

## The semantics of reasonableness

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To honor an illustrious friend on such an important occasion, it seems appropriate to present him a gift as worthy as possible—and useful, maybe: One that is meaningful for the givers themselves. Now, as our friend is one of the founders of modern argumentation theory, it seemed suitable to present him our modest contribution to the reflection on a major theoretical theme of his work,<sup>1</sup> by putting to good use our competence as semantic analysts in elucidating the semantics of the word *reasonable*.

This word represents quite a relevant conceptual tool for argumentation studies,<sup>2</sup>

<sup>1</sup> The concept of *reasonableness* constitutes the core of the Philosophical component of the program for the study of argumentation elaborated within the pragma-dialectical approach (see van Eemeren & Grootendorst, 1994, 2004). The model of *critical discussion* defines the implications of the arguers' commitment to reasonableness in the process of solving a difference of opinion: The discussants are committed together to the critical testing of the acceptability of standpoints they have advanced (van Eemeren & Houtlosser, 2003, p. 387).

<sup>2</sup> Van Eemeren and Houtlosser (2002, p. 3) claim that the definition of the notion of *reasonableness* “is probably the most general goal all argumentation theorists have in common,” and a very systematic analysis has been devoted to the comprehension of this category within the pragma-dialectical approach (see van Eemeren & Grootendorst, 1994 and 2004, in particular). Numerous scholars identify, more or less explicitly, the problem of how to evaluate the reasonableness of a discourse as the crucial problem of argumentation. In particular, Walton (1987, pp. 95-96) observes that the evaluation of argumentative discourse entails the discovering of *informal fallacies*, which “have to do with rules and procedures of reasonable dialogue.” On the same line of thought, Dascal (2005[1996], p. 13), quoting Leibniz, notices that the “judge of controversies” must employ “capabilities of evaluation and interpretation which are irreducible to formalization” in evaluating the reasons given by both parties (see also Dascal, 1998). Rigotti and Greco (in press) distinguish argumentation from the formal process of mathematical proof, where the commitment to criticality is limited to *rationality* (observing the requirement of logical consistency). In argumentation, “a more comprehensive and more articulated attitude of human reason” is required, which is embodied in the concept of *reasonableness*. Within this complex attitude of reason, emotions should be also included (Plantin, 1998). By the way, it is interesting to notice that a quite famous software for visualization of argumentative discourse, elaborated by van Gelder and Bulka with support from the University of Melbourne, has been given the name of *Reason!Able*. See <http://www.goreason.com> last visited 27.06.2005.

which, thanks, in particular, to Frans van Eemeren's contribution, have evolved into a systematic theory. But, at the same time, it is a term occurring with significant frequency in the argumentative moves of everyday discourse.<sup>3</sup> And, thus, the present we offer to our esteemed colleague and friend on his 60th birthday will consist in expounding the content of a keyword of argumentative discourse in general, including as well the theoretical reflection on argumentation, as the argumentative practices of ordinary language. The comparison between these two contexts of use could be particularly interesting if, as it seems to appear, this term assumes in ordinary language a meta-discursive function. More precisely, the hypothesis appears to be worth verifying that *reasonable* is a key concept of argumentation theory because it represents a sort of cue signaling the emergence of an evaluative attitude towards the ongoing argumentative process.

## A METHOD FOR SEMANTIC ANALYSIS

The method we adopt aims at being empirically founded, and ideally considering all types of use. Therefore, we have chosen a quite broad corpus.

The British National Corpus (henceforth BNC) is a 100 million-word corpus of current British English consisting of 3,261 written texts from a variety of genres (90 million words) and 863 transcribed oral samples (10 million words). It can be accessed online using a dedicated client called SARA which can carry out sophisticated queries, build concordances and perform standard relative frequency calculations. It can also exploit parts of speech tagging and other types of metadata included in the corpus.<sup>4</sup>

The present research cannot be considered a *corpus based*—let alone a *corpus-driven*<sup>5</sup>—investigation. Rather, our method is better reflected by the less demanding and agreeably ironic definition of *computer-aided armchair linguistics* proposed by Charles Fillmore (1992) for his own practices of analysis.<sup>6</sup> Corpus evidence is here

<sup>3</sup> It is interesting to notice that the need for a notion of *reasonableness* is perceived as urgent within communicative practices, such as legal decision-making, where human reason is confronted with practical decisions: "Certainty and reasonableness enter as a specific components of what constitutes correct reasoning in law and become the object of an enquiry into the forms and limits of such reasoning" (Berteau, 2004, p. 472). In her study on legal argumentation, Feteris (1999) points out how the word *rationality*, as applied to the legal justification of the judge's decisions, receives a richer and more comprehensive interpretation than it does in its ordinary language use (see among others Aarnio, Alexy, and Peczenick, *ibid.* passim).

<sup>4</sup> The SGML encoded metadata concern the segmentation of texts into orthographic sentence units, the assignment of words to parts of speech and various structural properties of texts (e.g., headings, paragraphs, lists). Word classification was carried out automatically by the stochastic part-of-speech tagger CLAWS, which is sufficiently accurate to be useful for trimming down searches.

<sup>5</sup> See Stubbs (2001, in particular, p. 20) and Tognini-Bonelli (2001, pp. 157-164).

<sup>6</sup> Fillmore (1992, p. 35) characterizes as follow the strengths and limitations of corpus evidence: "I have two main observations to make. The first is that I don't think there can be any corpora, however large, that contain information about all of the areas of English lexicon and grammar that I want to explore; all that I have seen are inadequate. The second observation is that every corpus that I've had a chance to examine, however small, has taught me facts that I couldn't imagine finding out about in any other way."

complemented by the recourse to semantic experimentation based on the manipulation of constructed examples tested against the intuitions of language users.

Our method will rely on the conception of meaning and the set of analytical tools developed by Congruity Theory<sup>7</sup> within a broad tradition of linguistic semantics. According to Congruity Theory, doing a semantic analysis means to rewrite natural language utterances in terms of predicate-argument<sup>8</sup> structures. In this perspective the semantic contribution of virtually every content word in a language can be represented in terms of a predicate. To analyze the meaning of a lexical item means, first of all, to establish what kinds of predicates it can manifest when it occurs in its different syntactic constructions.

Let us see how predicates can be characterized and differentiated one from the other. The predicate-argument structures that make up the “texture” of meaning are characterized by the requirement of *congruity* between the predicates and their arguments. Predicates impose conditions that the arguments must fulfil, or, in other words, they *predefine* the number and the semantic types of their possible arguments. Predicates are conceived ontologically as modes of being—static or dynamic—which involve one or more entities of certain types<sup>9</sup> that are named *arguments*. Moreover, if a lexeme manifesting a predicate which presupposes a certain type of arguments is connected with a lexeme manifesting an argument of this type, an ontologically possible state of affairs is constructed; in the opposite case a non-sense arises. On the other hand, if two readings of a lexeme differ either in the semantic types of the entities which can appear in their argument frames or in the number of conceptually required arguments, they have to be considered as expressing different predicates.

The incompatibility of the requirements on the argument places can be established with the help of appropriate semantic tests. For example, the *zeugma test*<sup>10</sup> allows us to see when different uses of a word depend on diverging incompatible ontological requirements—as opposed to general or vague requirements:

\* *Neither Louis nor the word processor were able to read the document.*

The same applies, even more clearly, to readings involving a different number of entities. For instance we cannot combine (a) and (b) and obtain an ellipsed sentence like (c):

<sup>7</sup> For a systematic presentation of Congruity Theory, see Rigotti (1993); Rigotti and Rocci (2001); and Rigotti (2005) where the relevance of Congruity Theory for argumentation studies is discussed. For further developments of this theoretical approach, see Rigotti and Rocci (2003), where it is applied to the analysis of cultural keywords and Rocci (2005), where, on the basis of Congruity Theory, the semantic and pragmatic properties of argumentative discourse in monologue and dialogue are analyzed.

<sup>8</sup> The topic which is at issue in this chapter compels us to use the term *argument* in different passages both in its argumentative and in its semantic usage.

<sup>9</sup> Predicates select their possible arguments by imposing conditions onto their argument places, which arguments must satisfy; in Congruity Theory, these conditions are treated as *presuppositions* of the predicate (see Rigotti & Rocci, 2001, p. 63).

<sup>10</sup> This test is discussed in Lascarides, Copestake, and Briscoe (1990, pp. 43-44).

- (a) *The rock on the slope moved.*
- (b) *John moved the picnic table.*
- (c) *\*The rock on the slope moved, and John the picnic table.*

We cannot change the number or the ontological type of the argument places without changing the content proper of the predicate. In our first example, the meaning of the verb *to read*, insofar as its subject is a human being, manifests a semantic content, and hence a predicate, which is very different from the one expressed in occurrences with a nonhuman subject.<sup>11</sup> In the second example what is indicated by the impossibility of ellipsis is the fact that *to move* manifests two different predicates, the two-place predicate TO MOVE<sup>2</sup> ( $x_2, x_1$ ) being the *causative* of the one-place predicate TO MOVE<sup>1</sup> ( $x_1$ ).<sup>12</sup>

Semantic analysis presupposes, for different reasons, both syntactic and morpho-lexical analysis. First, even if syntactic structures and semantic structures do not coincide, syntactic organization is an indispensable clue for identifying predicate-argument relations. But other relevant aspects can be singled out through morpho-lexical analysis. Indeed, both morphological structure and word formation often “hide” semantically relevant contents, which need to be translated into predicate-argument structures. Consider for instance a form like “*was building a house*,” where a complex semantic determination is attached to the predicate “to build.” This determination consists of two predicates—the first one temporal (PAST) and the second one aspectual (PROGRESSIVE), which can be discovered through a morphological analysis.<sup>13</sup> Both these predicates have as their scope the entire propositional structure dominated by *to build*.

The analysis of the word formation processes is also necessary, since it has decisive semantic implications for complex (compound or derived) lexical units. Thus, for instance, the process of word formation of the adjective *windy* (wind-y) compacts a complex predicate-argument structure like: “that abounds in wind.” In relation to flexional morphology, word formation shows, by the way, less systematicity. The semantic effect of word formation, thus, has to be controlled each time for every lexical unit, since, beyond standard semantic values (drinkable: “that can be drunk”), many cases of nonstandard values can be found.<sup>14</sup>

After having considered morphology, word formation, and the various syntactic constructions in which our lexeme occurs, the first step of the semantic analysis consists in the reconstruction of the predicate-argument frame of the lexical item. In this phase corpus analysis helps in the discovery of frames that would not emerge from the simple intuitions and memory of the investigator. Moreover, from the inspection of the actual

<sup>11</sup> In the former case, to read means “to reconstruct the phonetic form and retrieve the meaning of a written text;” while, in the case of the word processor, it means “to process symbols stored on a permanent storage device.”

<sup>12</sup> That John MOVED<sup>2</sup> the picnic table means that John performed an action which caused the table to MOVE<sup>1</sup>.

<sup>13</sup> From a semantic point of view, a particular type of morphemes called *intrinsic* or *semantic* should be singled out. See Rigotti and Rocci (2004), *Lexicon and Morphology*, Swissling eLearning module, [www.swissling.ch](http://www.swissling.ch)

<sup>14</sup> For instance, *sensible* means (1) “that can be sensed or perceived,” (2) “that can sense,” or (3) “behaving with good sense – reasonably.” It is worth noticing that, very often, *sensible* co-occurs as a quasi-synonym with *reasonable*.

arguments found in a corpus concordance we can formulate inductively a hypothesis on the semantic requirements of the argument places. What the corpus cannot do, however, is to test the correctness of our generalizations, since it does not tell us, in general, what are the limiting conditions for admissible arguments in a certain frame.

These limits have to be assessed by tests informed by semantic theory. At this step, the main test consists in the application of candidate arguments to the predicate in order to identify the conditions that the predicate imposes, both in negative and affirmative propositions,<sup>15</sup> on its argument places.

The second step of our analysis consists in eliciting the content proper of the predicate, through its semantic entailments. Indeed, the presuppositions imposed by the predicate onto its argument places are conditions of meaningfulness (or, from another point of view, of ontological possibility), and concern both the situations in which the predicate is affirmed and those in which it is negated (and the correspondent mode of being takes place and does not take place, respectively). On the opposite, the semantic implications of the predicate disappear when the predicate is negated: In fact the mode of being corresponding to the predicate, as it is negated, does not take place.

At this stage we must exploit a wider variety of tests for verifying what we could call the *reactance*<sup>16</sup> of the predicate in a variety of semantic contexts. A simple and reliable version of this strategy is the *conjunction test*, in which one tries to conjunct the predicate with the negation of an expected implication: The nonsense that hence arises shows that the negated feature belongs to the proper content of the predicate, as in a nonsensical text like the following:

*\* We have been walking for three hours in a forest in which there is no tree.*

Close to the conjunction test is the *but*-test that allows us to sort out essential entailments, and to distinguish them from simply expected implications:

*He killed many people, but he was not punished.*

*\* He killed many people, but they didn't die.*

The ways for eliciting the proper content of a predicate are numerous, and very often depend on the particular type of predicate concerned. For example, evaluative terms, which are a particular type of properties (i.e., of one-place static predicates) manifesting

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<sup>15</sup> Since presuppositions are the conditions imposed by the predicate onto its argument places in order to guarantee meaningfulness, they must be fulfilled irrespectively of whether the predicate is negated or asserted. In the *negation test*, the predicate of an assertive speech act is negated in order to identify presuppositions (i.e., those conditions that resist to negation (see Franck, 1972, pp. 27-30)).

<sup>16</sup> The term *reactance* – borrowed from the physical sciences – was first used in a semantic sense by Benjamin Lee Whorf. See Halliday and Matthiessen (1999) for a discussion.

positive or negative judgments, are often linked to statements justifying their attribution. Many propositions introduced in these cases by “as,” “because,” or equivalent syntactic constructions play the discursive role of argumentative justifications. Now, such propositions bring to light, directly or indirectly, the content of the predicate.

The importance of integrating corpus research with semantic theory in order to obtain a reliable semantic analysis is illuminated by a particular type of false counterexamples. Let us consider the following dialogue passage:

*Do stones laugh?*

*Stones do not laugh; children and their parents do.*

Here, the answer in the second move of the dialogue is not a proper negation of the content of the predicate, but an informal way of signaling a nonsensical expression, and restoring a semantic rule.

## FROM REASONING TO BEING REASONABLE

When tackling complex lexical units, before we face their semantic analysis, we have to fulfill their morpho-lexical analysis, as we have remarked earlier; and this is the case for our word *reasonable*. The English term *reasonable* is obtained through a lexical process analogous to that of the French *raisonnable*. Indeed, the suffix *-ble* is used quite systematically in English: Consider, among very numerous examples, *explainable*, *predictable*, *doable*, *lovable*, *decidable*, *readable*, *eatable*, *drinkable* . . . For many of these adjectives, the negative form is also possible: *Unreadable*, *undrinkable*, *unexplainable* . . . Generally, the value of this suffix, if it is applied to transitive verbs, presents the following semantic structure: “*That can be V-ed.*” Thus, “*a drinkable wine*” can be translated (is translatable!) into “a wine that can be drunk.” However, this interpretation does not fit for all adjectives in *-ble*. *Lovable* is not said of something that “can be loved,” but rather of “something that is worth loving” or “that attracts our love.” Cases with nontransitive verbs also occur frequently in English, such as *reliable*, which can nevertheless be interpreted analogously to the type *drinkable*: “*something that one can rely on.*” The case of *legible* is included in the type *drinkable*, although the verb at its origin only exists in Latin (*legere*).

Our adjective *reasonable* cannot be explained through the abovementioned interpretation, which is typical of derivatives in *-ble* of transitive verbs, even though *reasonable*, for its lexical formation, clearly refers to the verb *to reason*. Nonetheless, the verb *to reason* is worth analyzing, also in order to point out its semantic differences from *reasonable*. We examined the 239 occurrences of the verb *to reason* (the orthographic forms “reason,” “reasoned,” and “reasoning”) in the BNC corpus. Concerning *to reason* (R), different predicate-argument frames can be identified, to which as many readings

turn out to correspond.<sup>17</sup>

Shortly, we characterize the arguments of the different frames, and describe the proper content of the correspondent predicates. The argument  $x_1$  is, as a rule, presupposed to be a human being who, being endowed with reason, can apply it. Indeed, frames 2 and 5 constitute exceptions. In both cases, the meaning of our verb changes perceptively. Frames 3-11 include further argument places, whose semantic nature can change.  $x_2$  in 3, and  $x_3$  in 8 represent a topic or, more properly, if we are within an argumentative move, an *issue*. The argument places introduced by *from* and *on the basis of* (*starting from*) in 4, 5, and 9 are factual premises. In 6,  $x_2$  is an ignored circumstance. When argument  $x_2$  is introduced by *with* (see 7 and 8), another person is introduced who acts as a discussion partner. A particular instance of 7 (7b) refers to a very specific situation, where both argument places are occupied by the same person: It is the case of a *soliloquy* (i.e., an inner discourse of somebody to him/herself, which can take place in the process of individual decision making (see example 5b)).<sup>18</sup> In 10,  $x_2$  is a moment of personal experience; in both variants of 11 (see 11a, 11b, and 11c on the one hand, and 11d on the other hand),  $x_2$  is covered by an inferential step (conclusion or premise) made by  $x_1$ .

TABLE 22.1 *Predicate-Argument Frames of the Verb To Reason*

	<b>Predicate-Argument Frame</b>	<b>Examples</b>
1:	R $x_1$ TO REASON ( <i>Human</i> )	a) <i>You just need to try and <b>reason</b> logically and stay calm!</i> b) <i>It appeals to <b>reason</b>, but in order to reason we have got to take something for granted as a starting point.</i>
2:	R $x_1$ TO REASON ( <i>Non-Human</i> )	a) <i>Dogs do not <b>reason</b>; they learn mainly by association.</i> b) <i>How do you know that animals do not <b>reason</b>?</i>
3:	R $x_1$ , about / concerning / on $x_2$ TO REASON ABOUT/ CONCERNING/ON ( <i>Human, Topic</i> )	a) <i>So you cannot <b>reason</b> concerning colours if you have no natural sight</i> b) <i>The Club will be of particular interest to those who aspire to <b>reason</b> about the systems they are building.</i>
4:	R $x_1$ , from $x_2$ TO REASON ( <i>Human</i> ), FROM ( <i>Data</i> )	a) <i>Learning how to <b>reason</b> from prior experiences.</i>
5:	R $x_1$ , from $x_2$ TO REASON ( <i>Program</i> ), FROM ( <i>Data</i> )	a) <i>A program that can <b>reason</b> from visual diagrams.<sup>1</sup></i>
6:	R (out) $x_1$ , $x_2$ TO REASON OUT ( <i>Human</i> , <i>Ignored circumstances</i> )	a) <i>A chill passed through me then and my mind raced to <b>reason</b> out what I was seeing.</i>

<sup>17</sup> There are widely differing technical conceptions of reasonableness in the study of argumentation (van Eemeren & Grootendorst, 2004, pp. 123-131), and it would be surprising that the semantics should be able to exactly pick up one or the other. Semantics, however, can dissuade from illegitimate inferences based on naive and simplistic interpretations of language use.

<sup>18</sup> The definition of *soliloquy*, in relation to the notions of *dialogue* and *monologue*, has been discussed in Rigotti (2005).

7:	Rx <sub>1</sub> , with x <sub>2</sub> TO REASON ( <i>Human</i> ), WITH ( <i>Human</i> )	a) <i>You're not going to try and <b>reason</b> with them?</i> b) <i>She tried to <b>reason</b> with herself.</i>
8:	Rx <sub>1</sub> , with x <sub>2</sub> about x <sub>3</sub> TO REASON ( <i>Human</i> ), WITH ( <i>Human</i> ), ABOUT ( <i>Topic</i> ).	a) <i>We tried to <b>reason</b> with them about the bathroom.</i> b) <i>Palestinians who have tried to <b>reason</b> with the Israelis about the meaning of the Intifada . . .</i>
9:	Rx <sub>1</sub> , on the basis of x <sub>2</sub> , to x <sub>3</sub> TO REASON ( <i>Human</i> ), ON THE BASIS OF ( <i>Premises</i> ), TO ( <i>Conclusion</i> )	a) <i>On their basis we can <b>reason</b> to the hidden things which they 'indicate'.</i>
10:	R (away) x <sub>1</sub> , x <sub>2</sub> TO REASON ( <i>Human</i> ), AWAY ( <i>Moments of personal experience</i> )	a) <i>The meeting whose dangers she tried to <b>reason</b> away by recourse to Freud . . .</i>
11:	Rx <sub>1</sub> , that x <sub>2</sub> TO REASON ( <i>Human</i> ), THAT ( <i>Inferential step</i> ) OR TO REASON ( <i>Human, Inferential step</i> )	a) <i>Portugal could <b>reason</b> by analogy that the conclusion of the Timor Gap Treaty is . . .</i> b) <i>The townspeople decide to write letters to the giant asking him to leave, <b>reasoning</b> that talking to him directly would be too dangerous.</i> c) <i>The instinct is too deep for such a creature to see or to <b>reason</b> that he is not getting the expected response.</i> d) <i>There was, Branson <b>reasoned</b>, more money to be made from the group's longevity.<sup>2</sup></i>

1. This particular example is taken from Google, since no use of this frame is attested in the corpus.
2. There are many cases like this one, where *to reason* is used as an introductory predicate of mental soliloquial argumentation. On soliloquial argumentation see Rigotti (2005) and Rocci (2005).

In relation to the different frames, we have to distinguish different predicates:

1. To activate one's reason.<sup>19</sup>
2. To have the faculty of reason at one's disposal.<sup>20</sup>
3. To exercise one's reason in relation to particular topics.
4. To develop inferences.
5. To perform inferential operations.<sup>21</sup>
6. To discover by inferencing.

<sup>19</sup> Here, metaphors like "to use one's head" are particularly significant. Reason is not conceived as the ground for performing a certain action, or as an argumentative foundation, but rather as intellectual human faculty. Of course, we should define *reason* in this particular meaning. One of the authors has tried to provide a definition linking reason to language, together conceived as an organ, through which human beings manage their relationship with reality. See Rigotti and Cigada, 2004 (Chap. IV), in particular pages 77-92.

<sup>20</sup> Not by chance, this predicate is used for beings for which it can be questioned whether they have reason or not.

<sup>21</sup> Who compares human minds with computers is prone to consider 4 and 5 as quasi-synonyms.

7. To apply reason in managing a discussion.<sup>22</sup>
8. To apply reason in managing a discussion (about a certain issue).
9. To infer from premises to conclusions.
10. To repress moments of experience (in the psychological sense).
11. To perform an inferential step.

The analysis we have conducted has been unsystematic, and partial. Its main goal is to show, in the following, that *reasonable*, in many of its uses, does not semantically derive from *to reason*, although it derives from this verb from the point of view of morphology and lexicon.

## WHAT CAN BE REASONABLE

Starting from the different contexts in which our adjective *reasonable* occurs in the BNC corpus, we worked out the list of predicate-argument frames presented in Table 22.2.

Table 22.2 presents in the left column the most frequently occurring predicate-argument frames of *reasonable*, all of them attested in our 100 occurrences. The column on the right represents the syntactic constructions that manifest these frames by bringing an example for each construction.<sup>23</sup> It is clear from the table how *reasonable* can occur with a wide variety of syntactic constructions: As an attributive (*reasonable* N) or predicative (N is *reasonable*) adjective with or without prepositional complements, or in impersonal constructions with finite *that* clauses (*It is reasonable that . . .*) or non-finite “*for . . . to*” constructions as complements (*It is reasonable for . . . to . . .*). It is also quite apparent that the semantic-ontological type of the entities involved as arguments can vary widely (actions, people, beliefs, conclusions, arguments, quantities, or degrees). Other less frequent syntactic constructions present arguments that are *prima facie* physical objects (a), (stative) states of affairs (b), circumstances (c), manners (d), means (e), human dispositions (f), and possibly other ontologically disparate argument types. We do not consider them not because they are not frequent, but because they can be shown to be semantically derived from more basic frames, as our analysis will show.<sup>24</sup>

Contrary to what happens with the verb *to reason* the different syntactic constructions do not provide immediate help for distinguishing predicate-argument frames differing for the number and semantic type of their arguments. As shown in Table 22.2, often the same syntactic constructions occur with completely different semantic types and the same

<sup>22</sup> In some cases, an analogous syntactic construction is used to denote the manifestation of one’s thoughts and reflections to others: “In the hall of the castle Sir John was reasoning with a group of servants.”

<sup>23</sup> The examples are taken both from the original 100 occurrences sample and from other samples extracted from the BNC. In fact, not all the constructions appear in the first sample as some of them are indeed quite rare.

<sup>24</sup> We limit ourselves to quote just one example: *Harvard radio-astronomer, Dr. John Ball, says: An invisible galaxy is reasonable but it is unreasonable that no mass can be seen.*

TABLE 22. 2 *Predicate-Argument Frames of the Adjective Reasonable*

	Predicate-Argument Frame	Examples from the BNC
R1	<b>REASONABLE (x<sub>1</sub>); x<sub>1</sub> = Action</b>	<ol style="list-style-type: none"> <li>1. <i>It was held that her refusal was <b>reasonable</b>.</i></li> <li>2. <i>So was it <b>reasonable</b> for the driver to step in and use his car to defend himself.</i></li> <li>3. <i>As the retention represents deferred payment, it is <b>reasonable</b> for the vendor to be paid interest.</i></li> <li>4. <i>How <b>reasonable</b> of him to admit that Scotland is, as it always was, a separate and distinct nation.</i></li> <li>5. <i>- it seemed <b>reasonable</b> that my views should be made known to them.</i></li> </ol>
R2	<b>REASONABLE (x<sub>1</sub>); x<sub>1</sub> = Person</b>	<ol style="list-style-type: none"> <li>1. <i>Come, be <b>reasonable</b>!</i></li> <li>2. <i>No <b>reasonable</b> person could have objected.</i></li> </ol>
R3	<b>REASONABLE (x<sub>1</sub>), x<sub>1</sub> = Belief</b>	<ol style="list-style-type: none"> <li>1. <i>the defendant may be acquitted only if his belief is <b>reasonable</b>.</i></li> <li>2. <i>the <b>reasonable</b> expectation that what this involves will be meaningful.</i></li> <li>3. <i>it is <b>reasonable</b> to assume that they have a long-term policy for creating . . .</i></li> <li>4. <i>It is quite <b>reasonable</b> for a purchaser to assume that a vendor who sells land . . .</i></li> </ol> <p>Some belief predicates that enter this scheme:  <i>to expect/expectation, to believe/belief, to hope, to doubt/doubt, to assume</i></p>
R4	<b>REASONABLE (x<sub>1</sub>), x<sub>1</sub> = Conclusion</b>	<ol style="list-style-type: none"> <li>1. <i>It seems to me a very <b>reasonable</b> conclusion.</i></li> <li>2. <i>It seems to me a <b>reasonable</b> conclusion that they were dedicated</i></li> <li>3. <i>It is <b>reasonable</b> to conclude that the situation is in this respect less focused</i></li> <li>4. <i>It is just as <b>reasonable</b> to argue that the Wilson government was able . . .</i></li> <li>5. <i>It seems <b>reasonable</b> to infer from the above that numerous corporate executives . . .</i></li> </ol> <p>Other verbs occurring in the construction:  <i>conjecture, predict, guess</i></p>
R5	<b>REASONABLE (x<sub>1</sub>); x<sub>1</sub> = Argument</b>	<ol style="list-style-type: none"> <li>1. <i>This does seem a <b>reasonable</b> argument, . . .</i></li> <li>2. <i>It's a <b>reasonable</b> argument that only crumbles when you realize . . .!</i></li> <li>3. <i>He has <b>reasonable</b> grounds for making the demand</i></li> <li>4. <i>We felt from this that there was, there was <b>reasonable</b> evidence to introduce this programme into our practice,</i></li> <li>5. <i>The constable has <b>reasonable</b> grounds for believing that arrest is necessary.</i></li> </ol>

<p><b>R6</b> REASONABLE (x<sub>1</sub>); x<sub>1</sub> = <i>Quantity/Scale</i></p>	<ol style="list-style-type: none"> <li>1. <i>The prices are, are <b>reasonable</b>, you know what I mean?</i></li> <li>2. <i>okay so it, yeah it looks like quite a <b>reasonable</b> number of people possibly</i></li> <li>3. <i>I think today we would use a phrase like <b>reasonable</b> quality, satisfactory quality, or acceptable quality.</i></li> <li>4. <i>The law says the Los Angeles police used <b>reasonable</b> force to apprehend Rodney King.</i></li> <li>5. <i>What's a <b>reasonable</b> amount to claim per mile by the way?</i></li> <li>6. <i>A pack of four bottles costs a <b>reasonable</b> £3.49.</i></li> </ol>
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1. Here a further refinement is needed in order to take into account the polysemy of *argument*. In the example cited above *argument* means *premise*, or, more generally, *statement*, or *set of statements put forth by a speaker in order to support a conclusion or standpoint*. We found also an occurrence where *argument* means *argumentative interaction*: *There can be no **reasonable** argument about migrants if one side takes the position that . . .* Here *reasonable argument* means something like a *critical discussion*.

semantic argument type can enter different syntactic constructions. The variety of the syntactic constructions in which *reasonable* occurs is not always semantically relevant. For example, as we see in Table 22.2, the examples associated with Reasonable (*Action*) frame, show several perceptively different syntactic organizations. In reality, the only proper argument of *reasonable* is a proposition manifesting an action, and the complements introduced by *for* and *of* are simply means of topicalization.<sup>25</sup> There are in fact cases in which the *for* complement does play a truly semantic function. This happens when *for* means *according to*, as in: “For John it is reasonable that Mary should study argumentation.” This complement, however, is not an argument of *reasonable*, but a super-ordinate two-place epistemic predicate *for* (x, p), taking as arguments an epistemic subject (x) and the complex proposition (p) formed by *reasonable* and its propositional argument—let us call it q: *for* (x, p: *reasonable* (q)).<sup>26</sup>

Let us move, now, to what is perhaps the most basic question we need to answer in order to elucidate the semantics of the adjective *reasonable*. That is the problem posed by the wide variety of ontological types that can occur as arguments of *reasonable*. Such a wide variety of contexts of occurrence may have three different causes:

Rarely, predicates impose extremely generic presuppositions on their arguments (but we shall see that is not the case of the predicate *reasonable*).

Often, we have different predicate-argument frames, imposing mutually exclusive

<sup>25</sup> The different prepositions – *for* and *of* – present, by the way, an important semantic and pragmatic distinction between actions that are yet to deliberate and already deliberated actions.

<sup>26</sup> Note, also, that in this way, we avoid the danger that, on the basis of these constructions, somebody should reason to a fundamentally subjective interpretation of *reasonableness*, where one cannot say if something is reasonable or not without specifying as an intrinsic component for whom it should be reasonable, just like we cannot say if John is a friend or not without specifying of whom it would be a friend.

presuppositions on their arguments. Some results of the zeugma test point in the direction of this solution (*\*John and his argument are very reasonable*).

But it also happens very often that an argument, while ostensibly belonging to a semantic type, has properly to be interpreted as belonging to a different type, so that it can satisfy the requirements of a given predicate-argument frame. One early insightful example of this analytical strategy is Vendler (1963), where the semantics of *good* is addressed—another adjective with a considerable variety of contexts of occurrence, which shares some semantic features with *reasonable*. Vendler pointed out how adjectives like *good*, *comfortable*, *fast* . . . and *reasonable*<sup>27</sup>—contrary to natural property predicates like *red* or *round*—are not “attributed to a thing directly,” but only “with respect to an appropriate action involving that thing”: A *comfortable chair* is a chair “comfortable to *sit on*,” a *beautiful dancer* is one that *dances beautifully*, a *fast horse* is a horse that *runs* fast, a *good cook* is good *at cooking*, and so on.

The application of this latter strategy to *reasonable* allows us to reduce drastically the number of predicate-argument frames. In the surprising example of the *invisible galaxy* we have quoted above (see Table 22.2, footnote 1), saying that *an invisible galaxy is reasonable* can be explained in terms of *It is reasonable to hypothesize that an invisible galaxy exists*. In order to understand the meaning of *reasonable* applied to an *invisible galaxy* we need to infer a relevant action involving it. In this case it is an action closely related to argumentative activities. A *reasonable price*—and in general the uses taking a scalar dimension as argument—can be brought back to action as well: *A reasonable price* is usually a price that *is reasonable to pay* for something, which often invites the inference of a relatively *low* price.

If we take the *Reasonable (Action)* frame as basic we can reduce greatly the number of frames by bringing back circumstances (*time, place, weather, etc.*), *manner, means* into the fold. This move, however, requires us to look more closely to what it means for an action to be reasonable.

## THE PROPER SCOPE OF REASONABLE WITH ACTION AND PERSON ARGUMENTS

In his essay on the grammar of *goodness* Zeno Vendler (1963) observes that there is a class of adjectives, including *good, clever, stupid, kind, nice, considerate* and *reasonable*, that accepts constructions such as:

*It is good/stupid/reasonable/considerate (of John) to help/have helped his brother*

and contrasts them with adjectives such as *slow* that cannot enter this construction, and,

<sup>27</sup> For the mention of *reasonable* see Vendler (1963, p. 458).

more generally cannot take a full, tensed, proposition as their argument but only a “nominalized verb that has lost its character as a verb” (p. 458):

\* *It was slow (of John) to cook/having cooked the dinner*

\* *John's having cooked the dinner was slow*

This difference seems connected to the fact that while *slow* refers to the speed, or the time in which the action is accomplished, *reasonable*, *considerate*, and *clever* can refer to the very fact of doing something, or, more precisely to the *decision* to do something. Similar distinctions can help us also in separating different ways in which *reasonable* can take actions as arguments. The syntactic reflections of this semantic distinction can be shown via a transformation test. Not all attributive occurrences of *reasonable* with action nominals accept the transposition to constructions with *to* complements with the appropriate verb. While from

*It was held that her refusal was reasonable.*

we can obtain *It was reasonable of her/for her to refuse*, we cannot do the same with a BNC example like the following:

*In the case of R v Hopley (1860) Chief Justice Cockburn said that punishment inflicted on a pupil must be reasonable and moderate not motivated by passion or rage, and must not be excessive in its nature or degree or protracted beyond the child's powers of endurance.*

Here we cannot move to *It must be reasonable to punish*. Note also that the conjunct *moderate* will never accept this transformation. Here what must be *reasonable* is not the decision to punish, which is not at issue, but the *degree*, the *severity*, the *duration*, perhaps the *manner* of the punishment. Certain predicates, such as *intelligent* and *reasonable* when occurring with action argument can take two different semantic scopes: Either they take scope on the whole action—to the effect that they take the decision itself as their argument—or they take *scope*<sup>28</sup> on a certain aspect of the action: the *manner*, the *means*, the *degree*, etc. Compare also:

*Intelligently, John answered*

*John answered intelligently*

If we refer to a basic ontology of action,<sup>29</sup> however, we can see that the argument of *reasonable* cannot be but a *decision*—*reasonable* cannot take the physical causal chain

<sup>28</sup> Here we use a wider notion of *scope* than what is customary in logic and formal semantics, one which takes into account not only overt syntax but also the *internal* logical structure of semantic units.

<sup>29</sup> See Rigotti (2003).

as its argument—either it is the higher level decision to act, or one of the many subordinate decisions the agent has to take in carrying out his/her action.

Nouns referring to the *means*, *manners*, and *circumstances* of action serve to make explicit the precise scope of *reasonable* within the structure of an action. Interestingly, the reasonableness of many of these decisions is not directly connected to the goal of the action, with the desired outcome, but with the many “respects” that are to be observed in acting lest to cause more harm than the good sought. In other words, they are connected with the respect of a teleological hierarchy.<sup>30</sup>

If we move, now, to the use of *reasonable* as attributed to *people*, rather than to *actions* we find nouns that play a similar function in making the scope explicit.

Again, *reasonable* does not refer to the physical, biological, properties of the human being, nor does it refer to cognitive abilities per se—except in quite limited and idiomatic instances like *reasonable being* as a synonym of *rational being*: It refers to attitudes or dispositions towards action.<sup>31</sup> As a first approximation we can say that a *reasonable* person is one that acts—decides!—reasonably and is likely to listen to (good) *reasons* and to use (good) *reasons* in a discussion. *Reasonableness* in people is then a disposition toward action and, if permanent, a *habit* or—since it’s usually valued positively—a *virtue*. The permanence of the disposition can be made explicit by expressions like *reasonable character*, while its transitory and fluctuating nature by *reasonable mood*. Finally, a *reasonable attitude* signals that the disposition concerns actions pertaining to a certain matter or domain, one might perhaps have a reasonable attitude in business matters and be unreasonable attitude in what pertains to family life.

All these uses do not differ substantially from the *reasonable person* frame, as they make explicit the disposition that in any case is the scope of *reasonable* as applied to people, just like speaking of the *bright light of a bulb* does not fundamentally differ from speaking of a *bright bulb*—as the true scope of the predicate *bright* is, in both cases the light.<sup>32</sup>

## META-ARGUMENTATIVE USES: REASONABLE CONCLUSIONS AND REASONABLE ARGUMENTS

Having dealt with the *action* and *person* frames of *reasonable*, it is now time to move to uses more closely tied with argumentation, such as Reasonable (*Conclusion*), Reasonable (*Belief*) and Reasonable (*Argument*), to see how they relate to each other and to the ones discussed earlier.

<sup>30</sup> See Rigotti and Greco (in press).

<sup>31</sup> From a survey of the definitions of *rational* and *reasonable* in dictionaries, Van Eemeren and Grootendorst (1994, p.12) notice that the term *rational* seem to refer to the cognitive activity of using one’s brain, whereas the term *reasonable*, more specifically, refers to “using one’s brain in a considered or well-thought-out manner. Rationality, thus, turns out to be “a necessary but not a sufficient condition for reasonableness.”

<sup>32</sup> See Pustejovsky (1995, pp. 127-131) for a technical discussion of this type of phenomenon – which he calls *selective binding* – within his formal model of lexical semantics.

From the examination of the corpus it emerges that the first two uses have a high frequency and, in the case of the *reasonable (for) to* construction they make up the vast majority of occurrences.<sup>33</sup> Much less frequent is the occurrence of *reasonable* with words denoting an *argument*. Occurrences of *reasonable* with propositional complements featuring a predicate describing the act of concluding or advancing a standpoint (such as *to argue, to claim, to conclude, to conjecture, to infer, to predict, to presume, to suppose, to suggest*, which frequently occur in the corpus) are among the most semantically transparent. A conclusion is *reasonable* if it is based on (good) *reasons*.

A subtle point, however, arises concerning the relationship between *reasonable action* and *reasonable conclusion*. A conclusion is certainly an action, a cognitive one, and, in the case of interpersonal argumentation, also a speech act.<sup>34</sup> Both in the case of *action* and in the case of *conclusion*, *reasonable* is what is supported by good reasons. It is questioned if we should consider as primitive the reasons for action or the reasons for concluding.<sup>35</sup> The latter legitimate a *cognitive decision*—such as assent—leading to a state of belief, while the former invite a *practical decision* activating a change in the external world. It is difficult, however, not to see reasons for action as being at the same time reasons for believing and *practical decision* as presupposing a *cognitive decision*.<sup>36</sup> The frequent *reasonable belief* frame is very close to the *reasonable conclusion* frame, as it involves only a slight semantic shift. Belief verbs do not denote actions, but cognitive states, while conclusion verbs denote cognitive actions which result in belief states. If we assume that a belief is reasonable when supported by good reasons, its reasonableness is exactly the same reasonableness of the act of inference leading to the belief.<sup>37</sup>

It is also worth noting that, at a pragmatic level, belief predicates can be used as indirect indicators of the act of advancing a standpoint in argumentation (see Houtlosser, 2002). Here is an example from the BNC, where *reasonable* with a belief complement is used performatively to introduce the conclusion of an argument:

*If Philip Leapor's mother was indeed the woman who died in 1726, it is reasonable to believe that he took over a house which she had occupied.*

The systematic study of such explicit marking of the commitment to reasonableness in argumentative discussions seems highly relevant for normative theories of argumentation and worth pursuing. Corpus data also show that the pattern *It is/seems reasonable to*

<sup>33</sup> This conclusion is based on the manual examination of a random sample of 100 occurrences of the pattern *reasonable to*: Complement phrases featuring a conclusion, standpoint, or belief verb sum up to 63 occurrences.

<sup>34</sup> On the relationship between intrapersonal – or monological – argumentation and interpersonal – or dialogical argumentation see Rocci (2005).

<sup>35</sup> Pinto (2002), for instance, tries to reduce, at least in part, the notion of reason for believing to the notion of reason to act.

<sup>36</sup> This is the classical philosophical theme of the ultimate practical judgement.

<sup>37</sup> We skip here the discussion of the reasonableness of beliefs based on perception, which are not based on inference in a psychological sense, which, though interesting, would lead us astray from the semantics of reasonableness.

*conclude/believe that p* is routinely used performatively as the indicator of an act of conclusion from evidence which is usually presented in the immediately following or preceding co-text. Similarly, we find in the BNC performative instances of *reasonable* taking as arguments various types of argumentatively relevant speech acts,<sup>38</sup> such as, for instance, *to question, to doubt, or to raise the possibility*.

The case of the Reasonable (*Argument*) frame deserves special consideration because it turns out to occupy a delicate place in the web of interrelated predicate-argument frames we are uncovering. The use of the noun *argument* itself as an argument of *reasonable* is attested but rare, more often we find the phrase *reasonable grounds*—which is common in the legal language—and other more specific nouns which refer or can refer to arguments: *evidence, excuse, explanation, cause*.

There is a slightly paradoxical quality in the Reasonable (*Argument*) frame that sets it apart from Reasonable (*Conclusion*) and its kin. Unlike *reasonable conclusions*—which appear to be conclusions supported by good arguments—*reasonable arguments*, apparently, are not arguments that are supported by good arguments! They simply **are good arguments**, arguments that support well a certain standpoint. Therefore *reasonable*, in this case, denotes the specific goodness of an argument.<sup>39</sup>

## ENVOY

We conclude here our investigation. Various aspects, which remain at the margins of this chapter, like the relationships between *reasonable* and *rational*, and between *reasonable* and *unreasonable*,<sup>40</sup> and the systematic study of constructions with *reasonable* as an indicator of advancing a standpoint and of other argumentatively relevant speech acts, could be further developed. Moreover, it would be worth comparing the use of the term *reasonable* in ordinary language and its definitions in theoretical reflection, as they emerge in the literature on argumentation. On this point, the studies of the pragma-dialectical school of

<sup>38</sup> For a table presenting the connections between argumentatively relevant speech acts and stages of critical discussion, see van Eemeren and Grootendorst (2004, p. 68).

<sup>39</sup> A similar, quasi-tautological reading applies when *reasonable* takes *argument* not in the sense of supporting premise or set of premises, but in the sense of argumentative discussion. Consider the following BNC occurrence: *There can be no reasonable argument about migrants if one side takes the position that (...)*. Here a *reasonable argument* is simply a *good argumentative discussion*, one that furthers well the aims of the discussion. Here what we need to dispel the looming sense of circularity is perhaps very close to a normative theory of argumentative discussion taking into account the proper goals of such a verbal interaction.

<sup>40</sup> The Amsterdam school of argumentation has devoted several studies to the empirical testing of the *unreasonableness* of some moves that, since they violate some rules of the critical discussion, are considered as *fallacies*. In particular, they have tested if such violations of critical discussion rules (see van Eemeren, Garssen, & Meuffels (2003a) for an analysis of fallacies bound to the violation of the *freedom rule*, and van Eemeren, Garssen, & Meuffels (2003b) for fallacies bound to the violation of the *burden-of-proof rule*) are actually perceived as *unreasonable* by ordinary arguers. What emerges from these researches is that those moves which are considered unsound in the pragma-dialectical normative model of critical discussion are also perceived as unreasonable by ordinary speakers, even in different cultural contexts.

argumentation on the different views on reasonableness (see in particular van Eemeren & Grootendorst, 1994 and 2004) turn out to be the fundamental point of departure.

The semantics of reasonableness turns out to be a deep ore whose riches we have just begun to mine. But, here, as many times before, we have run out of space and exhausted the patience of our readers. Let us, then, hurry to present our gift to our friend Frans and wish him a happy birthday.

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