumentation, as if untypical arguments were flawed, the work of Walton and others make clear that they have a normative ambition when developing schemes, because their aim is to capture epistemically sound patterns of reasoning. From this perspective, there might be correct patterns of reasoning even if nobody employs them. Furthermore, it is possible to know that a reasoning pattern

is sound because its evaluation conditions are specified in terms of critical questions that come with the scheme.

The notion of critical questions is not as old as the notion of argument scheme. The first one to explicitly use it was Hastings (1962). Interestingly, he never referred to schemes, but he proposed a classification of arguments characterized by definitions, examples, and Toulmin's diagrams to analyze the examples. In his account, critical questions are used as evaluation devices based on the features of arguments. After Hastings, the idea of critical questions was picked-up in argumentation studies as an alternative criterion to logical validity.[2] The advantage of critical questions was that they made justice to a wide variety of inferences that did not have the ambition of being deductively valid. In this new perspective of argument evaluation, inferences were captured by argument schemes while critical questions evaluated those inferences. Section 4 discusses the influence of logical validity on the classical understanding of critical questions, but for the time being, it is enough to realize that critical questions were linked to argument schemes without nobody questioning it. Even when there are many approaches to argument schemes that do not include critical questions (e.gr. Aristotle 1926, 1960; Perelman and Olbrechts-Tyteca 1969; Wagemans 2016; Rigotti and Greco 2019), there is no account of critical questions that does not depend on schemes (Walton et al. 2008; van Eemeren and Snoeck Henkemans 2017; Yu and Zenker 2020; Baumtrog 2021).

Since critical questions are meant to guarantee the quality of arguments, their main function is to identify bad arguments. If a single question is answered unsatisfactorily during the question-and-answer process, the argument under evaluation is regarded as unacceptable[3] (van Eemeren and Snoeck Henkemans 2017: 117, Walton et al. 2008: 3, 9, 15). Consequently, the evaluation given by critical questions is qualitative, that is, it tells a property of arguments, being either acceptable or unacceptable. This qualitative feature of the evaluation is shared with logic and rhetoric, since logic qualifies arguments as valid or invalid, and rhetoric as persuasive or not persuasive. Even if these three paradigms appeal to different criteria, their evaluation is qualitative because they are concerned with establishing properties of arguments: (un)acceptable, (in)valid, or (not) persuasive.

Both pragma-dialectics and the work of Walton adopted the insights of Hastings in their theories, and they framed the general understanding of argument schemes and critical questions. Despite the theoretical differences of these two approaches, they are rather similar when it comes to argument evaluation because both theories

---

[2] The notion of logical validity lost appeal among argumentation theorists because axioms of classical logic ($\alpha \rightarrow \alpha$, $\bot \rightarrow \alpha$, $\alpha \rightarrow \top$) render valid intuitively flawed arguments. Later, the development of various logical systems (first order, second order, modal logic, etc.) brought more concerns because an argument could be valid in a specific system, but invalid in another system. This not only gave uncertainty about the quality of concrete arguments, but it raised the general question of which logical system was appropriate to evaluate argumentation. Ultimately, logic remained as an evaluation criterion, but mostly as a consistency check-up for non-deductive argumentation, and non-monotonic logic became the standard system for evaluating deductive arguments.

[3] Failing a critical question makes arguments unacceptable, but this does not imply that a discussion is necessarily over. The discussion can continue if participants advance new arguments to justify the standpoint.

share the following assumptions, which can be taken as the classical approach to critical questions:

a) Schemes are abstract representations of concrete arguments.
b) Schemes have an evaluative function regarding concrete arguments.
c) Each scheme comes with sets of critical questions to perform the evaluation.
d) Critical questions capture the relevant evaluation conditions of a type of argument.
e) It is not possible to have critical questions without argument schemes.

In what follows, I will challenge assumptions (b) to (d) by explaining that they are not tenable without running into theoretical predicaments. For this purpose, I will only assume (a) to develop my analysis. If argument schemes are abstract representation of concrete arguments, their main function is modeling concrete instances of arguments. Therefore, schemes stand as *types* whereas concrete arguments stand as *tokens*. Since all the features of a type must be present in a token, the identity of an argument depends on which of its features are deemed essential. In other words, for an argument (token) to be an argument from authority (type α) and not an argument from position to know (type β), the token must have all the features of α and not β.[4] Therefore, the entire business of making argument schemes boils down to specifying the features of each argument type in the classification. For example, Walton et al. (2008: 14) describe the scheme 'Argument from expert opinion' in the following way:

Major premise: Source E is an expert in subject domain S containing proposition A.
Minor premise: E asserts that proposition A (in domain S) is true (false).
Conclusion: A may plausibly be taken to be true (false).

In this example, the premises and the conclusion are the features of the scheme. Thus, any real-life argument having those features must necessary be considered a token of that type. There are two things to notice here. The first one is that token-arguments always have more features than type-schemes. Some of those features might be deemed irrelevant, but more often than not, those additional features are important within the context of a discussion, and such features are not captured in the scheme itself. For example, someone could advance the following argument "The doctor affirmed that the medical intervention was necessary *before* becoming part of the hospital board."[5] This argument contains all the features of an argument from an expert opinion, and therefore, it must be regarded as its token, but it also

---

[4] The internal problems of classifications emerge from the relation between types and tokens. Most often than not, some tokens can be included in different categories of the classification, violating the principle of mutual exclusivity. In taxonomy-oriented classifications, there is the additional problem of classifications not being exhaustive.

[5] The full argument is "The medical intervention is necessary because the doctor said so, and the recommendation was made before the doctor becoming part of the hospital board." The remark about the moment of the affirmation is to address a possible conflict of interests between the expertise of the doctor and its managerial role in the hospital.

contains a feature that it would be crucial in the discussion, even if it is not captured by the scheme (more on this below).

The second point to notice is that argument schemes do not have an evaluative function in themselves—assumption (b) of the classical approach. Schemes can be formally described without necessarily committing to the evaluation of arguments (for example Aristotle 1960, and Wagemans 2016, and Rigotti and Greco 2019). In fact, the connection between schemes and evaluation is rather strange considering that, in antiquity, schemes were originally conceived as devices to produce argumentation (Rubinelli 2009). The link between schemes and evaluation was a side effect of rejecting the notion of validity as an evaluative criterion during the *renaissance* of argumentation in the twentieth century (Perelman and Olbrechts-Tyteca 1969; Toulmin 1958). This shift in the understanding of schemes was not innocuous though, because two aspects of argumentation got mixed: the specification of formal features of argument schemes, and the evaluation conditions of concrete arguments.

The mingling between schemes and critical questions does precisely that, trying to capture the formal aspects of an argument together with its evaluation conditions. Since schemes are conceived for evaluating purposes, each of them necessarily comes with a set of critical questions to perform the assessment of arguments (Walton et al. 2008: 3–6)—assumption (c) of the classical approach. To understand better this point, it is worth analyzing the critical questions of the scheme previously presented.

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?

According to the classical approach, these questions would be enough to assess the quality of any token-argument belonging to the scheme from expert opinion. Under close analysis, it is seen that questions 1, 2, and 4 relate to the major premise of the scheme, while question 3 relates to the minor premise. In theory, critical questions relate to the premises of a scheme to make sure the relevant conditions specified in the premise are satisfied correctly, otherwise, the argumentation would be flawed. However, the status of questions 5 and 6 is theoretically unjustified because the questions make no reference whatsoever to the scheme. Moreover, the conditions they aim to evaluate make no sense within the framework of argument schemes. Question 5 checks whether additional arguments from expert opinion are consistent with each other, but this has nothing to do with the formal features of an argument. Question 6 is incoherent with the scheme itself because it asks for the evidence on which the claim is made. Yet, if the participants in the discussion were able to assess the evidence for the claim by themselves, there would be no need to appeal for an expert opinion, because participants would have the necessary expertise to assess the evidence by themselves, and therefore, the expert appeal would be useless.

If questions like 5 and 6 are deemed relevant for the evaluation of arguments, this would be enough to raise serious concerns about the coherence of the classical

approach to critical questions because there are elements in the evaluation that have nothing to do with the scheme. The same criticism can be raised against many other schemes,[6] but there is a further problem that concerns the relationship between critical questions and the premises of schemes.

Since the formal features of schemes (premises) are related to the evaluating conditions of arguments (critical questions), there must be a relationship between them. There is no problem if various questions relate to one premise because it means that the same premise needs to be checked for different issues, but there cannot be a question without a premise because it would mean that the argument is evaluated according to features that it does not possess. From this perspective, every time a concrete argument requires the addition of a specific question to complete its evaluation, a premise must be added to the scheme.

For instance, in the example of the doctor advising a medical intervention before becoming part of the hospital board, a relevant point for the evaluation is the existence of conflicts of interests. Thus, it would be necessary to add a critical question to check for this issue and, accordingly, a new premise would have to be added to the scheme to maintain the correspondence between premises and questions.

However, the new premise necessarily brings about a new scheme in the classification because argument types are distinguished form each other by their formal features, even if it is a subtype. Therefore, the dependency between formal features and evaluating conditions is reciprocal and ultimately impacts the classification process. The interplay between these two aspects not only results in having multiple versions of the same scheme (Walton et al. 2008: pp. 14–15, 19–20, 56–58, 126, etc.), but also ad hoc schemes that result from abstracting specific arguments. Such schemes are ad hoc because their evaluation conditions and formal features are tailored to fit a concrete argument under analysis, for example, retroductive scheme for identifying an agent from a past action (p. 331), argument from distress (p. 334), argument from bias (p. 338), etc.

Eventually, the problem is that all the relevant conditions that make an argument flawed cannot be captured—assumption (d) of the classical approach. As Yu and Zenker notice (2020: 475) it is doubtful that all the exceptions that render a premise unacceptable can be listed. In the example of expert opinion, there could be endless conditions that might become relevant, for example, whether the expert was in possession of their mental faculties when the standpoint was asserted, whether it was said as a joke, etc. This problem is referred as the completeness problem because the evaluation of an argument is not complete even if all the formal features of an argument were checked. This problem cannot be solved by leaving up to arguers to decide whether the evaluation is complete or not because the classical approach to critical questions is supposed to determine whether arguments are good or bad in view of their formal features. If the evaluation cannot say whether the features of an argument make it acceptable or not, the evaluation remains incomplete, no matter how arguers feel about the evaluation process.

---

[6] Walton et al. 2008: Argument from analogy CQ4 p. 62, Argument from a verbal classification CQ2 p. 68, Argument from negative consequences CQ3 p. 102, Argument from cause to effect CQ3 p. 169, etc.

A solution to the completeness problem is including questions that have nothing to do with the formal features of schemes. Such questions might refer to other arguments, to the legitimate uses of an argument in a discussion, etc. In principle, there is nothing wrong with appealing to such points in the evaluation of an argument, in fact, it might even be necessary to do so. The problem stands only for the classical approach to critical questions because it implies that there are elements needed in the evaluation of arguments that go beyond their formal structure. If this is the case, the problem-validity of schemes for evaluating arguments becomes compromised since they cannot perform the task they are supposed to do.

The assumptions of the classical approach to critical questions give rise to the theoretical problems discussed so far. The central assumption is that schemes have an evaluative purpose. Although this is not necessarily the case because the formal features of arguments can be described without assuming an evaluative stance, by adopting an evaluative aim, the classical approach acquires the rest of the assumptions: that each scheme comes with critical questions, and that these capture the relevant evaluation conditions of arguments. In this way, the formal features of schemes (types) get mixed with the evaluation conditions of arguments (tokens). As a result, classifications get spoiled by the interplay between premises and questions, and still the sets of critical questions remain incomplete because of the unfeasibility of specifying all the relevant conditions that might render an argument unacceptable. The only assumption that was not contested here was (e) "it is not possible to have critical questions without argument schemes", but I will address it in Sect. 4.

The criticisms presented in this section are not entirely new. Many of them have been pointed out by different scholars, including Walton et al. (2008: 30–34). Nonetheless, the implications of these problems have not been pondered seriously. Since the evaluation of arguments is a cornerstone in argumentation theory, it is not sensible to turn a blind eye to the shortcomings of critical questions, the main evaluation tool we have in argumentation studies so far.[7] If these problems are to be solved without radically changing our understanding of critical questions, the first step is having a clear theory of argument schemes. Without this, it seems naïve to assign to it the complexities of argument evaluation. This problem will not be solved by having a new classification of arguments, but by having a clear criterion to choose from all the available classifications (Aristotle 1960; Hastings 1962; Perelman and Olbrechts-Tyteca 1969; Rigotti and Greco 2019; van Eemeren and Grootendorst 2004; Wagemans 2016; Walton et al. 2008, etc.) Without having a clear answer to which

---

[7] Various criteria for evaluating arguments have been discussed in argumentation theory. Govier (2014: 87) proposes acceptability, relevance, and good grounds as the basic conditions of good arguments. Johnson (2000: 189) suggests that arguments should be acceptable, true, relevant, and sufficient –features to be contested in the so-called dialectical tire. However, all these criteria stand as intuitive features of good arguments, but there is no systematized way to tell whether a concrete argument actually satisfies each criterion or not. More recently, Hinton (2021:167) has developed an evaluation procedure that focuses on three levels of argumentation: process, reasoning, and language. However, the assessment of the inferential structure of arguments is rather metaphorical (the strength of the lever), and its critical questions simply check for the truth of premises, their relevance, and the sufficiency of arguments, which seems a return to the starting point.

argument scheme theory is most adequate, research on critical questions would be condemned to stagnation because the normative standards are set in advance by the classification one is committed to.

For my part, I take distance from argument schemes. In my opinion, schemes should be used only as tools for understanding arguments, instead of evaluating them. Schemes would do a great service by allowing participants to understand the arguments that are advanced in a discussion, which is not a minor thing in the process of rational persuasion (Dutilh Novaes 2020: 231). If schemes were to have sets of questions, these should be used as instruments to recognize the type of argumentation, and not as evaluation devices. Before I sketch a different approach to critical questions, a last criticism must be addressed to the classical approach to show that its limitations are not theoretical nuances, but they have significant implications in practice.

The criticisms exposed in this section were developed relying on the work of Walton et al. (2008). However, the same points can be made about pragma-dialectics because both theories commit to the same assumptions when it comes about schemes and critical questions. If some criticisms seem not to apply to pragma-dialectics (for example, having ad hoc schemes in the classification), it is because the theory of schemes was never fully developed. To show the pertinence of my criticism to both theories, I will adopt the pragma-dialectical theory in the rest of my *exposé*.

3 Analytical and Empirical Challenges for the Classical Approach to Critical Questions

It is worth investigating how the classical approach to critical questions works in concrete applications. In theory, once you have identified the appropriate scheme of an argument, its critical questions can be used to evaluate it. However, the sets of questions cannot be used directly in the evaluation because there is an intermediate step between the abstract questions and their concrete versions that are needed in the evaluation process. This intermediate step is necessary because there is a gap between the abstract sets of critical questions (types) and their concrete versions (tokens) that needs to be bridged. To do so, the argument at hand must be analyzed to instantiate the concrete questions that will serve in the evaluation. Figure 1 illustrates this process schematically.

In the present section, the process of going from type to token questions will be discussed. To do so, a concrete example is used to perform an analysis. The example comes from a press conference given by G.W. Bush to address the invasion of Iraq on March 6, 2003. This press conference had a lot of attention because it was held at a time that the invasion seemed imminent, but the official decision had not been made public yet. Back then, the controversy was whether the invasion was an issue of public safety or not. The position of the U.S. government was that invading Iraq would help to stop terrorism, while the opposition denied that Iraq represented a threat, and claimed that the invasion was motivated instead by economic interests. This was the general context of the conference at the time. In the opening remarks
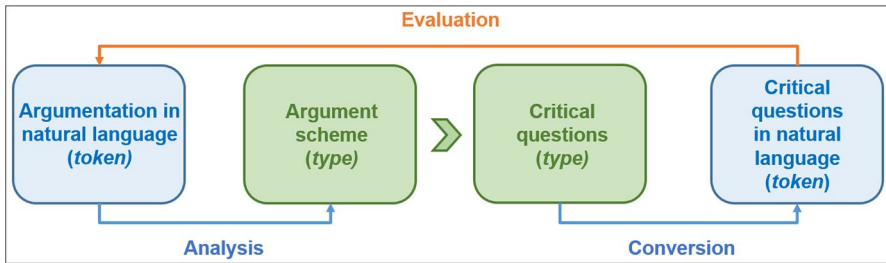
Fig. 1 Process to go from a concrete argument to the critical questions to evaluate it

of the press conference, Bush's argumentation was rather complex because various issues were covered (Hernández 2021), but it can be summarized as follows:

> 1 The U.S. and its allies should invade Iraq.
> 1.1a Iraq is a threat to the U.S. and its allies.
> 1.1b Not invading Iraq could result in worse consequences than the ones on September 11th.
> 1.1c Invading Iraq will achieve peace in the U.S. and the Middle East.

For reasons of space, Bush's argumentation cannot be fully presented here, but it is important to say that most of his argumentation was spent in justifying premise 1.1a. This is no coincidence because the controversy depended on showing that Iraq was actually a threat—something that was never proven anyway. Such reduced version of the argument is still useful for our analysis. According to pragma-dialectics, this argument would be an instance of pragmatic argumentation (van Eemeren 2017: 23). A pragmatic argument is characterized by the standpoint promoting an action, and the argument justifies it by pointing out that the action leads to achieving a desirable goal or avoids an undesirable result.

In Bush's example, the action promoted in the standpoint was the invasion of Iraq. For the argumentation, the invasion is purportedly to achieve two outcomes: on the one hand, preventing terrorist attack from happening, and on the other hand, to reach peace in the U.S. and the Middle East. The function of premise 1.1a was to describe the state of affairs that called for action in the first place. As can be seen, the example falls in the category of pragmatic argumentation because it fulfils all the characteristics of the scheme. Accordingly, the following critical questions are applicable to it (van Eemeren 2017: 23):

> A) Does action X indeed lead to result Y?
> B) Is result Y really positive (i.e. desirable)/negative (i.e. undesirable)?
> C) Does action X not have any major negative (i.e. undesirable)/positive (i.e. desirable) side-effects?

By substituting the variables of the type-questions with the contents of the example, it is possible to arrive at the token-questions needed for its evaluation. Because of the semantics of premises and the formulations of the type-questions, frequently, token-questions result slightly different from the originals to make them more

attuned with natural language. However, their propositional content must remain unaltered. For the analysis of Bush's argumentation, the substitution process delivers the following token-questions:

    a) Will attacks like 9/11 happen if Iraq is not invaded?
    a') Will peace be achieved in the US and the Middle East by invading Iraq?
    b) Are situations like 9/11 undesirable?
    b') Is peace desirable in the US and the Middle East?
    c) Are there any side effects that make the invasion of Iraq not worth it?

According to the theory, the argument is ready for evaluation at this point. Depending on how those questions are answered the argument can be regarded as acceptable or not. However, there are several points to notice. First of all, nobody ever explained what counts as an appropriate answer to critical questions. Even if this matter can be intuitive most of the time, there are many cases where it is not clear what would count as an appropriate answer. Take for instance question (c) what would count as a major side effect that makes the invasion not worth it? It would be difficult to answer such a question in the context of the discussion without begging the issue to a certain extent. Furthermore, under close analysis, the dialectical function of this question is to look for possible counterarguments to the original position. However, such a move does not make sense from the perspective of the classical approach to critical questions because it implies that an argument is evaluated in view of other arguments instead of its formal features, but I will not elaborate further on this point.

Let us shift our attention now to questions (b) and (b'). To begin with, it should be said that type-question (B) gave two token-questions because Bush offered two different reasons for invading Iraq, and accordingly, the substitution process delivered two different questions for the evaluation process. The point to notice here concerns the content of the questions. Although these questions are semantically correct, they are pragmatically irrelevant. This is because terrorist attacks are probably undesirable for everyone engaged in that discussion and everyone can be expected to desire peace. The substitution process delivers irrelevant questions because participants need to share a common ground for having a discussion, and the information requested in the questions is already contained in the common ground, either because of the context where the discussion takes place or due to common agreement among the participants (van Eemeren 2017: 24). However, it should be recognized that the substitution process will always deliver some irrelevant question because of the common ground. This would not be a problem by itself if the remaining questions sufficed to complete the evaluation of the argument, but if not, then it would be a serious flaw to the classical approach.

The last questions to analyze are (a) and (a'). In this case, the questions are pragmatically relevant, and depending on their answers a judgment could be passed on the argument. It can be seen than the questions refer to premises 1.1b and 1.1c respectively, and that the questions stand as requests to confirm the truthfulness of the premises. So far, these are the questions better suited to evaluate Bush's argumentation, but the evaluation process is far from being regarded as successful. Firstly, because three out of five questions were not useful for the evaluation, and

secondly, because premise 1.1a of Bush argumentation went untouched through the substitution process. Ironically, the most argued premise in the example was not addressed by any of the critical questions delivered in the evaluation process.

From the pragma-dialectical perspective, the gap in the evaluation would be filled by specifying a critical question that addresses whatever issue that needs to be addressed. The addition of the missing questions is a response to the need of providing a complete evaluation of arguments. In this regard, the supplementation of the missing questions should be made by attending to context, logical and pragmatic inferences, background information, and the institutional requirements if applicable (van Eemeren 2017: 18 in the footnotes, van Eemeren 2018: 48–49). Put in other words, critical questions can be supplemented by considering anything relevant for the evaluation, but the scheme. This point might not seem problematic because the supplementation of questions took place *after* exhausting the critical questions of the scheme. But the point is that all questions could have been obtained directly by attending to whatever thing is deemed relevant in the discussion. In the example of Bush's argumentation, a more comprehensive evaluation could have been obtained by simply considering the concerns of the community involved in the discussion.

Another point to consider is the empirical reality of critical questions, that is, the argumentative practices where people employ questions to evaluate argumentation. Examples of these practices are cross-examination in courtrooms, question-and-answer sessions in press conferences, etc. By looking at how questions are used in real-life settings, it becomes clear that the classical approach to critical questions falls short of argumentative reality because the theory is not able to describe the argumentative behavior of participants or to improve the practices of asking questions to evaluate arguments. The lagging in the theory is not only due to lack of research, but mainly because of misplacement of its assumptions. To illustrate the kind of questioning that takes place in real-life practices, let us look at a question raised in Bush's press conference:

> Ann: If you decide to go ahead with military action, there are inspectors on the ground in Baghdad. Will you give them time to leave the country, or the humanitarian workers on the ground or the journalists? Will you be able to do that, and still mount an effective attack on Iraq? (Bush 2003)

This intervention, albeit being clearly argumentative, cannot be explained nor reproduced by the classical approach of critical questions. The conditional sentence that prefaces the questioning sequence cannot be accounted, and none of the questions can be retrieved in an obvious way following the procedure of the classical approach. More importantly, it cannot be explained why all the elements put together pose a challenge. Analyzing the intervention intuitively, it could be said that the questioning presents a dilemma between launching an effective military intervention, and protecting the lives of inspectors, journalists, and humanitarian workers.[8] Depending on which option is chosen, journalists could make different

---

[8] Someone might interpret the intervention as pondering the negative consequences of the war, which corresponds to critical question (c) of the scheme. But such interpretation loses the point of the example because it ignores the conditional sentence, and it makes the concern for inspectors, humanitarian workers, etc. look awkward, because the human costs of war include people in general, not only them.

criticisms to bring the discussion into specific directions. This is only a possible interpretation, but ideally, a theory of critical questions should be able to tell what the intervention does to the discussion and why.

As shown in this section, the difficulties of the classical approach are not limited to theoretical concerns. The analytical limitations of the approach make it difficult to arrive at questions that are useful to evaluate arguments. Since the sets of critical questions need to be substituted by their concrete versions, the substitution process does not guarantee that the outcome will be relevant for having a proper evaluation. Besides that, the empirical reality of critical questions exposes that the analytical tools of the theory fall short when describing the argumentative exchanges of arguers, let alone improving the questioning practices. This is why a new understanding of critical questions is needed.

4 Critical Questions Without Argument Schemes

Much has been done by those who developed the classical approach to critical questions, but if the previous analyses are correct, it is time for a change. For reasons of space, I cannot deliver a full-fledged theory here, but it would go against good etiquette to reject the classical approach without having anything to offer instead. In this section, the basic elements for having a new understanding of critical questions are presented. This approach is characterized by two components: the strength of arguments and the notion of epistemic responsibility. Before I explain each of these elements, a remark on the evaluation of arguments is necessary.

A complete evaluation of arguments should consider the process and context where they belong to determine whether arguments were delivered appropriately or not (van Eemeren and Grootendorst 2004: 62–68, van Eemeren 2010: 130–131), the consistency of propositions to address pragmatic or logical contradictions (van Eemeren and Grootendorst 2004: 132), the adequacy of their predicates and relationships to make sure arguments are semantically correct (Hinton 2021:178–194), and the justification that arguments provide to standpoints. The remarks made in this section pertain only to the last point, and it is presupposed that the other aspects have been sorted out. The problem at hand here is whether the justification of an argument to its standpoint is sufficient to resolve a discussion or not.

The first feature of this approach concerns the type of evaluation that it assumes. Instead of giving a qualitative evaluation, it offers a scalar evaluation based on the strength of arguments. Arguments are said to be stronger or weaker than other arguments, or that they are strong to a certain extent depending on the criticisms they receive (Marraud 2015), but it does not make sense to say that arguments are good or bad. In this way, an argument that handles inappropriately three critical questions

---

Footnote 8 (continued)

Furthermore, such interpretation is restricted to the second question of the intervention and, therefore, it should be explained why the journalist performs other moves if her intentions are satisfied by the second question alone.

would be weaker than an argument that fails at one, but in principle arguments are never flawless.

The strength of arguments is measured in view of the difficulties they encounter in the questioning process. Questions handled successfully cannot be considered in the evaluation because an epistemically deficient questioner might have endless doubts that are handled successfully, but that never arrive at the heart of the matter.[9] Inversely, shortcomings encountered in the questioning process give insights of the resilience of arguments because flaws provide concrete evidence of their weaknesses, even if the flaws were exposed by the worst equipped arguer. For this reason, arguments are not rejected if critical questions are handled inadequately, in fact, shortcomings are what makes the evaluation possible.

In the classical approach, failing a critical question is enough to reject arguments because its goal is to tell whether arguments are good or bad. This is so because the approach was developed against the backdrop of logical validity, and many of its assumptions were superimposed on critical questions. A failed question in the classical approach is like a *non sequitur* in logic. As soon as the evaluation criterion is satisfied, the properties of arguments are established. But if logic is to be the ultimate criterion to evaluate arguments, better to embrace it fully, otherwise, better to give up its assumptions without guilt.

In the present proposal, a qualitative evaluation of arguments is deliberately avoided because the point is not to establish the properties of arguments, but to establish their relationship with other (counter)arguments. Depending on those relationships, standpoints are accepted in a discussion or not. Therefore, standpoints' acceptability is a function of argumentative ecosystems where multiple arguments interplay with each other.

If a standpoint is accepted in view of a single argument, it means that no critical evaluation took place. This might happen, for example, in educative settings where arguments are used to transmit knowledge. In such contexts, the properties of arguments become relevant because the point is to attain understanding in the addressee, not resolving a discussion. In fact, a proper evaluation cannot take place because discussants are not epistemically ready to advance criticisms. But as soon as discussants exchange criticisms, arguments are evaluated in view of their relative strength to other arguments.

The second feature of this approach is the notion of epistemic responsibility. By this I mean the responsibility of discussants for increasing or preserving the epistemic values in a discussion through a sequence of multiple argumentative moves. To understand this notion, it must be remembered that questioning processes take place in dialectical settings where the burden of proof switches between discussants depending on who performed the last argumentative move. In this context, the burden of proof constantly switches between participants, but the epistemic responsibility resides in one of them for a period that lasts various argumentative moves.

---

[9] It does not imply that questions answered appropriately are unimportant. This would mean that arguments are compelling or persuasive, but that is a different issue not addressed here.

When an argumentative situation emerges, both the burden of proof and the epistemic responsibility resides in the party advancing the argument. But as soon as the justification is complete, the epistemic responsibility is on the antagonist even if the burden of proof goes back to the protagonist, for example, when having to answer a question. Put it differently, when the antagonist starts evaluating an argument by raising questions, she is epistemically responsible for managing her doubt throughout the entire questioning process.

The epistemic values are the features that make discussions a reasonable way to resolve differences of opinion within a certain community. For example, truth, clarity, desirability, impartiality, procedural correctness, etc. Accordingly, when antagonists raise questions to evaluate an argument, their epistemic responsibility consists in preserving those values with the help or despite the answers obtained in the questioning process.

Since epistemic values vary among communities, arguments can be evaluated differently depending on the community where they belong. Some questions might occur in a community, but not another because of the epistemic values they prioritize. In a stricter community, closed formulated questions (yes/no) might be better suited to achieve their goals, while open questions (what, when, how, etc.) can be more appropriate in other communities. Consequently, the epistemic values of communities shape their questioning process, favoring certain questions-and-answers over others.

Ultimately, it is up to communities to decide what counts as an appropriate justification or opposition to an argument. This relativistic stance is not aimed at deflating justification, but at making it operational. As Cantalamessa (2021) puts it "justification is a matter of what communities mutually recognize as authoritative, as bearing on what they and their peers should believe, say or do." This position does not guarantee epistemic improvement within communities, but it guarantees that reasonableness standards are negotiable by its members. However, once certain standards are set, they apply as strictly as any other.

In such a context, how might critical questions look like? There are three possible scenarios when the questioner is dealing with its epistemic responsibility. The antagonist and protagonist engage in question–answer exchanges until: (1) doubt subdues in the antagonist, or (2) doubt persists in the antagonist regardless of the answers of the protagonist, or (3) the answers of the protagonist do not satisfy the antagonist and doubts become objections.

Case (1) describes a situation where the answers of the protagonist manage to dispel antagonist' doubts for accepting the standpoint under discussion. The epistemic responsibility of the antagonist is exhausted by asking all the questions that she might have and by pondering the appropriateness of the answers to address her concerns. In this situation, the questions of the antagonist are merely informative because her hesitance to accept a standpoint is resolved by providing the required information. An example of such discussions is when doctors convince patients about undertaking a treatment by addressing all the concerns they have.

Case (2) describes an argumentative impasse where the discussion cannot be resolved by participants alone. This might happen because discussants lack the necessary common ground to sustain a discussion, for example, when knowledge

disparities prevent people from understanding each other's questions and answers. This situation might also happen if the issue under discussion is not meant to be resolved by discussants themselves, as it happens in cross-examination processes during legal proceedings, where judges resolve the issue under discussion. In such cases, an external party is meant to establish when the epistemic responsibility of discussants is fulfilled.

Case (3) describes a situation where the questions of the antagonist expose a shortcoming in the argument in view of the answers of the protagonist. Once a shortcoming is found, the antagonist is still obliged to spell out the concern in the form of a counterargument. Only then, the epistemic responsibility of the antagonist is completed, and then it goes back to the protagonist together with the burden of proof. Critical questions take place only in situations like (3). This means that critical questions are questions that enable the antagonist to come up with counterarguments to the protagonist's position, and therefore, critical questions are managed entirely by the antagonist. Many real-life discussions fall within this scenario, like academic debates, interpersonal discussions, political interviews, press conferences, etc.

If critical questions are those that give rise to counterarguments, it means that they are not established a priori but a posteriori, and therefore, the propositional content of questions cannot determine whether they are critical or not. What determines the criticality of questions is the dynamics of the discussion, which is coherent with empirical reality because a question might be critical in one context, but not in others. It goes without saying that the propositional content does play a role in the discussion, but it cannot determine what counts as critical. At the end, the virtuosity of the questioner is what brings criticality into the discussion by the questions that are raised, and the counterarguments that are extracted from the questions-answers interplay. By virtuosity of a questioner, I refer to qualities such as open-mindedness, precision, respect, creativity, non-bias, etc. (Gascón 2016: 446).

One implication of my approach is that critical questions turn out to be *topoi* in the ancient sense because they are meant to produce new arguments. Therefore, this approach is not intended to tell what *the* critical questions are, but to identify them in a discussion. Arguers—or analysts for that matter—know they have a critical question depending on what they can do with the information (or lack of it) acquired through the questioning process. If the answer to a question dispels some doubt, the question is informative. Contrarily, if the answer generates objections that can be articulated as counterarguments, the question is critical.

Any account of critical questions that provides a priori sets of questions commits a big mistake because it implies that arguments can be evaluated without discussants having to ponder the key issues in a discussion. As long as the scheme is identified correctly, the evaluation could be followed obliviously by discussants. This is problematic not only because of the flaws presented in the previous sections, but also because of the dogmatic status of questions. If argumentation studies are to improve argumentation practices, we must refine the analytical tools we offer and become aware of the implications they have.

The present approach offers a better explanation of the question asked in Bush's conference. In the example, the journalist introduces a dilemma between having an effective military intervention and giving time to people to leave the

country. In view of this, Bush faced the predicament of either explaining that it was possible to have an immediate attack without putting at risk the lives of people—something that it would have been contested—or choosing one of the alternatives in the dilemma.

Had Bush chosen an effective military intervention, he would have publicly disregarded the lives of inspectors and journalists that were in Iraq because of his initiative to investigate the Iraqi government. Thus, he would have portrayed himself as nothing less but a dictator, which was how he depicted Hussein in the propaganda to justify the invasion. Such an answer would have given the opportunity to advance different counterarguments on moral grounds, challenging the official discourse where the invasion was depicted as morally desirable for the U.S. and the Iraqi people.

In contrast, had Bush chosen giving time to people to leave the country, he would have accepted that the military action might be compromised by giving time to the Iraqi military to prepare. This option would have brought concerns about the feasibility of the operation and, consequently, counterarguments about the success of the invasion would have arisen, even among those who supported Bush. Once again, the answer to the question could be used to bring counterarguments to the discussion. This is the reason why the question is critical, because independently of which option Bush commits himself, different criticisms would have emerged in the discussion.

It is important to notice that without making counterarguments explicit, questions are not critical. In the example of Bush's press conference, not all counterarguments were formulated during the event because the features of press conferences limit journalists to have one intervention each. Nonetheless, the counterarguments took place in different fora when debating the decision to invade Iraq. So, journalists' questions became critical in the wider public debate.

The approach to critical questions presented here is not entirely new because it exploits a possibility envisioned by Walton et al. when describing the nature of critical questions. They distinguished between critical questions as implicit premises, and critical questions as starting points for rebuttals (2008: 32). Relating questions to premises leads to describing the formal features of arguments. Relating questions to rebuttals leads to specifying the dynamics of discussions. While Walton et al. committed to the former possibility, I commit to the latter.

Consequently, this approach is incompatible with the classical understanding of critical questions and with any approach that relies on the formal features of arguments to deliver critical questions (Yu and Zenker 2020). It could be compatible with other proposals if the dependance on schemes is given up. For example, Baumtrog (2021) proposes an approach where critical questions are generated by pondering pros and cons of each premise in a scheme. If the same procedure were applied directly to concrete arguments instead of schemes, some problems presented in Sect. 2 and 3 could be avoided. In any case, the main feature of my proposal is that critical questions can be delivered in argumentative discussion without relying on argument schemes, which means that assumption (e) of the classical approach—it is not possible to have critical questions without argument schemes—has thereby also been challenged.

5 Conclusion

I have argued in this paper for disentangling critical questions from argument schemes. In doing so, I raised two problems that emerge from mixing formal features of schemes with evaluation conditions of arguments. My position should not be taken as a general criticism to research on argument schemes, but as a clarification of what their role should be in argumentation theory: schemes to understand the structure of real-life arguments. A new proposal of critical questions was outlined by making emphasis on the role of antagonists in the evaluation process. The evaluation provided by this approach is meant to reveal the strength of arguments, instead of testing their appropriateness.

Since arguments are evaluated based on their opposition to other arguments (Marraud 2020), the completeness problem—when the evaluation of an argument is complete—is exchanged at the price of having a new one. The strength problem: how to establish which argument between two or more is stronger? Although no solution to this problem is offered in this paper, it is worth accepting it for the time being as an alternative to address the complexities encountered when evaluating arguments.

The proposal sketched here needs further developments. One line of research is to explain how different questions and questioning sequences give rise to different counterarguments. Another line of research concerns the virtues of a pertinent questioner. If argumentative virtues play a role in the delivery of critical questions, the issue to investigate is how each virtue influences the questioning process. And lastly, it should be investigated how the strength of arguments can be determined.

References

Anonymized
Aristotle. 1926. *The art of rhetoric* (trans. Freese, J.H.). Harvard University Press: Cambridge, MA.
Aristotle. 1960. *Topics* (trans. Forster, E.S.). Harvard University Press: Cambridge, MA.
Baumtrog, M. 2021. Designing critical questions for argumentation schemes. *Argumentation* 35(4): 629–643. https://doi.org/10.1007/s10503-021-09549-z.

Bush, G.W. 2003. President George Bush discusses Iraq in national press conference. The White House. President Gorge W. Bush. Retrieved June 17, 2020, from https://georgewbush-whitehouse.archives.gov/news/releases/2003/03/20030306-8.html

Cantalamessa, E. (2021, August). Democracy is sentimental. *Aeon*. https://aeon.co/essays/democracy-should-be-sentimentalist-not-rationalist.

Dutilh Novaes, C. 2020. The role of trust in argumentation. *Informal Logic* 40(2): 205–236. https://doi.org/10.22329/il.v40i2.6328.

Gascón, J.Á. 2016. Virtue and arguers. *Topoi* 35(2): 441–450.

Govier, T. 2014. *A practical study of argument*. Boston: Cengage Learning.

Hastings, A.C. 1962. *A reformulation of the modes of reasoning in argumentation*. Evanston: Northwestern University.

Hernández, A. 2021. Journalists' moves in political press conferences and their implications for accountability. *Journal of Argumentation in Context*, 10(3): 281–314.

Hinton, M. 2021. *Evaluating the language of argument*. Cham: Springer.

Johnson, R.H. 2000. *Manifest rationality: a pragmatic theory of argument*. London: Lawrence Erlbaum Associates.

Marraud, H. 2015. Do arguers dream of logical standards? Arguers' dialectic vs. arguments' dialectic. Revista Iberoamericana de Argumentación (10).

Marraud, H. 2020. On the logical ways to counter an argument: a typology and some theoretical consequences. In *From argument schemes to argumentative relations in the wild*, ed. F. van Eemeren and B. Garssen, 149–166. Cham: Springer.

Perelman, C., and L. Olbrechts-Tyteca. 1969. *The new rhetoric: A treatise on argumentation*. Notre Dame: University of Notre Dame Press.

Rigotti, E., and S. Greco. 2019. *Inference in Argumentation: A topics-based approach to argument schemes*, vol. 34. Cham: Springer.

Rubinelli, S. 2009. *Ars topica: the classical technique of constructing arguments from Aristotle to Cicero*, vol. 15. Berlin: Springer.

Toulmin, S. 1958. *The uses of argument*. Cambridge: Cambridge University Press.

Van Eemeren, F. 2010. *Strategic maneuvering in argumentative discourse*. Amsterdam: John Benjamins.

Van Eemeren, F. 2017. Argumentative patterns viewed from a pragma-dialectical perspective. In *Prototypical argumentative patterns*, ed. F.H. van Eemeren, 7–30. Amsterdam: John Benjamins.

Van Eemeren, F. 2018. *Argumentation theory: a pragma-dialectical perspective*. Cham: Springer.

Van Eemeren, F., and R. Grootendorst. 2004. *A systematic theory of argumentation: the pragma-dialectical approach*. Cambridge: Cambridge University Press.

Van Eemeren, F., and F. Snoeck Henkemans. 2017. *Argumentation: analysis and evaluation*. New York: Taylor & Francis.

Wagemans, J. 2016. Constructing a periodic table of arguments. In *Argumentation, objectivity, and bias: Proceedings of the 11th international conference of the Ontario Society for the Study of Argumentation (OSSA), Windsor, ON: OSSA*, 1–12.

Walton, D. and C. Reed. 2003. Diagramming, argumentation schemes and critical questions. In: *Anyone who has a view. Argumentation library*, ed. F. Van Eemeren, A. Blair, C. Willard, and F. Snoeck Henkemans, vol 8. Springer: Dordrecht. https://doi.org/10.1007/978-94-007-1078-8_16.

Walton, D., C. Reed, and F. Macagno. 2008. *Argumentation schemes*. Cambridge: Cambridge University Press.

Yu, S., and F. Zenker. 2020. Schemes, critical questions, and complete argument evaluation. *Argumentation* 34(4): 469–498.