

# Burden of Proof

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**ABSTRACT.** This paper presents an analysis of the concept of burden of proof in argument. Relationship of burden of proof to three traditional informal fallacies is considered: (i) *argumentum ad hominem* (ii) *petitio principii* and (iii) *argumentum ad ignorantiam*. Other topics discussed include persuasive dialogue, pragmatic reasoning, legal burden of proof, plausible reasoning in regulated disputes, rules of dialogue, and the value of reasoned dialogue.

**KEY WORDS.** Argumentation, persuasion, dialogue, fallacies, rhetoric, informal logic, pragmatics, presumption.

It has been shown by Whately, Perelman, Johnstone, Hintikka, Barth and Krabbe, and Meyer, that philosophical argumentation is based on a framework of interactive question-answer dialogue between two speakers who take opposing sides on a controversial issue. Of course, this tradition is no novelty in philosophy, and is most closely identified with Socratic dialogue as a model of philosophical argument.

If one takes this conception of philosophical argument seriously, traditional informal fallacies like the *petitio principii*, *argumentum ad hominem*, and *argumentum ad ignorantiam* are revealed as (a) not fallacies in many instances, but forms of plausible reasoning that can be reasonable arguments to shift a burden of proof, and (b) extremely important types of criticism in argumentation that can have the legitimate function of shifting a burden or weight of evidence against, or in favor of presumptions in an argument. However, these traditional categories of argument called informal fallacies can only be themselves revealed as deeply interesting and fundamental objects of study for philosophy once some headway has been made in understanding the underlying concept of burden of proof in argument. But the literature offers more questions than answers on the subject of burden of proof.

The arguments of this paper are motivated by an interest in trying to provide answers for the following six questions.

1. How does burden of proof get set initially in reasoned dialogue?

*Argumentation* 2 (1988) 233-254.  
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2. Once burden of proof gets set in reasoned dialogue, how is it binding upon the subsequent moves of the participants in argument?
3. Can burden of proof be set externally, before dialogue begins? Or is it set internally, during the course of dialogue, by the participants?
4. How does burden of proof relate to the *argumentum ad ignorantiam*, the traditional informal fallacy of arguing from ignorance?
5. How is burden of proof related to plausibility? Does the burden of proof rest on the interlocutor who attacks an established point of view?
6. Does burden of proof work the same way in conversational argumentation as it does in legal argument? Or are the two contexts essentially different?

In fact, this paper will not provide fully adequate answers to each of these questions, for the answers are to be sought in (a) a theory of plausible reasoning, and (b) a theory of reasoned dialogue as a normative tool for the analysis of argumentation. Even so, by drawing on some existing resources in (a) and (b), and by critically examining certain aspects of these theories as they relate to burden of proof, this paper aims to further our understanding of the concept of burden of proof as an important component of the study of argumentation.

In this paper, *burden of proof* is defined as an allocation made in reasoned dialogue which sets a strength (weight) of argument required by one side to reasonably persuade the other side. Making this definition useful presupposes prior definition of the concept of reasoned dialogue, and, in particular, the concept of persuasive reasoned dialogue.

In examining any particular text of argumentative discourse, the question may (and should) be asked: what strength of evidence is required to persuade? In most cases of argumentative discourse on controversial issues in natural language, certain evidence is not required to establish a claim. In some cases, no evidence at all need be required - for example if a proposition is already accepted by all participants, and is not subject to doubt or challenge. In other cases, a tiny amount of evidence can reasonably swing the outcome to one side - for example, if arguments on both sides are equally balanced. Thus to understand the concept of burden of proof in reasoned argumentation, we must come to understand how the initial plausibility of a proposition can come to be altered - either raised or lowered - through the dynamic of objection and reply in reasoned dialogue.

## 1. SUBTLE SHIFTS IN REASONED DIALOGUE: THE LINK WITH FALLACIES

Recognition and use of burden of proof in argumentation can be a powerful factor in reasoned persuasion, and yet it is a subtlety, in many cases, that is overlooked. Consider the following parliamentary question-reply exchange.

- Q: Why are my constituents the targets of such savage and unacceptable cutbacks?
- A: The Government is doing the best it can to retrain employees and proceed in a humane manner.

This answer may be a reasonable reply to the question, as far as it goes. But where the respondent may have significantly failed is through not having questioned the presupposition of the question that the cutbacks were "savage and unacceptable." Because this presupposition of the question, in effect, makes a positive assertion of a contentious proposition, there is a burden of proof on the questioner to back it up if challenged. By not raising this challenge in his response, the respondent concedes too much to the side of the opposition. In effect, the response makes the Government seem guilty of the unacceptable offenses argumentatively advanced in the question. By failing to shift the burden of proof back onto the questioner, the respondent overlooks his strongest argument on the issue of contention.

Whately (1846, 1963, p. 113) warned against this type of strategic failure in argumentation when he compared it to the case of an army occupying a fort that it is perfectly capable of defending. By sallying forth into the open field, they are defeated. Similarly, in argument, if you forget to insist that there is a burden of proof on your opponent's side which you can show has not been met, and instead use positive arguments that may be weak, to try to defend your own side, you may be succumbing to a feeble defense by overlooking your strongest arguments. Whately (p. 114) quotes the French proverb "Qui s'excuse, s'accuse." to illustrate the unfortunate instance of a respondent who unnecessarily makes himself appear guilty in the face of an accusation by taking on the burden of trying to prove his own innocence, when what he should be doing is to defy his accuser to prove his charge.

Whately's excellent advice reveals that mounting a persuasive argument in reasoned question-reply dialogue requires a fine tuning and awareness of matters of burden of proof. Further evidence from Hamblin (1970) and Walton (1985) suggests that in fact many of the so-called "informal fallacies" are important kinds of persuasive strategies in argumentation precisely because they reflect subtle shifts in the burden of proof that can be powerfully effective, yet often go unnoticed in the heat of a dispute.

This lesson can well be brought out by considering three of the most

important kinds of argument traditionally classified as informal fallacies: the *ad hominem*, the *petitio principii* and the *ad ignorantiam*.

One of the most famous cases of the circumstantial *ad hominem* argument is the reply of the sportsman who is accused of barbarity in sacrificing hares or trout: "Why do you feed on the flesh of harmless cattle?" This rejoinder, in the form of a question, attempts to use the critic's own personal circumstances (being a meat-eater) against his criticism of the sportsman. This case has been analyzed at length in Walton (1985), but Hamblin's remarks on it (1970, p. 174) show how Whately (1846) had already understood that the deeper strategy behind this type of case of *ad hominem* argument is linked to a shift in the burden of proof.

The rhetorical effectiveness of the sportsman's rejoinder as a ploy in argument is to be sought in the way it shifts the burden of proof onto the critic. By appearing to make the critic responsible for the very type of act he condemns, the question puts the critic on the defensive. For the question has made the critic appear to be inconsistent in word and deed. But if the critic gives in to this demand to justify his own non-vegetarian practices, he will have succumbed to the ploy. What he should do instead is to shift the burden of proof back onto the question by citing the failure of the parallel between two propositions: (1) the barbarity in hunting, and (2) the eating of meat. For no inconsistency between these two propositions has yet been established. The burden of proof is to show that there is an inconsistency remains on the questioner.

Another traditional informal fallacy where understanding the mechanism of what is "fallacious" is importantly linked to the concept of burden of proof is the *petitio principii*. First, a careful distinction should be made between begging the question and arguing in a circle. It has been shown in Walton and Batten (1978) that arguing in a circle is not necessarily erroneous or subject to refutation in every instance, and that we should distinguish between vicious circles and benign circles.

By contrast, begging the question would appear to be best construed as an argument that should be open to serious criticism whenever it occurs in reasoned dialogue. The reason for this thesis is that the very idea of begging the question is linked to the context of dialogue where there is an obligation to prove. Begging the question is inappropriate precisely because the thesis to be argued for is "begged for" instead of being proved.<sup>1</sup> The basic idea behind this failure is that an arguer must *prove* or *give evidence for* his conclusion. He cannot just ask for it, in this context, as an assumption to be freely granted by his opponent in dialogue at no cost. By this conception, begging the question is an improper move whenever it occurs in reasoned persuasive dialogue. An argument that begs the question could be formally valid, but it is not useful to persuade a rational opponent in dialogue precisely because it fails to meet the

requirement of burden of proof. So it is the burden of proof that makes begging the question a species of vicious circle.

## 2. ARGUMENTS FROM IGNORANCE

The traditional informal fallacy of the *argumentum ad ignorantiam* is said to have been committed whenever it is argued that a proposition is true on the basis that it has not been proved false.<sup>2</sup> Or conversely, the same fallacy is said to occur when it is argued that a proposition is false on the basis that it has not been proved true. Clearly the argument from ignorance can, in certain cases, be a significant kind of erroneous inference in scientific method. For absence of experimental support for a hypothesis may be different from positive evidence that would refute the hypothesis. And in mathematics, lack of proof may fall short of unprovability. Hence we are rightly warned about the dangers of arguing from ignorance.

But some cases suggest that arguments that appear to be arguments from ignorance can be non-fallacious. Suppose a thorough FBI investigation fails to turn up any evidence that Bob is a Soviet spy. The investigating commission may conclude that Bob is not a Soviet spy. Granted, their argument could be judged erroneous if they claim the conclusion to be established with absolute certainty. But if the argument only purports to establish that the conclusion is plausible, it could be a reasonable argument. At any rate, it would seem peremptory to condemn it as fallacious if the investigation has been thorough and the presumption of Bob's innocence of the charge of espionage is taken as a tentative conclusion that could be subject of further inquiry.<sup>3</sup>

Another puzzle about this argument stems from the question of whether it is really an *ad ignorantiam* argument. For the commission's careful investigation could perhaps be described as a kind of positive evidence that Bob is not a Soviet spy. So construed, the argument above may not be an argument from ignorance at all. It could be claimed that the investigation has not left us ignorant. It has given the commission some knowledge about what Bob is not.

Thus there is room to question here whether arguments cited as cases of the *argumentum ad ignorantiam* are really arguments from ignorance. So perhaps if or when they are "fallacious," the failure may not be due, at least entirely, to their being arguments from ignorance. They could simply be weak arguments in the same way arguments based on knowledge (or non-ignorance) can be weak.

How should the argument from ignorance be defined? The best account in the framework of the theory of reasoned dialogue exhibits the form of the argument as a kind of negation shift in an arguer's commitment. In an

*ad ignorantiam* argument, the arguer shifts from a position of not being committed to a proposition *A* to a position of being committed to not-*A*. The inference is from lack of commitment to rejection.

Lack of commitment need not imply total ignorance. Consequently, the *argumentum ad ignorantiam* can sometimes be a reasonable dialectical shift.

One context of dialogue where *ad ignorantiam* reasoning is not fallacious is that of reasoned, practical commitment to a course of action in the face of lack of positive evidence. Suppose Larry picks up a gun, but has no information on whether the gun is loaded or not. It may make sense for him to presume that the gun is, or may be loaded, and to suit his actions of handling the gun to accord with that presumption. Larry's reasoning could be non-fallacious, even if he has no positive evidence to prove that the gun is loaded.

This argument does seem to be a characteristic *ad ignorantiam* which goes from a premise of non-commitment to a proposition *A* to a conclusion of commitment to not-*A*. Yet contrary to the presumption that such arguments are fallacious, this one could be reasonable. Such examples of plausible reasoning in the face of uncertainty are common and reasonable in contexts where there is a need for a commitment to pursue a course of action or inaction in the absence of clear evidence.

Another context of dialogue where *ad ignorantiam* reasoning is not fallacious is the framework of argument in the criminal trial. If the prosecution has not proved guilt, this correctly warrants a finding of not guilty as the conclusion of the sequence of argumentation in the trial. This *ad ignorantiam* argument is non-fallacious because of the burden of proof in the criminal trial.

Civil cases also illustrate interesting *ad ignorantiam* arguments. Consider a case where the plaintiff claims to have left her dress at a dry cleaning establishment. Despite having lost the receipt for having deposited the dress at the cleaner's, she claims compensation for the loss of the dress. The defendant produces his books, and claims there was no record of his receipt of the dress.

In this case, the plaintiff was unable to prove the defendant received the dress, therefore the judge ruled for the defendant. This appears to be an *ad ignorantiam* argument. But it is a reasonable one, because the burden of proof is on the customer to prove by a receipt that she had deposited the item at the cleaner's.

On the other hand, suppose the plaintiff argued that the cleaning proprietor was unable to prove non-delivery of the dress from his records, therefore my contention that I did deliver the dress is justified. This would be a fallacious use of the *argumentum ad ignorantiam*.

The difference between the reasonable and the fallacious instance of the argument from ignorance is to be sought in the requirements posed by

the burden of proof. The plaintiff's argument was judged inadequate in this case because she failed to do what was necessary to discharge the burden of proof.

### 3. REASONED DIALOGUE

A burden of proof, by its very nature, attaches to one side of an argument. When such a burden is incurred, the weight of evidence required to support the other side of the argument is thereby lightened. Therefore, burden of proof only makes sense in relation to a concept of argument as reasoned dialogue, where there are two sides to the argument.

The concept of burden of proof only makes sense in relation to a concept of argument as a balance, with weights on each side. As more weight is placed on one side, the other side becomes relatively lighter. And as more weight is removed from the one side, the other side may be viewed as having relatively more weight. The corresponding shift is indicated by the raising of the balance on one side and the lowering of the balance on the other.

But in order for adjustments of burden of proof in an argument to be "reasoned," the two-sided dialogue must have procedural rules that are "reasonable" or that somehow represent, or are related to rules of logic. The concept of reasoned dialogue required to support such a conception must have the following components.<sup>4</sup>

1. *Two Sides.* There must be two participants in the dialogue, each of whom represents one side. Normally, they are called the Proponent and the Respondent.
2. *Moves.* Each participant must take his turn making a move, in a sequence of pairs of moves. Normally, each move is either a question or a reply to a question which can take the form of an assertion.
3. *Commitments.* Attached to each side is a set of propositions called a *commitment-set*. At each move, propositions may be inserted into or removed from a participant's commitment-set.
4. *Rules of Procedure.* The function of the rules is to define the conditions under which specific propositions are to be inserted into or deleted from a participant's commitment-set at each characteristic type of move.
5. *Goal of Dialogue.* The dialogue must have some specific goal or criterion of success, so that a particular type of sequence of moves, according to the rules, counts as a successful culmination or resolution of the dialogue.

One of the most common types of dialogue is that where the goal of each

side is to persuade the other side. In this type of dialogue, each participant has a specific proposition designated or declared as his *thesis*, to be proved or argued for. The thesis for each side must be proved exclusively from the premises (commitments) *of the other side*, by means of moves of inference allowed by the rules.

#### GOALS OF PERSUASIVE DIALOGUE

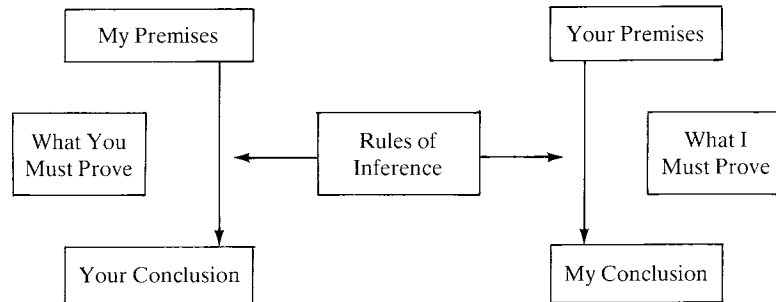


Fig. 1.

In a particular type of persuasion dialogue called a *dispute*, the thesis of the one participant must be the opposite (negation) of the thesis of the other participant. Not all reasoned dialogues are persuasion dialogues. And not all persuasion dialogues are disputes. In some dialogues, the goal of one side is to prove a particular thesis while the goal of the other side is merely to throw doubt on the first side's attempted proofs. This is an asymmetrical type of dialogue which is not, strictly speaking, a dispute in the sense above, and it could be called a *weakly opposed difference of opinion*. According to another usage, both these kinds of dialogue could be called disputes, and we could distinguish between strongly opposed disputes and weakly opposed disputes.

A reasoned dialogue is essentially an ordered sequence of pairs of moves which begins at an initial move or *opening stage*, and proceeds towards a final move, or *closing stage*. Van Eemeren and Grootendorst (1984) distinguish an initial phase of reasoned dialogue they identify with the initial confrontation, where the participants articulate the goals of the dialogue and clarify or agree on some of the procedural rules. These agreements or clarifications, to the extent that they are known in a particular case, according to an interpretation of the given text of discourse, serve to define the purpose and scope of the dialogue in an over-all way. These matters define the context of dialogue in a global manner. Thus *global* conventions, rules, or agreements pertain to the whole dialogue as a collective sequence of moves. By contrast *local* considerations in dialogue pertain to a specific move in the sequence.



For example, the setting of the thesis of a participant at the outset of dialogue is a global consideration, for this designation, once set, affects every subsequent move. By contrast, a local consideration could be whether a specific reply, at some particular point in the dialogue, is an acceptable response to the preceding question posed by the other side. In general, evaluations of particular features of a dialogue can be assessed in a more global or more local perspective. This will particularly be appropriate in the case of burden of proof.

What makes reasoned dialogue *reasoned* is the use of logical rules of inference in both directions on the two sides of question-reply argumentation. First, a participant uses *forward-chaining* sequences of argument in proving conclusions from the other participant's premises.<sup>5</sup> For example, if the Respondent has conceded propositions *A* and 'If *A* then *B*,' the Proponent may then prove *B* by the following forward-chaining use of *modus ponens*: If *A* then *B*, *A*; therefore *B*. Assuming that *modus ponens* is a logical rule of this particular context of dialogue, we may say that the Proponent has *proved B*. Depending on the commitment rules, the Respondent may then be required to accept *B*, and *B* becomes inserted into his commitment-set.

However, logical inferences can also be used in a *backward-chaining* manner, meaning that a participant may "reason backwards" from his conclusion to pick out the premises in his commitment-set that were used (or could be used) to derive that conclusion. For example, suppose the Proponent has committed himself to proposition *B*. At a proper juncture in the dialogue, the Respondent may challenge the Proponent with a why-question, "Why *B*?" A *why-question* directs a request for explanation or proof of a proposition to the participant who is committed to that proposition. The rules of dialogue will determine when a respondent is required to give a direct answer to a why-question.<sup>6</sup> If the Proponent accepts the challenge, he might respond with the backwards-chaining *modus ponens* reply: If *A* then *B*, *A*; therefore *B*. In this event, the Proponent will have shown how *B* can be inferred, according to the logical rules of the dialogue, from a set of premises.

It is generally important to recognize that the concept of reasoned dialogue is an idealization, an abstract, theoretical device that provides a normative profile against which any particular text of realistic dialogue can be measured or evaluated in various respects. On the other hand, this theoretical device is useful because it can be applied to commonplace reasoning.

According to Hamblin (1970, p. 256), the study of dialogue can be pursued formally (theoretically) or descriptively, where actual texts of discourse can be studied. The concept of burden of proof is so useful and interesting precisely because of its practical ties with actual argumentation.

## 4. PRAGMATIC REASONING

Burden of proof is characteristically linked to the problem of an agent who must decide on a course of action or inaction in a rapidly changing, complex particular situation where certain knowledge, or even probable knowledge, cannot be acquired in time to make the best decision. Very often, in such situations, an agent must act on the basis of plausible presumptions about what can reasonably be expected to happen in the given situation, based on usual expectations, customary routines, and commonsense understanding of institutions, functions, and familiar sequences of actions. This type of decision is based on what is reasonably foreseeable, even if such an outcome is improbable.

Much commonplace reasoning is based on the idea that as human agents, we are *in the world*, in a given environment of the moment that is constantly in a state of flux. In this situation, even doing nothing can be a form of action (significant omission or refraining). In this predicament, reasoning starts with a basic horizon, so that the decision-maker is presented with a choice.

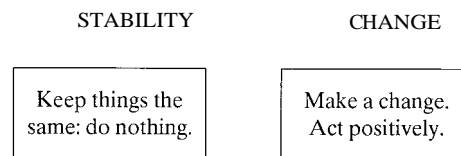


Fig. 2.

This choice is forced upon us where even doing nothing is a significant course of action (omission) which could influence the changing course of events. In such a case, there is no room left to opt out of deciding what to do. Even "doing nothing" may count as doing something, because it could preserve or disrupt the *status quo*.

This type of decision is especially prevalent on important topics of controversy that effect the conduct of one's life, yet where reasoned conviction is the best anyone can aspire to. For example, despite the uncertainties of political controversies, ethical convictions, religious beliefs, and legal evidence, nevertheless a person must decide how to vote, what ethical goals to adopt, whether to join a church, and what verdict to vote for when on a jury. All such living and momentous choices fall within the province of practical reasoning in deciding how to act in the world - to do nothing is, in effect, a kind of action that implies a certain stance on the issue.

The problem with all these kinds of decisions is that acting on the basis of plausible presumptions by setting a burden of proof is inherently risky.

One could turn out to be wrong. One conclusion that could be drawn from the observations that plausible reasoning is essentially subjective and, by its nature, inherently unreliable to some extent, would be that acceptance of plausible presumptions on pragmatic considerations rather than on strictly objective evidence is not rationally justifiable. This point of view would counsel that logical reasoning should never be based on subjective opinion. For that opens the floodgates to mere rhetorical persuasion as a standard of good argument.

This conservative type of view could be based on W. K. Clifford's argument (1877) that belief should never be based on insufficient evidence: "[I]t is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence." From this viewpoint, any conclusion based on anything less than objective (and sufficient) evidence, cannot be rationally justified.

The difficulty inherent in this conservative viewpoint was well brought out, however, in William James' (1895) reply to Clifford's argument. James argued that such an extremely conservative view must stifle action, because reasonable action must be based on beliefs that are reasonable even if they cannot be confirmed, and must also undermine knowledge by leading to an unwarranted skepticism.

Some of the sting can be taken out of Clifford's repugnance with pragmatic reasoning if it is acknowledged that: (i) objective evidence is to be given priority over plausible reasoning where the former is available, and (ii) it is to be stressed that efforts to collect objective evidence are to be strongly encouraged when such evidence is available at reasonable cost and effort. Thus it should be clear that pragmatic or subjective considerations should be no substitute for objective evidence based on observation, experiment, or mathematical calculation.

Pragmatic reasoning has to do with shifts in a reasoner's commitments in reasoned dialogue on issues that are controversial or practical, meaning that despite lack of access to deductive certainty or even probability, some presumptive conclusion must be acted upon. Such reasoning is inherently fragile, and therefore follows the conservative principle of seeking out the weakest premise in an argument and only conceding a commitment equal to that weakest link.

The calculus of plausible reasoning follows this conservative way of thinking. The least plausible proposition in a set is the weakest link in the chain, because it represents the greatest possibility of going wrong or getting into trouble. Hence all plausible inference is based on the weakest link idea. Once you form a plan of action, you become committed to the plan, but only to the extent required by the weakest link in the plan. For if things go wrong or you run into problems, you may have to decide whether to reject the plan, as a whole, and try to carry out your goals some other way. Or perhaps you may even decide to retract or change

your goals. Therefore, the reasonable person must not stick to a plan too dogmatically in every situation. Hence the reasonable person will adhere to a plan *to some degree* - to a degree commensurate with the weakest parts of the plan.

The plan can be identified with the arguer's position, or set of commitments in dialogue. A set of propositions can be adopted or accepted by conviction, on a disputable issue, where the real truth of the matter is not known, because to act on reasoned conviction, one must adopt a point of view or stance, as a basis for action or inaction. In the loaded gun example in Section 2. above, Larry doesn't know whether the gun is loaded or not, but he must act in some manner or other in the situation. Perhaps even if he leaves the gun alone, it could be dangerous. If so, it is better that he assumes it is (may be) loaded, and then carefully checks to see, all the time operating on the presumption that it is loaded.

In Sections 7. and 8., specific rules of plausible reasoning will be studied.

## 5. LEGAL BURDEN OF PROOF

The best known instance of the working of burden of proof in legal argumentation is the familiar requirement that the prosecutor in a criminal case must prove guilt "beyond reasonable doubt" to win his case. Then in such a case, the defence needs only show weakness in the prosecution's argument in order to win its side of the case. The purpose of this set imbalance between the two sides of the argument in criminal cases is clear. In criminal cases, the evidence may be unclear or uncertain because it is based on the reconstruction of past events which must be conjectured. Since therefore there is the possibility of error, the goals of dialogue should be set up in such a way to try to minimize the conviction of innocent persons, even at the cost of letting guilty persons go free. The former is judged the greater injustice, and therefore the legal requirement of evidence is really based on an intent to safeguard against a particularly grave danger of injustice inherent in the system of argumentation.

Generally, the prosecution bears the burden of proof in criminal cases. According to legal scholars, this general requirement is an instance of the principle, "He who asserts must prove." And in civil cases, the plaintiff bears the burden of proof on more issues than the defendant. But there are many exceptions to these general rules.<sup>7</sup> An example would be contributory negligence, the doctrine that one injured through another's negligence cannot recover if his own negligence contributed to his injury. In some U.S. states, the plaintiff must prove his freedom from contributory negligence, while in England and other U.S. states, this proof is up to the defendant.

Legal rules of evidence are formulated generally for each type of case so that, in principle, both sides to the dispute should know at the outset where the burden of proof lies. There can be a shift in the burden of proof during the course of a trial, depending on the issues being argued. But how burden of proof changes with the advent of a specific issue is also determined by rules of evidence known at the outset of the case. For example, in a criminal case, the prosecution may have to prove guilt beyond reasonable doubt. But if the defendant pleads insanity, then the burden of proof is upon him to prove that he was insane at the time of the act at issue.

The party who bears the burden of proof in the law must produce a strong enough argument to permit a reasonable person to conclude that his contention is established. However, there are three recognized degrees of persuasion: (1) by preponderance of the evidence, (2) by clear and convincing evidence, and (3) beyond reasonable doubt.<sup>8</sup>

*Presumptions* are legal devices that can be used to alter a burden of proof. A presumption is a rule that allows one proposition to be inferred from another. It is a kind of rule of plausible inference which states what can normally or customarily be deduced from a particular fact in an argument. For example, if it can be shown as a fact someone has disappeared without explanation or being heard of for more than seven years, it may be presumed that this person is dead. This presumption holds, however, only so far as it goes uncontradicted by further evidence of the person's being alive.<sup>9</sup>

Presumptions in law usually occur where a proposition at issue would be difficult to prove. A presumption can lighten the burden of proof. Presumptions come into play in a recurring type of situation where normal expectations about an expected type of outcome in this situation can be defined or codified according to a pre-established standard.

The concept of a presumption in law is closely tied to the concept of burden of proof. Both of these factors can be set by the rules of evidence before a specific case is actually tried. Both factors can be important in determining, in a particular case, what is to count as a successful realization of the goal of dialogue by either side of the dispute.

But how does burden of proof work in less strictly organized types of argumentation? Is it similar to the way it works in the law? It does seem to be similar in certain important respects because burden of proof is an important requirement in all persuasive reasoned dialogue. Yet many contexts are different. The goal of the criminal law is to determine guilt or innocence (responsibility). Other contexts of dialogue may not share this goal. Even so, certain general patterns stand out as common to all persuasive reasoned dialogue.

The burden of proof gets set, ideally, in reasoned dialogue, at the outset of the round of exchanges between the two participants. Each participant

sets out his thesis, which is a proposition. By declaring a proposition as his thesis, a participant thereby incurs a burden or obligation of proof - meaning that he is obliged to offer proof, or at least evidence or backing, for this thesis, if challenged by the other participant in the argument. The ideal point in reasoned dialogue to set the burden of proof for both participants is at the beginning of the dialogue, at the initial stage of discussion.

Van Eemeren and Grootendorst (1984, p. 85) call this first stage that of *identifying the dispute*, where one participant advances a point of view, and another participant advances a different point of view, or casts doubt on the first point of view. Then the second stage of dialogue may be an attempt to resolve the dispute posed by the two different points of view, by subsequent discussion.

Rescher (1977, p. 27) also writes of a probative burden, set at the initiating stage of a dialectical situation, which then remains constant throughout the subsequent dialogue. Rescher (p. 27) calls this type of burden the *initiating* or I-burden, which is characteristically "static, and rests with the inaugurating side constantly and throughout" the dialogue. In Rescher's analysis of reasoned dialogue, the burden of proof, once set for a proposition *A* in an argument, establishes a presumption that not-*A* stands, until the burden of proving *A* has been discharged (p. 32).

Generalizing on these insights from Rescher, van Eemeren and Grootendorst, and legal rules of evidence, some basic principles can be set down.

#### 6. INTERNAL AND EXTERNAL BURDEN OF PROOF

In reasoned dialogue generally, there are two ways in which burden of proof can be set. First, burden of proof is set *externally* by the rules of procedure and goals of dialogue set by the participants, or agreed to by them. The first item to be noted here is that each participant is required to have a thesis to be proved, and once this thesis is set, that participant has a burden of proof (obligation). His goal or obligation is simply to prove that thesis. However, particular types of dialogue, once identified, will also serve to sharpen formulation of the burden of proof for both sides. In a dispute, the burden of proof is equally distributed. In a weakly opposed difference of opinion, the burden of proof falls exclusively on one side.

External burden of proof is set at the global level of reasoned dialogue. External conventions affect arguments over the whole course of the dialogue, from beginning to end. From this perspective, the commitment rules of dialogue can be viewed as part of the external burden of proof requirement. For the commitment rules define, over the whole sequence of dialogue, whether an arguer is committed to a specific proposition, and whether, as a consequence, he is obliged to prove it if challenged.

In general, there are four factors that influence how burden of proof is set externally in reasoned dialogue: (1) the theses to be proved by the participants, (2) the rules of dialogue, especially the commitment rules, (3) the initial plausibility of the theses to be proved, and (4) presumptions required by special contexts of dialogue, for example, safety. The fourth factor refers to special kinds of issues where there may be reason to set the burden of proof higher against one side. For example, a physician, in an emergency situation where the patient's life may be in danger, is expected to "err on the side of life" by acting to presume that there is a danger if the situation is not clear and the costs of acting to preserve life are acceptable. The general principle at work here is that of *tutiorism*, or taking the safer, known way for the purpose of safety where there is both risk and uncertainty.

Burden of proof is set *internally*, at the local level of dialogue, where requirements of proof or argument are set relative to one specific move, or pair of moves, in a sequence of dialogue. For example, the maxim "He who asserts must prove" may dictate that a participant who actively assents to a specific proposition may be called upon or challenged by another participant to prove or support that proposition. Or an asker of a question may be called upon to give evidence for presuppositions of the question. Of course, these are external commitment rules, but they can apply at the local level of one specific question-reply interchange. When they do, specific burdens of proof are set internally, and can be altered or shifted internally, at specific moves in the sequence of dialogue.

There can be different methods of setting the burden of proof externally in reasoned dialogue, and there is room for controversy on the subject of which is the best general method from a theoretical point of view on dialogue. Generally the goal of persuasive dialogue is to shift the burden of proof so that one's own side of the argument has become predominant. And in a dispute one participant's thesis is proved if, and only if, the other participant's thesis is refuted.

In an evenly matched dispute, the plausibility of each participant's thesis is roughly equal to the other. Hence any plausible argument newly advanced during the course of dialogue will tilt the burden of proof against one side by raising the plausibility of the other. Therefore, it might be proposed that whichever side has the higher plausibility at the end of the dialogue should be declared to have the winning (strongest) argument.

However, in dialogue on some controversial issues, the initial plausibility of the thesis on one side of the issue to be disputed may be much greater than that of the other. Thus the burden of proof is much heavier on one side than the other. Here, a different procedure for evaluating the respective merits of the arguments on both sides needs to be followed.

Several years ago there was a program shown on Canadian television called *The Great Debate*. At the beginning of the program, a controversial

issue was stated, and two speakers were introduced, each of whom was slated to argue for one side of the issue. But before any debating began, the audience was asked to vote for whichever side of the issue each person presently accepted. This count was recorded, and then after the debate had taken place, another count was taken of each member of the audience's new position on the issue. Whichever direction the count had gone from the first voting to the second indicated the winner of the debate.

This suggests a different approach. It might be proposed that whichever side has altered the plausibility of his thesis to a higher plausibility at the end of the dialogue, from the level of plausibility set at the beginning of the dialogue, should be declared to have the winning (strongest) argument. Here the external burden of proof, set for the course of the game, is equal, even if the initial, apparent burden of proof set by the plausibility of each thesis at the outset of play, was unequal. The inequality of the relative plausibility of each disputant's thesis is offset by the rule which sets the goal of the dialogue.

In this type of persuasive dialogue, which could be called a *Pierre Berton dispute* the disputant wins who has the greatest positive difference between the initial plausibility value (at the first move) and the final plausibility value (at the last move) of the sequence of dialogue.

In a Pierre Berton dispute, each participant has two goals. One is to persuade the audience to accept his thesis as more plausible than they thought it to be at the outset of dialogue. The other is to induce a plausibility increase greater than that effected by the opponent's arguments.

One problem in formulating the requirement for burden of proof in a Pierre Berton dialogue is to deal with the cases where neither participant induces a net increase of plausibility, over the course of the dialogue, for his thesis. This could happen where both arguments are ineffective, and the plausibility value of each thesis remains the same at the final moves as it was at the initial move. Or it could happen where one or both arguments are counterproductive and there is a drop in plausibility over the course of the argument.

The best way to deal with these cases is to rule that in each of them, the burden of proof requirement fails to be met. The reason behind this way of proceeding lies in the first goal of dialogue in a Pierre Berton dispute. The first goal is to persuade the audience to accept one's thesis as more plausible. And if this fails, the argument as a whole fails, and the burden of proof requirement should not be regarded as having been met.

Moving on to the case where there is some increase in plausibility value for a thesis over the course of the dialogue, the burden of proof requirement is met by the disputant who induces the greatest net increase in plausibility. This requirement stems from the second goal of dialogue in a Pierre Berton dispute.

Two technical conventions of burden of proof can make these rulings



easier to carry out. One is to rule that if a participant either induces a decrease in plausibility for his thesis over the course of the argument, or induces no net increase, then the differential plausibility of his argument is given a value of zero. Then if one arguer is assigned a value of zero, for either of these reasons, any positive gain at all by the other will win the dispute. Here even a very weak argument could swing the burden to one side. A second useful rule is to declare the dispute a *tie* if the two differential plausibility values for each side are equal.

The burden of proof requirements for a Pierre Berton type of dialogue can be represented in relation to figure 3 below, where  $T(P)$  is the Proponent's thesis, and  $T(R)$  is the Respondent's thesis. Generally, we are assuming that  $x \geq 0$  and  $y \geq 0$  to begin with. The arrows and dotted lines represent the sequence of moves during the course of the dialogue.

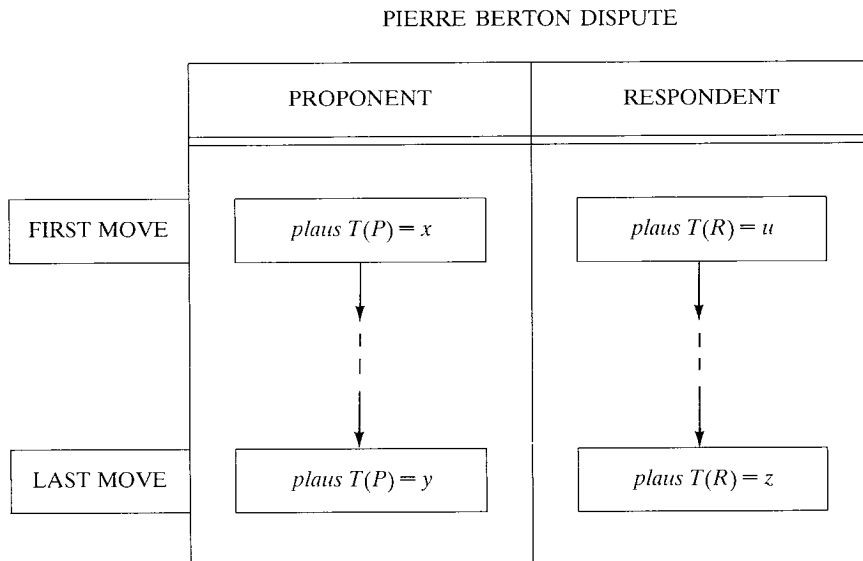


Fig. 3.

Generally, it is a requirement that for any arguer to meet the burden of proof requirement, at least one of them must have a net plausibility increase of greater than zero. Given this is so, then whoever has the greater increase (if one does) wins the dispute. Thus the burden of proof requirement for each participant can be expressed as follows.

$$\text{Proponent: } (y - x) > (z - u)$$

$$\text{Respondent: } (y - x) < (z - u)$$

The direct opposition of these win-requirements makes it clearly evident that a Pierre Berton dialogue is indeed a dispute. For although both conditions can fail in the event of a tie, if either requirement is met the other cannot be.

## 7. CONCLUSIONS

Further studies of burden of proof must study this concept in relation to (a) rules of plausible reasoning, (b) rules of reasoned dialogue, and (c) informal fallacies.<sup>10</sup> It is notable, however, that many of the traditional so-called fallacies are not fallacies at all, but are arguments that can sometimes be reasonable, as instances of plausible reasoning, yet can in some cases be subject to criticism for specific failures.

Burden of proof is important in reasoned dialogue because various strengths can be required in argument to persuade a reasonable arguer to change his opinion. And in the study of the so-called informal fallacies, it has too often been overlooked that plausible reasoning can be a legitimate basis for an argument where the evidence is not sufficient or appropriate to support deductive or inductive arguments.

Arguments based on expert testimony have been classified as informal fallacies – the *argumentum ad verecundiam* has traditionally been thought of as the fallacy of appeal to authority – when often, in fact, such arguments can be plausible arguments that may carry enough weight to reasonably shift a burden of proof in one direction in argument.<sup>11</sup> Of course, the reasonableness of such arguments is subject to an array of reservations. They may be inconsistent, out-of-date, inappropriate to the topic, or suffer from various faults. But in some cases, they can be reasonable arguments when they are reasonably supported, and correctly classified as plausible arguments that can shift a burden of proof in dialogue.

To cite another instance, the circumstantial *ad hominem* argument can in some cases be a reasonable type of criticism of an arguer's position. If Alice declares that nobody should smoke because it is unhealthy, while at the same time puffing on a cigarette, a criticism that she does not practise what she preaches should rightly shift the burden of proof onto her side of the argument to justify her position. That does not mean that her denunciation of smoking as a general practice is strongly refuted or proved false. But it should indicate, in the proper context of dialogue, that the burden of proof is on Alice to justify her position if she can. If she can't meet the burden, it doesn't follow that the proposition 'Nobody should smoke because it is unhealthy,' is false. But it should be taken to follow that Alice's advocacy of her argument, taken to include the personal commitment to smoking indicated by her actions – is not reasonably persuasive.<sup>12</sup>

Another case in point is the *petitio principii*. Circular argumentation is not necessarily fallacious or vicious. And indeed, there should be a burden of proof on the critic who alleges that a particular argument commits the fallacy of *petitio principii* to show (a) what the circle is in the argument, and (b) why the circle violates some requirement of reasoned argument in the particular context of dialogue at issue. The way to prove (b) is to give evidence that there is a requirement of evidential priority in the argument that has not been met. The requirement of *evidential priority* is the condition that the premises be more plausible than the conclusion that has been challenged or questioned. So here too, the key to understanding and proving why circular argumentation is fallacious, when it is objectionable, lies in an appreciation of how the burden of proof functions in reasoned dialogue.

The *argumentum ad ignorantiam* is, of all the traditional informal fallacies, the one most intimately connected to burden of proof. It was John Locke who first noted this connection when he described *ad ignorantiam* as the strategy of requiring an adversary to admit what has been alleged as a proof or "assign a better." The typical sequence of question-reply dialogue corresponding to this strategy is the following:

*Black*: Why A?

*White*: Why not A?

The fault of reasoned dialogue in such a reply is to be sought in the backward-chaining burden of a why-question which requires, in this case, proof of A. Where the rules of dialogue indicate that an answer is required, the pattern of replying to one question by asking another, as above, is not to be tolerated.

But then, in other cases, replying to a question with another question is not only reasonable, it may be the only kind of reply that is reasonable. For as we saw in the example of political dialogue at the beginning of section 1., a respondent should in some cases shift the burden back onto the questioner by challenging the question. And indeed, one of the most important lessons of burden of proof is that this questioning form of reply may be necessary and correct in reasoned dialogue.

One of the most trenchant and fundamental criticisms of reasoned dialogue as a method of arriving at a conclusion is that argument on a controversial issue can go on and on, back and forth, without a decisive conclusion ever being determined by the argument. The only defence against this criticism lies in the use of the concept of the burden of proof within reasoned dialogue. Once a burden of proof is set externally, then it can be determined, after a finite number of moves in the dialogue, whether the burden has been met or not. Only by this device can we forestall an argument from going on indefinitely, and thereby arrive at a definite conclusion for or against the thesis at issue.

Admittedly this way of arriving at a conclusion could be viewed as a form of *argumentum ad ignorantiam*, but of course it does not follow that all argumentation by the method of reasoned dialogue is fallacious or erroneous. It does show that such argumentation is very often, and typically, a species of plausible reasoning.

Reasonable dialogue has to do with shifts in the burden of proof according to the rules of dialogue. These rules may include specific rules for deductive argument, inductive argument, plausible argument, and other procedural rules of asking questions and replying to them. There are many special contexts of dialogue, but we still need to ask - is there some deeper, fundamental purpose of reasonable persuasive dialogue, and if so what is its principal benefit? Why study plausible reasoning if it is so notoriously subject to fallacies, errors and subtle shifts that can easily lead us astray?

It is a natural presumption that the most significant benefit of argumentative dialogue - where the goal of dialogue is for the one participant to convince or persuade the other by reasonable argument - is the insight, or information increment, produced by the dialogue in the one to whom the argument is directed. And this is the objective of persuasive reasoned dialogue that we have emphasized so far. Thus if I become convinced of some proposition I was not previously committed to, by your argument, then the value or benefit of the dialogue has been my increased understanding, awareness or insight with regard to my own position in the argument. Good dialogue has altered my position, and thereby deepened, refined, or articulated that position in some positive way.

However, it may be less often recognized that there may be an important benefit of argumentative dialogue for the one who has advanced the reasoned argument, as well as the benefit gained by the recipient. For by constructing and successfully mounting the reasoned argument, the arguer may have also succeeded in refining and articulating his own position. Sometimes at the outset of argument, an arguer's position may be clear in some respects, but murky and shapeless in others, and through the process of having to defend his position against an opponent's queries and criticisms, that position may be more clearly and broadly defined. This process can give the arguer significant insight into his own position.

This description of reasoned dialogue as a process of deepened insight into one's own position on a controversial issue is consistent with the Socratic view of dialogue as a means to attain self-knowledge. For Socrates, the process of learning was an ascent from the depths of the cave towards the clearer light of self-knowledge through the process of reasoned, and primarily verbal, dialogue with another discussant, on controversial issues. What Socrates emphasized as a most important benefit or gain of dialogue was self-knowledge. It was somehow through

the process of articulation and testing of one's best arguments against an able opponent in dialogue that real knowledge was to be gained.

This Socratic point of view draws our attention to the more hidden and subtle benefit of good, reasoned dialogue. Not only does it enable one to rationally persuade an opponent or co-participant in discussion, but it is also the vehicle that enables one to come to better understand one's own position on important issues, one's own reasoned basis behind one's deeply held convictions. It is the concept of burden of proof that makes such shifts of rational persuasion possible, and thereby enables dialogue to contribute to knowledge.

From this Socratic perspective then, the educational value of dialogue is self-knowledge, the insight offered into the arguer's own convictions gained through argumentative interaction with an able opponent.<sup>13</sup>

#### NOTES

<sup>1</sup> See Douglas N. Walton, 'Are Circular Arguments Necessarily Vicious?', *American Philosophical Quarterly* **22**, 1985, 263-274.

<sup>2</sup> See Woods and Walton (1978).

<sup>3</sup> For confirming arguments, see Robinson (1971).

<sup>4</sup> See Barth and Krabbe (1982), Rescher (1977), and van Eemeren and Grootendorst (1984) for elaboration of the various components of reasoned dialogue.

<sup>5</sup> See Forsyth (1984).

<sup>6</sup> See Bratko (1986).

<sup>7</sup> Encyclopaedia article (1973).

<sup>8</sup> Ibid., p. 914.

<sup>9</sup> Ibid., p. 914.

<sup>10</sup> See John Woods and Douglas Walton, 'Argumentum ad Verecundiam,' *Philosophy and Rhetoric* **7**, 1974, 135-153.

<sup>11</sup> For supporting arguments, see Brown (1971) and Sproule (1976).

<sup>12</sup> This case is also discussed in Walton (1985).

<sup>13</sup> Research for this paper was supported by a Research Grant from the Social Sciences and Humanities Research Council of Canada, a Killam Research Fellowship, and a Fellowship from the Netherlands Institute for Advanced Study in the Humanities and Social Sciences.

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