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Reasoning Dialogues

Lance J. Rips,¹ Sarah K. Brem, and Jeremy N. Bailenson

Psychology Department, Northwestern University, Evanston, Illinois (L.J.R., J.N.B.), and Graduate School of Education, University of California, Berkeley, Berkeley, California (S.K.B.)

Abstract

When people argue with others in conversation, they make a variety of conversational moves: They make claims, ask for justification of others claims, attack claims, and attack claims justifications. The arrangement of these moves gives argumentation its characteristic shape. This article illustrates a proposed format for conversations of this type, and it reviews some findings about the way people understand and evaluate these conversations. The findings suggest that judgments of the arguers burden depend not only on the content of their claims, but also on the conversation's structure. In addition, judgments of the strength of a justification an arguer's evidence or explanation are a function of the argument's setting.

Keywords

reasoning; argumentation; discourse understanding

When people discuss ideas with others, they often fall into ex-

changes that include making assertions, agreeing to others assertions, asking for justifications, and refuting others assertions or justifications. Classroom interactions often take this form, as do some conversations among family members and colleagues. Some conversational volleys of this kind are short and unremarkable: Bob asks Karen why she liked the movie she just saw, she tells him, and he agrees. But sometimes these conversations develop into more extended arguments, as in academic, political, or legal controversies. These arguments can be crucial in convincing others of the worth of a theory, in tipping the balance of an election, or in deciding the outcome of a legal case.

As a simple example of this type of dialogue, consider the first argument in Table 1, which comes from the civil trial of O.J. Simpson (*Sharon Rufo et al. v. Orenthal James Simpson et al.*, December 6, 1996; CNN, 1997). In this excerpt from a side-bar discussion, one of the plaintiffs lawyers, Mr. Kelly, is arguing that he should be allowed to introduce evidence about a book called *Battered Women* that Nicole Simpson was reading and annotating several days before her murder. The judge (The

Court in the transcripts) challenges Kelly by asking what he can offer as proof that she made the notations. As justification, Kelly asserts that Nicole Simpson's mother can testify that Nicole mentioned reading it and that she can identify Nicole's handwriting. The judge directly rejects this justification as inadequate and prohibits the lawyer from going into the matter in his questioning.

The second example in Table 1, from a recent play (Hare, 1997), illustrates many of the same conversational moves— a request for justification, justifications, and a rebuttal as does the last example in Table 1, a spontaneous argument between two children (from Eisenberg & Garvey, 1981). The examples in Table 1 are clearly similar, but how do people recognize and evaluate such argumentative dialogues when they hear or read them? By investigating the way component conversational moves fit together, researchers may be able to identify what is distinctive about these dialogues and provide a more systematic framework for thinking about them than is typical in work on critical thinking and informal reasoning.

ARGUMENT STRUCTURE

People can vehemently disagree during disputes such as those in Table 1. But, at the same time, the arguers must observe implicit guidelines in order to make their contributions intelligible and

Table 1. Three examples of argumentative dialogues**a.** Excerpt from CNN (1997)

MR. KELLY: Your Honor, this is four days before the murder; it [evidence about a book, "Battered Women," that Nicole Simpson was reading] goes directly to her—not only her state of mind, but—

THE COURT: What is your foundation that she wrote these underlined—these things that you say she underlined?

MR. KELLY: She indicated to her mother, she was reading it and marking it up, and showed it to her mother, that she was doing it. At the same time, she said, "I've just started it; I'll give to you afterwards."

And she can identify her handwriting.

THE COURT: I think under 352, the foundation is totally inadequate. I'm going to exclude it.

b. Excerpt from Hare (1997, p. 45)

ESME: But I'm also aware the whole thing [a fair] is some sort of fiction. . . .

FRANK: A fiction?

ESME: Yes. Miss Marple! Thatched cottages! 'Congratulations to Mr Cox on the size of his enormous courgettes. . . .' It's Heritage England. It's some sort of fantasy theme park, but don't tell me it actually still makes any sense.

FRANK: I don't see why not.

Esme suddenly raises her voice.

ESME: Because this is a suburb!

FRANK: Oh, I see, now I get it. . . .

c. Dispute between two children (from Eisenberg & Garvey, 1981, p. 151)

CHILD 1: You're the mother, I'm the father.

CHILD 2: No, you're the mother, I'm the father.

CHILD 1: Why I'm the mother?

CHILD 2: Because you're—you're a girl.

CHILD 1: I'm not a girl.

reasonable. These conversational norms might occur at a number of levels in the organization of the dialogues. At the highest level, there may be general principles that apply when arguers are attempting to resolve an issue by rational examination. In this context, arguers are proceeding appropriately only if they follow rules of discourse ethics, such as these (from van Eemeren & Grootendorst, 1992, pp. 108–117):

(1) Parties must not prevent each other from advancing standpoints or casting doubt on standpoints.

(2) A party who advances a standpoint is obliged to defend it if the other party asks him to do so.

At this level, you might also fault arguers for not properly taking into account both sides of an issue. Current evidence suggests that people often sacrifice open-mindedness for advocacy when they construct arguments (Baron, 1995; Perkins, Farady, & Bushey, 1991; Voss & Means, 1991).

We concentrate here, however, on a second, lower level of organization. Argumentative dialogues display features that unite the arguers' individual contributions. These features are the result of conventions governing conversational exchange: Assertions can be followed by concessions, requests for justification, or rebuttals; rebuttals can be followed by concessions or counterrebuttals; requests for justifi-

fication can be followed by justifications; and so on. Sometimes discourse markers words like *thus*, *so*, *in the first place*, *anyway*, and others aid listeners in identifying the parts of an argumentative dialogue (Reichman-Adar, 1984).

One aspect that is crucial about this structure is that justifications and rebuttals are assertions in their own right, and they are therefore open to the same types of responses as assertions. It is this nesting of subarguments within others that creates coherent reasoning dialogues and accounts for their surprising complexity.²

In Figure 1, for example, we illustrate a format for the Table 1 dialogues, using a set of rules we have developed (Rips, 1998). This format illustrates the typical nesting of arguments and subarguments. For instance, in Figure 1a, Mr. Kelly's initial claim is met with a *challenge*, consisting of a *justification query* (What is your foundation . . .?) followed by a paired *justification* (She indicated to her mother . . .). What is important in this example, though, is that the justification is itself a claim the beginning of a new subargument and can therefore be countered by a *rebutting defeater* (Pollock, 1989) from the judge (The foundation is totally inadequate). The defeater can itself be the start of a new subargument resulting in a total of three miniarguments in one short dialogue. The presence of many of the same nested conversational moves in the examples of Figure 1 explains the examples' perceived similarity.

ARGUMENT STRUCTURE AND THE ARGUER'S BURDEN

One effect of the structure of an argumentative dialogue is to make some of its claims more prominent than others in determining the

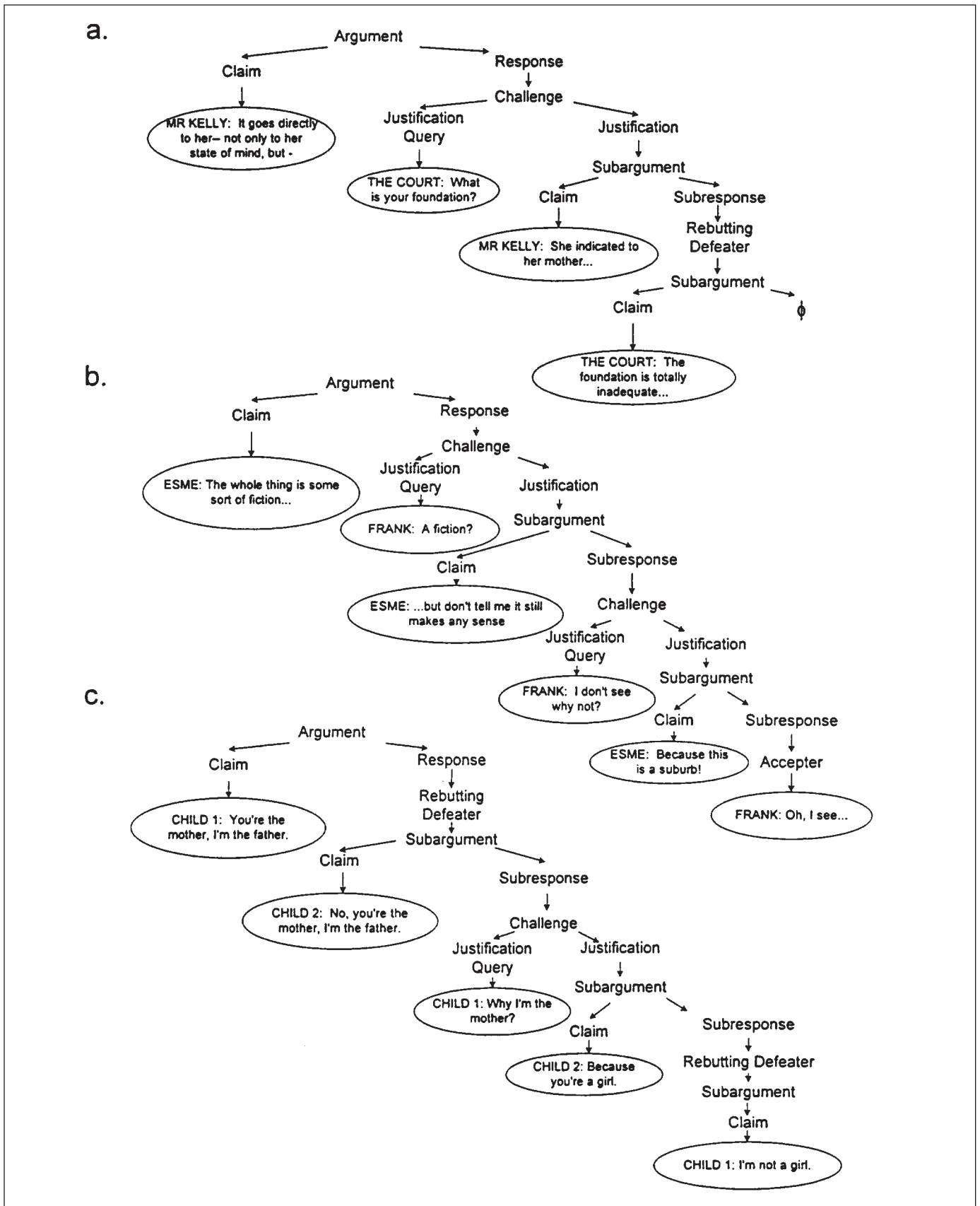


Fig. 1. The excerpts from Table 1 diagrammed using rules from Rips (1998).

strength of the arguers' positions. Quite a bit of research in social and cognitive psychology has studied the persuasiveness of individual pieces of evidence within otherwise unstructured lists; many of these studies have tried to determine whether items at the beginning or the end of the list are more convincing in other words, whether they display primacy or recency effects. But argumentative structure in dialogues is more complex than a list and alters which claims are crucial.

One source of evidence about the effect of argument structure comes from a study (Bailenson, 1997) in which participants read scripted conversations similar to the one in Table 2. One group of participants read the arguments in the form shown in the table, and a second group read reversed arguments in which we exchanged the positions of claims a and b, c and d, and e and f. All participants then judged which of the arguers had the greater burden of proof (had most to do at the end of the argument to convince the other that he or she was right). The results demonstrated an *antiprimacy* effect: The arguer who made the first claim (no matter which side of the argument he or she was on) incurred more burden of proof than the second arguer. This bias against the first arguer seems to be an order effect occurring only in structured dialogue, as most previous experiments have not shown a disadvan-

tage in persuasiveness for items at the beginning of a serial list.

One potential explanation for the antiprimacy effect stems from the fact that the first claim in the conversation *commands* the remaining claims in the argument's structure. (One node in a structure like the ones in Fig. 1 is said to command a second if the node immediately above the first is also above the second.) Whenever an arguer makes a claim, he or she takes on the burden of defending it, in accord with van Eemeren and Grootendorst's Principle 2. But the burden of the first claim extends over the entire dialogue, whereas the burden of a later claim commands a more limited domain. This puts the proponent of the first claim at a disadvantage, other things being equal.³

JUSTIFICATION

In addition to dialogue structure, the content of individual moves is obviously important. One example of the importance of content relates to justifications. As we have just mentioned, when one arguer challenges the claim of another, the burden is on the second to supply a justification—a reason why the claim is true. Justification can take a number of forms, and we discuss two that are of particular interest to psychologists: empirical evidence and explanation.⁴

Empirical evidence is generally thought to be the strongest form of justification because it ties the claim to actual events. For example, the justification in the first argument in Table 1 (She indicated to her mother. . . . And she can identify her handwriting.) is a simple example of justification by empirical evidence. Evidence of this type varies in strength, of course, and is subject to dispute, as this example makes clear. One form of evidence is a correlation between a hypothesized cause and an effect. Such evidence examines cases in which the proposed cause is present or absent and determines whether the target effect is present or absent in those instances. If there are many cases in which both cause and effect are present or both are absent and few cases in which one is present and the other absent, then a strong correlation links cause and effect.

There are many situations, however, in which arguers will provide a justification by introducing a plausible-sounding rationale (a just-so story) rather than empirical evidence. For example, one might contend that Nicole would not have told her mother that she was making notes in a book unless she was. Such assertions alone are not conclusive, because they do not provide appropriate comparisons: It is unknown how often people tell others they are taking notes when they are not. Still, explanations are important. A correlation between a hypothesized cause and an effect does not establish a causal link between them. Explanations help fill this gap by describing a plausible mechanism that can connect the cause to the effect (Ahn, Kalish, Medin, & Gelman, 1995).

The meaning of this form of justification is subject to debate. Some researchers argue that explanations are offered in error. According to this account, people who give explanations (especially narrative just-so stories) when asked to

Table 2. Example of an argument used in the study by Bailenson (1997)

a.	PAT:	Baseball has more breaks in the action than other sports.
b.	JIM:	Baseball has fewer breaks in the action than other sports.
c.	PAT:	You have to sit through all of the side changes.
d.	JIM:	The only long break comes after the seventh inning.
e.	PAT:	Every time they substitute pitchers there is another fifteen minute break.
f.	JIM:	At least there are not many substitutions in baseball compared to other sports.

prove a claim are mistaking explanation for evidence (Kuhn, 1991). An alternative view is that in such situations people know that they are providing unsubstantiated explanations, but are doing so for pragmatic reasons. For example, they may not have easy access to data they could use to compute a correlation. We (Brem & Rips, in press) have argued that people construct narratives as justification when evidence is scarce, but prefer evidence when data are at hand. In one experiment, for example, we asked participants to write down their opinion on each of a set of topical issues (e.g., why gun control laws are ineffective), and we then asked for justification of the opinion in one of two ways. In one condition, we asked, If you were trying to convince someone your view is right, what evidence would you give to try to show this? (cf. Kuhn, 1991). In a second condition, we asked, If you were trying to convince someone else that your view is right, what would be the ideal evidence to show this? Imagine you have access to any information or techniques you require. Informing participants that they could use any information required increased the percentage of opinions for which they mentioned genuine evidence from 32.5% to 63.9%.

Further support for the hypothesis that pragmatic factors play a role in the decision to use evidence versus explanations comes from participants' evaluations of the arguments of others (Brem & Rips, in press). We led participants to believe that the arguer had either very little data or a rich body of data to draw upon. We then presented either explanation-based or evidence-based support for a claim and asked participants to rate the strength of support (on a scale from 0 to 7, with 7 indicating highest support). The results appear in Figure 2. Although evidence-based support fared equally well in the

high- and low-information conditions, participants gave explanations higher ratings in the low-information condition, in which the arguer had little to go on, than in the high-information condition. Thus, what counts as sufficient justification depends on the pragmatics of the situation.

People sometimes do offer explanations when they could have offered evidence instead. The value of introducing unsubstantiated explanations is unclear. The issue turns on what happens next in the arguing and the information-gathering process. If arguers begin to

believe their position simply because they have provided an explanation, then this may not be a desirable strategy. If, however, explaining improves their understanding of the problem and makes clear what needs to be done to provide empirical support, then the initial reliance on just-so stories may be very useful.

DISCUSSION

When people listen to argumentative conversations, they keep

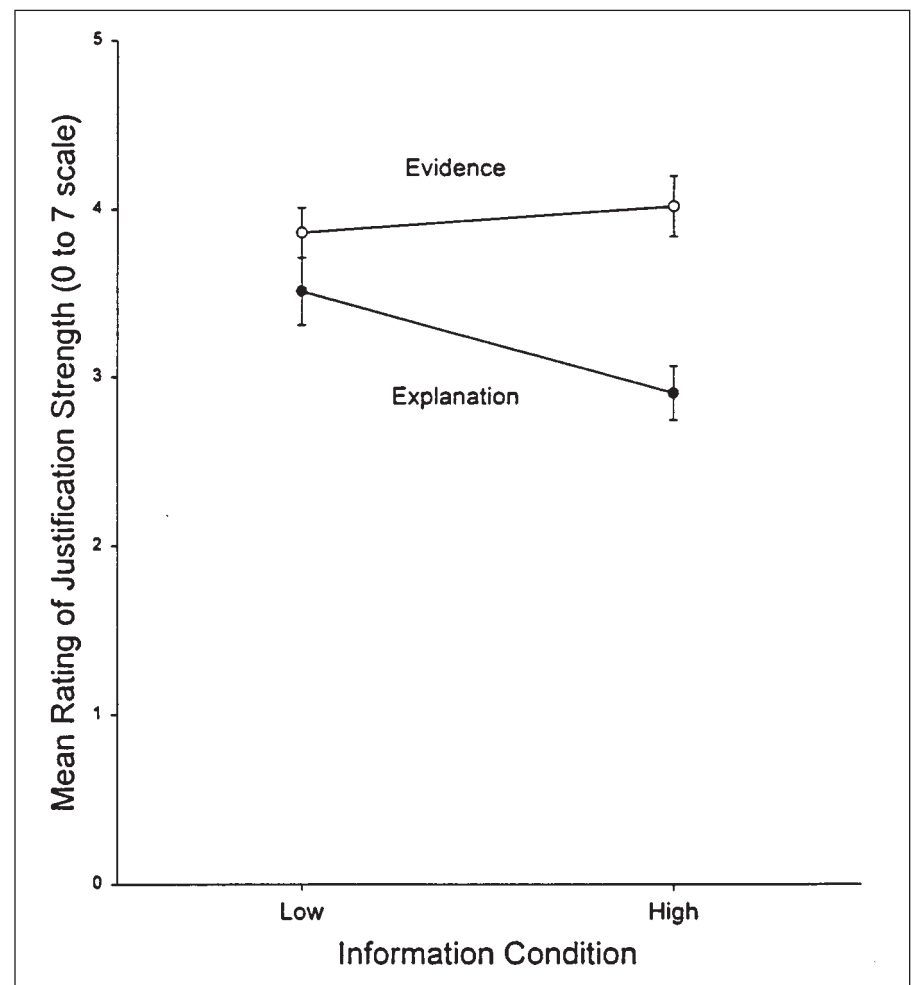


Fig. 2. Mean ratings of strength of support given to explanations and evidence when arguers were said to have very little data (low-information condition) or a rich body of data (high-information condition) to draw upon to justify their position. The rating scale ranged from 0 to 7, with 0 representing lowest support and 7 representing highest support. Error bars indicate -1 standard error of the mean. Data from Brem and Rips (in press).

track of the arguers underlying moves and the relations among them. We have illustrated some of these moves in the diagrams of Figure 1: claims, challenges, justifications, defeaters, and accepters. We have tried to show that the way these conversational moves fit together affects how people evaluate the arguers burden of proof. In addition, examining the different types of moves helps reveal the strategies arguers have available. Arguers can trade off different forms of justification, relying on empirical evidence when they are lucky enough to have it and on plausible explanations when they are not.

This initial theory, however, raises a large number of questions about people's understanding of argumentation. For one thing, our examination of justifications suggests it may be fruitful to look at varieties of other argumentative moves. For example, one can ask whether people distinguish types of challenges or types of concessions and what conditions trigger the use of each type (see Rips, 1998, for a study of types of defeaters). These choices may sometimes depend on the social bonds between arguers, but the exact connection with social factors remains to be explored. It is also reasonable to ask whether the theory embodied in Figure 1 can illuminate classical difficulties in reasoning, such as question begging and similar fallacies, and whether two-person arguments such as the ones we have discussed can shed light on internal deliberation by a single deci-

sion maker.⁵ Questions like these set a new agenda for research on human reasoning.

Recommended Reading

Hamblin, C.L. (1970). (See References)
 Reichman-Adar, R. (1984). (See References)
 Rips, L.J. (1998). (See References)
 van Eemeren, F.H., Grootendorst, R., & Henkemans, F.S. (1996). *Fundamentals of argumentation theory: A handbook of historical backgrounds and contemporary developments*. Mahwah, NJ: Erlbaum.

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Notes

1. Address correspondence to Lance Rips, Psychology Department, Northwestern University, 2029 Sheridan Rd., Evanston, IL 60208; e-mail: rips@nwu.edu.
2. Earlier formal theories of argumentative dialogues centered on the idea of a game in which individual arguers take turns making assertions, concessions, challenges, and other moves. This analysis produced important insights, especially about the arguers commitment to the assertions (e.g., Hamblin, 1970). But the game framework also tends to obscure the embedded character of the arguers moves (see Rips, 1998, for discussion).
3. Of course, an arguer's burden also depends on other factors, including the plausibility of his or her individual assertions and willingness to make concessions. These factors might outweigh or shift the burden during the course of the dialogue.
4. Arguers may rely on other types of justification when empirical evi-

dence is unavailable, when the reliability and validity of the evidence are unclear, or when statements are difficult to understand or ambiguous. These alternative justifications might involve appeals to authority, to the credibility (or lack of credibility) of a source, or to the possible consequences of a belief or act, to mention a few examples. This is the traditional domain of rhetoric and social psychology.

5. See, for example, Shafir, Simonson, and Tversky (1993) on the role of reasoning pro and con in decision making.

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