What Do We Argue For? A Goal-oriented Taxonomy of the Uses of Argument

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Abstract

This paper discusses a taxonomy of uses of argument that is based on the arguer's goals on the audience's mind. Our claim in a nutshell is that *what we argue for* greatly influences *how we decide to argue* in order to get there. We start emphasizing an ambiguity in current models of argument, concerning the difference between arguing for proper belief and arguing for mere acceptance. Then we import into argumentation theories a technical distinction between *belief* and *acceptance* originally introduced in epistemology and theory of action. We proceed by adding an orthogonal dimension of analysis, in terms of different *levels of conviction*: in particular, we propose a clear-cut distinction between self-sustained and heteronymous conviction. On these grounds, we define a 2-by-2 taxonomy of argument uses according to the arguer's goals, and we discuss its import for two crucial features of argumentation: the kind of *commitment* our arguments entail, and their *efficacy* upon the audience.

1 Introduction

In argumentation theories, it is not always explicitly indicated whether the claim of an argument is supposed to be a matter of *belief*, or rather a question of pragmatic *acceptance* – or either of them, depending on contextual features. When pressing our view on the counterpart, are we aiming at convincing them of the truth of our own case (belief), or would we be satisfied if they simply went along with it for practical purposes (acceptance)? This tension is manifest not only in persuasive argumentation, but also across other conversational contexts: inquiry, negotiation, information-search, deliberation, eristic confrontation [Walton, 1998; Johnson, 2000]. For instance, when we assess cooperatively a hypothesis in an inquiry, are we trying to decide whether it corresponds to the truth, or just checking if it is warranted to further reason and act on that assumption [Fraassen, 1980]?

The issue is rarely mentioned explicitly, with the result that in some instances it is difficult to understand what is the position endorsed by a certain author. This is the case with Toulmin's account, as the following excerpt testifies: «[T]o *accept* the datum and the backing is thereby to *accept* implicitly the conclusion also; if we string datum, backing and conclusion together to form a single sentence, we end up with an actual tautology» [Toulmin, 1958/2003, p. 115; our italics].

Here the verb 'to accept' is used in a non-technical meaning, basically as if it was synonymous of 'to take something as valid'. In contrast, this is not necessarily the sense in which the same expression is employed in pragma-dialectics: «In his endeavour to transfer the *acceptability* of the premises to the conclusion, and to achieve the interactional effect that the listener *accepts* his standpoint, the speaker tries to put forward his argument in such a fashion that it convinces the listener. He communicates, as it were, that he knows the way that leads from what is already *accepted* to the standpoint» [Eemeren and Grotendorst, 1992, p. 96; our italics].

What makes us inclined towards a pragmatic interpretation of the notion of acceptability here is the fact that pragma-dialecticians are known to be in open disagreement with proponents of the so call epistemic account of argumentation [Goldman, 1999; Lumer, 2006; Biro and Siegel, 2006], according to which the rationality of a given argument should be measured against its capability of supporting justified belief. In contrast, pragma-dialectics seems to require only that rational arguers accept for practical purposes (including future dialogue moves) the standpoint that has been correctly argued for, regardless the fact that they come to believe it or not – and, possibly, regardless the justifications that they may have to do so [Biro and Siegel, 2006]. In a somehow similar fashion, the issue of acceptance was debated also by Johnson [1990] and Walton [1993], when they were disputing on the proper interpretation of Hamblin's insistence for a dialectical account of fallacies [1970]: Johnson was strongly critical about Hamblin's stance on this point, whereas Walton tried to defend it from Johnson's critique. In their debate acceptance-based argumentation was distinguished from knowledge-based argumentation, and dialectical criteria were opposed to epistemic or alethic criteria for argument validity. However, in what follows we will see that the notion of acceptance being disputed by Johnson and Walton was significantly different from the one being introduced in this paper: in the context of their discussion, 'acceptance' referred to an argument being effective in inducing the audience to take its conclusion as established,

possibly without good (epistemic) reasons for doing so. But this has little bearing on whether this received conclusion should be regarded as being believed, i.e. considered true, or merely *pragmatically* accepted, i.e. taken as a tentative ground for subsequent moves.

In the work of some authors, it is instead quite clear that the aim of argument is considered to be inclined towards producing a specific belief in the audience, rather than mere conventional agreement [Paglieri and Castelfranchi, 2005; 2006]. This appears to be the perspective endorsed by Perelman and Olbrechts-Tyteca, when they discuss argumentation as an effort to gain some 'adherence of minds' and 'mental cooperation' [1969, pp. 14-16]. Even more neat, in this respect, is the definition of argument recently championed by Johnson, where argumentation is directly linked with an endeavour to show the truth of a given claim, i.e. to establish such claim as a belief in the mind of the audience: «An argument is a type of discourse or text – the distillate of the practice of argumentation – in which the arguer seeks to persuade the Other(s) of the truth of a thesis by producing the reasons that support it» [Johnson, 2000, p. 168].

A similar orientation towards belief in argumentation is also characteristic of Freeman [2005], who precisely discerns between acceptance of a given premise (in the pragmatic sense further developed here) and its acceptability as a presumptively valid truth-carrier, i.e. a belief, and then concentrates on this latter aspect of premise validity.

In sharp contrast, other scholars paid great attention in severing belief from the core of their theories of argument. This is for instance the case of the notion of commitment, as characterized by Walton in opposition to BDI models: «Much traditional thinking about argumentation in philosophy as well as AI has been based on a BDI (belief-desire-intention) model. But there have been many difficulties with the BDI model. Beliefs, desires and intentions are psychological states, and in trying to analyze or evaluate argumentation, trying to pin down an arguer's actual mental states can be quite a hard task. On the other hand, it is often possible to cite textual evidence to indicate what statements an arguer has committed himself to. Commitment can be seen as public. In a dialogue, a participant becomes committed to a statement in virtue of having gone "on record" by asserting it […]. It should be clearly recognized that […] commitment is not the same as belief. Commitment is a normative notion, meaning that the structure of the dialogue along with the arguer's recorded moves determine the arguer's commitments » [Walton, 2005, pp. 63-64].

This short survey of different standpoints highlights some preliminary considerations on the question whether arguments induce proper belief or mere acceptance: (i) there is a variety of positions currently endorsed in the field, and some of them are mutually incompatible; (ii) the distinction between belief and acceptance is rarely employed in a well-defined technical meaning (an exception is Freeman [2005]); (iii) as a result, the debate on these issues has been partially plagued by using ill-defined and diverse notions. By way of reaction to this fragmented landscape, we argue that belief and acceptance are neither synonymous nor mutually reducible, as it was revealed by significant contributions in epistemology and action theory [Fraassen, 1980; Stalnaker, 1984; Bratman, 1992; Cohen, 1992; Engel, 2000; Tuomela, 2000; Wray, 2001; Gilbert, 2002; Hakli, 2006]. Building on this literature, we aim to illustrate its significant import for argumentation theories, especially to inform current taxonomies of the uses of argument. In particular, we will draw a distinction between *belief-aimed* and *acceptance-aimed argumentation*, to discuss their distinct properties in terms of commitments and efficacy of argument schemes. Then we will add an orthogonal dimension to this distinction: namely, *levels of conviction*. This will allow us to articulate a taxonomy of four different uses of argument, differentiated on the ground of *the goals of the arguer on the audience's mind*.

2 Belief vs. Acceptance: A Technical Distinction

In the technical sense in which the distinction is used within the contemporary philosophical debate, the juxtaposition of belief and acceptance can be traced back at least to Stalnaker [1984]. In the context of his analysis of inquiry, i.e. the process whereby we purposefully acquire and change our convictions about the world, he introduced the notion of acceptance as a technical term, used to identify a broad class of propositional attitudes of which belief is a member. Here is the tentative definition of the concept provided by Stalnaker: «Acceptance, as I shall use this term, is *a broader concept than belief*; it is a generic propositional attitude concept with such notions as presupposing, presuming, postulating, positing, assuming and supposing falling under it. […] To accept a proposition is *to treat it as a true proposition* in one way or another – to ignore, for the moment at least, the possibility that it is false. […] To accept a proposition is *to act, in certain respects, as if* one believed it» [Stalnaker, 1984, pp. 79-80; our italics].

Here the notion of acceptance is linked, by definition, with the practical usage of a certain representation in connection with an action: the accepted proposition is *treated* as true, i.e. the individual *acts* in certain respects *as if* it were indeed held to be true. Moreover, the notion is deemed to be broader than belief, so that the class of acceptances encompasses the class of beliefs as one of its subsets. While the former claim is unanimously accepted in the current literature, the latter is extremely controversial. According to Stalnaker, to believe something would imply accepting it as well. But this view is in contrast with all those cases of acceptances which explicitly contradict the agent's beliefs, for instance due to prudential reasons. I believe the world to be a certain way, but given my general understanding of the relevant contingencies and my personal goals, it is advisable for me to behave according to a picture of the world different from the one I hold to be (most probably) true. Consider the following example: «I plan for a major construction project to begin next month. I need to decide now whether to do the entire project at once or instead to break the project into

two parts, to be executed separately. The rationale for the second strategy is that I am unsure whether I presently have the financial resources to do the whole thing at once. I know that in the case of each sub-contractor – carpenter, plumber, and so on – it is only possible at present to get an estimate of the range of potential costs. In the face of this uncertainty I proceed in a cautious way: In the case of each sub-contractor I take it for granted that the total costs will be at the top of the estimated range. On the basis of these assumptions I determine whether I have at present enough money to do the whole project at once. In contrast, if you offered me a bet on the actual total cost of the project – the winner being the person whose guess is closer to the actual total – I would reason differently» [Bratman, 1992, p. 6].

In similar situations, the subject accepts something which he does not believe, and (more crucially against Stalnaker's claim) he believes something that he does not accept, i.e. that he is unwilling to use as a basis for his action. In Bratman's example, he has in mind an estimate of the most likely total cost of the construction work, but he does not act on the basis of this estimate. Hence, to account for the fact that there are instances of both "believing without accepting" and "accepting without believing", several authors [Fraassen, 1980; Bratman, 1992; Cohen, 1992; Tuomela, 2000], in contrast with Stalnaker and others [Engel, 2000; Wray, 2001], consider beliefs and acceptances to be closely related but *mutually independent* concepts, neither of which entails the other. This is the view we will take in this paper.[1]

As for characterising the distinctive features that differentiate between beliefs and acceptances, several proposals have been advanced [Stalnaker, 1984; Bratman, 1992; Cohen, 1992; for summary and comparison, see Paglieri, 2006, pp. 20-28], usually listing several dichotomies between belief and acceptance: involuntary vs. voluntary, gradual vs. all-or-nothing, context-free vs. context-dependent, truth-aiming vs. action-oriented, and so on. However, for the purposes of the present inquiry, it is not necessary to discuss all the features proposed in the literature to distinguish (pragmatic) acceptance[2] from belief. It will suffice to concentrate on a single trait, from which all the others arguably derive [Hakli, 2006; Paglieri, 2006]. Here we will focus on the *different functional roles* that belief and acceptance play in the cognitive economy of the subject: whereas the former is meant to provide a veridical representation of the world (*alethic function*), the latter is shaped by the practical concerns of the agent, i.e. its role is to provide a representation of the world that is suitable for supporting successful deliberation and effective action (*pragmatic function*). Whereas beliefs describe *how we hold the world to be*, acceptances define *the premises we rely upon* in our practical reasoning – and, according to the independence position, those two sets of mental representations do not always coincide. Furthermore, the criterion to assess the validity of belief is *truth*: a belief is considered correct if it turns out to correspond to the actual world. Instead, the validity of acceptance is measured in terms of pragmatic *success*: if the choices one makes and the actions one takes based on one's acceptance that p turn out to be felicitous, then the subject was correct in accepting p.[3]

It is important to emphasize that, according to this view, the distinctive properties which characterize belief and acceptance are *functional*, in the sense that they describe the purposes for which a certain mental representation is formulated, used, and evaluated. It follows that *a particular mental representation can be simultaneously both believed and accepted* – indeed, this is by far the most common case, since our beliefs usually provide the safest foundations for our decisions. The reason for this is obvious: we have to act in the real world, therefore our intuitions about the nature of this world constitute valuable blueprints for coordinating our actions. Nevertheless, it is possible for some of our mental representations to be accepted without being believed, and for others to be believed without being accepted.

3 Belief-aimed vs. Acceptance-aimed Argumentation

Let us now try to import the technical distinction between belief and acceptance within argumentation theory, to the effect of defining two different uses of argument, depending on the goals of the arguer about the mind of the audience. In particular, we are interested to distinguish between the following categories:

Belief-aimed argumentation: the arguer aims at producing a specific *belief* in the mind of the audience, making them committed to the *truth* of a given claim.

[1] This is not to say that this understanding of the distinction belief vs. acceptance is faultless. Two reviewers independently suggested that Bratman's construction example is not completely convincing, insofar as the same situation could be explained in terms of uncertainty and beliefs on possibilities, rather than invoking the notion of acceptance. We agree with this line of criticism and plan to explore alternative approaches to the notion of acceptance in future work (see 5). Nevertheless, in order to import the distinction between belief and acceptance in argumentation theories, we feel it is better to start from a well-established (although possibly defective) definition of these notions, as the one provided by Bratman.

[2] Here we deliberately avoid any discussion of the further distinction between *acceptance as true* (as *assent*) and *pragmatic acceptance*, since only the latter notion is relevant for the present analysis of delusions. The interested reader will find discussions of this issue in Engel [1998], Tuomela [2000], Hakli [2006], and Paglieri [2006].

[3] One should be careful to distinguish *success* from *optimality*, as they are obviously two different criteria, and only the former is needed to validate an act of acceptance. The prudential rationale for accepting an assumption that is not believed (i.e., that is not considered the most likely account of how things truly are or will be) is to ensure that the actions based on such an assumption will be successful, i.e. that they will produce the desired outcome. The subject, however, has no reason to expect such actions to be optimal, i.e. to achieve the desired outcome in the most efficient way. On the contrary, because these actions were based on the most pessimistic, cautious estimate of the costs, it is very likely that they will end up being effective but *suboptimal*.

Acceptance-aimed argumentation: the arguer aims at inducing *pragmatic acceptance* of the claim, committing the audience to *go along with it for practical purposes* (including prosecution of the dialogical interaction).

Several points are worth emphasizing. First, it should be clear that those categories are not intended to be mutually exclusive – that is, it is perfectly possible for an arguer to aim at both belief and acceptance. And yet, the distinction remains conceptually clear and theoretically legitimate, while later on we will discuss if it is also applicable in practice, i.e. whether or not it is actually possible to tell apart instances of belief-aimed and acceptance-aimed argumentation in real life discourse. For the time being, however, we are interested in defending the legitimacy of this distinction in principle, in order to assess its impact on argumentation theories. Moreover, we want to call attention to the fact that such a distinction is based on the *cognitive attitudes* of the arguer: more precisely, their goals on the mind of the audience and on the nature of the agreement to be pursued through discussion. As such, the resulting taxonomy is *transversal* to other classifications of possible uses of argument, like those proposed by Walton and Krabbe [1995] and Blair [2004], where the relevant dimension is social and interactive (dialectical moves), rather than cognitive (mental attitudes). We will see in what follows how this difference reflects on the heuristic power of the taxonomy.

The main import of the distinction between belief-aimed and acceptance-aimed argumentation is twofold: it helps refining and clarifying the notion of *dialogical commitment*, and it provides an insight on (some of) the reasons for the *efficacy* of argument schemes in a given context. Let us consider both these points in turn.

We saw before that the notion of commitment, as depicted by Walton following Hamblin, is *public*, *normative*, and based on *dialectical rules*. According to Walton, commitment is public insofar as it depends only on what is explicitly stated by the speaker, plus what he or she can be reasonably surmised to be committed to implicitly, e.g. by effect of conversational implicatures; it is normative because it binds the future dialogical moves of the speaker; and it is based on dialectical rules, finally, since the type of dialogue in which participants are engaged largely determines what kind of commitments can be expected to stem from their assertions [Walton and Krabbe, 1995]. In this perspective, we perceive an ambiguity as lingering over the notion of commitment: it remains unclear whether the speaker is supposed to be either pragmatically or epistemically committed to the content of the assertion – or both. The binding force of commitment is pragmatic in nature, insofar as it constraints future dialogical moves, but it also incorporates epistemic concerns into it, e.g. the need to avoid inconsistencies and to provide reasons for one's own view when asked. While such an ambiguity does not undermine the notion in itself (indeed, it is a consequence of defining commitment without referring to mental attitudes), it reveals that Walton's understanding of commitment is 'blind' to the distinction between belief and acceptance, as construed here.

In contrast, the notion of commitment we defend is both *personal* and *public* at the same time, *normative*, and based on (the reasonable attribution of) *mental states*. Normativity is shared by both views. However, our understanding of commitment incorporates both the private and the public dimension of this notion, and the mutual interplay between these two aspects [Castelfranchi, 1995a]. With reference to arguments, the speaker who makes a certain assertion is primarily (and necessarily) individually committed to behave in the future coherently with the content of such an assertion, unless valid reasons for retracting it can be provided – and the kind of constraints that this projects on dialogue moves depends crucially on the mental attitude that the assertion was meant to convey, as we shall discuss shortly. At this personal level, commitment does not stem from publicly shared norms of discourse, but rather from the individual perseverance of intentional agents, that are supposed to remain reasonably committed to their own goals, including dialogical goals – this is the sense of commitment analyzed by Bratman [1987] and Cohen and Levesque [1990]. These individual commitments become social, and possibly public, whenever the speaker's assertions give cause to other agents to attribute to the speaker specific mental attitudes (intentions, beliefs, acceptances), to which he or she is subsequently considered dialogically committed [Castelfranchi, 1995a]. In this perspective, utterances are mediators between personal commitments and public obligations. This in turn implies that the nature of the dialogical commitment endorsed by asserting something is determined by the cognitive reality that the assertion reveals. With reference to the technical distinction between belief and acceptance, this is instrumental to define two different kinds of commitment:

Pragmatic commitment: it is an obligation, retractable only under appropriate circumstances, *to act coherently* with the content of a given assertion, and to provide *reasons for one's acceptance* of that content for practical purposes.

Epistemic commitment: it is an obligation, retractable only under appropriate circumstances, *to uphold the factual truth* of the content of a given assertion, and to provide *reasons for one's belief in that content.*

As we emphasized in section 2, reasons for acceptance can differ sharply from reasons for belief, and therefore also the kind of justification that one may have to provide for a certain claim can vary, depending whether the relevant commitment is either pragmatic or epistemic. On the other hand, we also saw that, quite frequently, what is accepted and what is believed coincide, and the same apply to the two kinds of commitment highlighted above: in many cases, our assertions carry with them the burden of both pragmatic and epistemic commitment. Nevertheless, these types of obligation are clearly discernible in principle, and should be

treated as such by any comprehensive theory of dialogical commitment.

The other feature of arguments on which the distinction between belief and acceptance exerts its influence is the issue of *efficacy*. Considering how we have construed belief-aimed and acceptance-aimed argumentation, it becomes immediately evident that some kinds of argument schemes can be effectively applied only to the latter. This is for instance the case of arguments from consequences, arguments from ignorance, argumentum ad baculum (threats), and more generally any argumentative strategy that emphasize pragmatic reasons in order to incline the audience towards acknowledging to a certain claim. Such arguments directly appeal to deliberation: the audience is asked to make a choice on what is the most advisable course of action in the context of the dialogue, and therefore what would be the points it is in their best interest to concede. However, believing is widely considered as being beyond the influence of direct voluntary control, so that *we cannot in fact pick and choose what to believe*, and our beliefs are held to be the product of epistemic considerations largely independent from our will.[4] It is because of this non-negotiability of belief that the argument schemes mentioned above cannot be used to make the audience believe anything, whereas they can be most effective in influencing what the audience is ready to accept for practical purposes.

These observations suggest that the efficacy of arguments depends crucially on the aims of the arguer, since it is from the arguer's goals on the audience's mind that the distinction between belief-aimed and acceptance-aimed argumentation originated. It is interesting to observe that, while we were able to identify arguments that affect acceptance but not belief, instances of the converse case are not so easy to find: to the best of our knowledge, there is no argument schemes that is effective only with reference to belief, and that does not work to foster acceptance. This may be due to the fact that belief is a strong reason for acceptance: so, all other things being equal, any argument that directly promote belief would also endorse, albeit indirectly, pragmatic acceptance. Whatever the reason, this asymmetry may require further scrutiny in the future.

Finally, it is worth emphasizing again that efficacy of arguments is an altogether different issue from their rational validity or conversational legitimacy. Moreover, it is validity or legitimacy to be usually addressed by other taxonomies of the uses of argument [Walton and Krabbe, 1995; Blair 2004], not efficacy. While the mere fact that efficacy turns out to be context-dependent is certainly not a surprise, it is relevant to strive for a better understanding of exactly *what* contexts determine the effectiveness of our arguments, and *how* such influence is mediated by the cognitive attitudes of the arguer and the attributions of mental states that intervene between the parties engaged in dialogue. It is in this direction that the current analysis, oriented by cognitive concerns and based on epistemological considerations, is meant to move a first, tentative step.

[4] This thesis is challenged in epistemology by *doxastic voluntarism* [Steup, 2000; Ginet, 2001; Wansing, 2006], according to which belief is to some degree under voluntary control. For further critical discussion, see Castelfranchi [1995b] and Paglieri [2006].

4 Levels of Conviction: Heteronymous vs. Self-sustained

An orthogonal dimension may now be added to the distinction between belief-aimed and acceptance-aimed dialogues, in order to refine the resulting taxonomy of uses of argument. Here we are interested to briefly discuss *levels of conviction*, and, by way of first approximation, we will consider only two extremes, *heteronymous* vs. *self-sustained* conviction. The distinction does not depend on the strength with which a claim is positively received by the audience, but rather on its standing in their mind in relations with the original proponent: if the audience opinion remains *conditioned* to the proponent's position, conviction is said to be heteronymous, since they would drop the new claim as soon as it was no more endorsed by the arguer; otherwise, if the audience comes to hold the claim for *autonomous* reasons, i.e. they would maintain it even if the proponent should retract his or her original position, persuasion is said to be self-sustained. Concerning the arguer's discursive goals, they may be oriented to achieve either deep conviction (self-sustained) or just a shallow form of temporary persuasion (heteronymous). If we now apply this new distinction to the categories of belief-aimed and acceptance-aimed argumentation, we end up with a 2-by-2 taxonomy of uses of argument, determined solely by the arguer's goals:

Four uses of argument (depending on arguer's goal)		Aiming at:	
		Acceptance	Belief
Level of conviction:	Heteronymous	*Acceptance-aimed heteronymous argumentation*	*Belief-aimed heteronymous argumentation*
	Self-sustained	*Acceptance-aimed self-sustained argumentation*	*Belief-aimed self-sustained argumentation*

Again, the arguer's goals make a difference not only in the kind of commitment that may come to be expected from the audience once (and if) they are convinced, but also in the efficacy of the arguments being employed in the discourse. For instance, it is self-evident that arguments from expert opinion or from testimony in which the expert / witness coincides with the arguer can be effective just for heteronymous conviction, because, by definition, these arguments carry presumptive weight only insofar as the expert / witness maintains a consistent view of things. Moreover, it should be noticed that aiming at different levels of conviction, as construed above, is not merely a theoretical possibility, but also a crucial element in determining effective argumentative strategies in different contexts: while heteronymous conviction is usually much more practical to seek in matters of authority or in situations requiring quick deci-

sions, arguers may find convenient, or even necessary, to aim deliberately at self-sustained conviction in many other important domains, such as education, policy-making, and more generally in all those issues requiring pondered deliberation.

However, although this goal-oriented taxonomy of the uses of argument certainly holds some reason of interest, it must now face a possible objection: How can we tell apart these different uses of argument, since they are characterized in terms of the mental dispositions of the arguer? What could allow us to determine what is in the mind of the arguer, so that we can decide whether a particular instance of argumentation is either belief-aimed or acceptance-aimed, of whether it targets heteronymous or self-sustained conviction? These empirical questions are very important: if we should fail to answer them adequately, this would jeopardize the practical usefulness and applicability of the approach proposed here.

Let us try to work out a first, tentative answer to these concerns. On the bright side, it may be noticed that quite often dialogues are transparent with reference to the speakers' goals. Consider for instance the following excerpt:

ALEX: We should visit the Van Gogh Museum rather than the Red Light District: this is consistent with our academic inclinations.
BART: Mmh… well, yeah, let's do that.
ALEX: Hold on, wait a minute – are you truly convinced, or are you just being polite with me?

Here it is quite indisputable that Alex's goal is to have Bart convinced that visiting the Van Gogh Museum is objectively better than wandering in the Red Light District; moreover, Alex would want Bart to think so for his own good reasons, and not just because Alex said so. In other words, Alex is clearly engaging in belief-aimed self-sustained argumentation. In contrast, consider the following:

CHRIS: I feel sorry for you, you really look fed up with museums… I think it would be refreshing for you if we have a walk into the Red Light District, just for fun… don't you agree?
DOUG: Well, if you think so…
CHRIS: Brilliant – I just knew it! Let's go right now!

Obviously, here Chris' purposes are all about acceptance-aimed heteronymous argumentation: he wants to go to the Red Light District, and as long as Doug is ready to go with him, he could not care less whether Doug is truly convinced or not, and why.

Not only dialogues, but also some specific argument schemes appear to be revealing of the argumentative aims of the person who decides to employ them. As we discussed before, arguments focused on the practical consequences of maintaining a certain claim are characteristic of acceptance-aimed argumentation, whereas arguments in which the proponent is posing as an alleged authority or witness are systematically aimed at heteronymous conviction. These considerations suggest that some argument schemes may work as effective clues of what is on the mind of the arguer, therefore facilitating the application of the taxonomy defended here.

This said, we should not overlook the fact that these intuitions on 'the mind behind the words' are far from perfect, and not all instances of real life discourse are likely to be equally transparent in this respect. Indeed, dialogues and arguments can often be *opaque* with reference to the arguer's goals, in a twofold sense: it may be impossible to tell apart the intentions of the arguer, given the textual evidence that we possess, or it may even be the case that those intentions remain unspecified in the arguer's mind, i.e. he or she could be indifferent to the exact cognitive transformation induced in the audience, as long as some basic communicative needs are satisfied.

So, what is the outcome of these preliminary reflections on what we may call 'the empirical problem' of cognitively oriented taxonomies of argument uses? Notwithstanding the difficulties just recalled, it seems to us that the prospects are not so gloomy: using the alleged goals of the arguer to tell apart different uses of argument is certainly going to be complicated, and further refinements of the taxonomy sketched here are likely to be needed, but more often than not argumentative goals are quite manifest throughout our discourses, and using them to inform our analysis provides some relevant insight on the kind of dialogical obligations incurred by the speakers, as well as on the efficacy of their arguments.

5 Conclusions and Future Work

This contribution presented a first, preliminary attempt to use complex mental states (more precisely, the arguer's goals on the audience's mind) to inform a taxonomy of argument uses, and to speculate on its import for a variety of features of argumentation – most noticeably, commitment and efficacy. We conceive this work as preliminary for two reasons. First, the taxonomy proposed here will require further theoretical refinement and empirical verification, including identification of objective criteria for distinguishing between different argumentative goals on the ground of textual and contextual evidence. Second, we are still struggling to make full sense of the distinction that lies at the core of our proposal: the difference between belief and acceptance. In future work we plan to verify whether the notion of acceptance can be taken to constitute a genuine mental primitive, or if it would be better analyzed in terms of a system of beliefs and motivations (contra Bratman). On the ground of these critical scrutiny, we intend to develop a better understanding of the difference between believing and accepting, one that would withstand analogous criticisms. In turn, this work of conceptual clarification will have a major impact also on the taxonomy of argument uses that was introduced here.

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References

Biro, J. & H. Siegel (2006). Pragma-dialectic versus epistemic theories of arguing and arguments: Rivals or partners?. In: P. Houtlosser & A. van Rees (Eds.), *Considering pragma-dialectics*. Mahwah: LEA, in press.

Blair, J.A. (2004). Arguments and their uses. In: *Proceedings of the 2nd Tokyo Conference on Argumentation*. Tokyo: Japan Debate Association, 21-27.

Bratman, M. (1987). *Intention, Plans, and Practical Reason*. Cambridge: Harvard University Press.

Bratman, M. (1992). Practical reasoning and acceptance in a context. *Mind* 101, 1-15.

Castelfranchi, C. (1995a). Commitments: From individual intentions to groups and organizations. In: V. Lesser (Ed.), *Proceedings of the ICMAS'95*. San Francisco: AAAI Press, 528-535.

Castelfranchi, C. (1995b). Guarantees for autonomy in cognitive agent architecture. In M.J. Wooldridge & N.R. Jennings (Eds.), *Intelligent Agents*. Berlin: Springer, 56-70.

Cohen, L.J. (1992). *An Essay on Belief and Acceptance*. New York: Oxford University Press.

Cohen, P.R. & H.J. Levesque (1990). Intention is choice with commitment. *Artificial Intelligence* 42, 213-261.

Eemeren, F.H. van & R. Grootendorst (1992). *Argumentation, Communication, and Fallacies. A Pragma-Dialectical Perspective*. Hillsdale: LEA.

Engel, P. (Ed.) (2000). *Believing and Accepting*. Dordrecht: Kluwer.

Fraassen, B.C. van (1980). *The Scientific Image*. New York: Oxford University Press.

Freeman, J.B. (2005). *Acceptable Premises: An Epistemic Approach to an Informal Logic Problem*. Cambridge: Cambridge University Press.

Gilbert, M. (2002). Belief and acceptance as features of groups. *Protosociology* 16, 35-69.

Ginet, C. (2001). "Deciding to believe". In M. Steup (Ed.), *Knowledge, truth, and duty*. Oxford: Oxford University Press, pp. 63-76.

Goldman, A. (1999). *Knowledge in a Social World*. Oxford: Clarendon.

Hakli, R. (2006). Group beliefs and the distinction between belief and acceptance. *Cognitive Systems Research* 7, 286-297.

Hamblin, C.L. (1970). *Fallacies*. London: Methuen.

Johnson, R.H. (1990). Acceptance is not enough: A critique of Hamblin. *Philosophy and Rhetoric* 23, 271-287.

Johnson, R.H. (2000). *Manifest Rationality: A Pragmatic Theory of Argument*. Mahwah: LEA.

Lumer, L. (2006). The function of argumentation and pragma-dialectics. In: J.A. Blair, F.H. van Eemeren & C.A. Willard (Eds.), *Proceedings of ISSA 2006*. Amsterdam: Sic Sat, forthcoming.

Paglieri, F. (2006). *Belief Dynamics: From Formal Models to Cognitive Architectures, and Back Again*. PhD dissertation: University of Siena.

Paglieri, F. & C. Castelfranchi (2005). Revising beliefs through arguments: Bridging the gap between belief revision and argumentation in MAS. In: I. Rahwan, P. Moratïs & C. Reed (Eds.), *Argumentation in Multi-Agent Systems*. Berlin: Springer-Verlag, 78-94.

Paglieri, F. & C. Castelfranchi (2006). The Toulmin Test: Framing argumentation within belief revision theories. In: D. Hitchcock & B. Verheij (Eds.), *Arguing on the Toulmin Model*. Berlin: Springer, 327-343.

Perelman, C. & L. Olbrechts-Tyteca (1969). *The New Rhetoric: A Treatise on Argumentation*. Notre Dame: University of Notre Dame Press.

Stalnaker, R. (1984). *Inquiry*. Cambridge: MIT Press.

Steup, M. (2000). "Epistemic deontology and the voluntariness of belief". *Acta Analytica* 15, pp. 25-56.

Toulmin, S. (1958). *The Uses of Argument*. Cambridge: Cambridge University Press.

Tuomela, R. (2000). Belief versus acceptance. *Philosophical Explorations* 2, 122-137.

Walton, D.N. (1993). Alethic, epistemic, and dialectical models of argument. *Philosophy and Rhetoric* 26, 302-310.

Walton, D.N. (1998). *The New Dialectic: Conversational Contexts of Argument*. Toronto: University of Toronto Press.

Walton, D.N. (2005). How to evaluate argumentation using schemes, diagrams, critical questions and dialogues. *Studies in Communication Sciences*, special issue on "Argumentation in dialogic interaction", 51-74.

Walton, D.N. & E. Krabbe (1995). *Commitment in Dialogue: Basic Concepts of Interpersonal Reasoning*. Albany: SUNY Press.

Wansing, H. (2006). "Doxastic decisions, epistemic justification, and the logic of agency". *Philosophical Studies* 128, pp. 201-227.

Wray, K.B. (2001). Collective belief and acceptance. *Synthese* 129, 319-333.