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Chapter 6 presents how to reconstruct the inferential configuration of arguments according to the Argumentum Model of Topics. The whole Table of contents of *Inference in argumentation* is available here: <https://www.springer.com/gp/book/9783030045661>

## 6 The inferential configuration of arguments: the Argumentum Model of Topics

### 6.1 Introduction<sup>1</sup>

Only some parts of the rich tradition of the study of inference in argumentation can still be found in current studies on argumentation (see the discussion in chapter 5). When we started working on the Argumentum Model of Topics (AMT) in 2004, we were partly motivated by a feeling of dissatisfaction with this state of affairs. A relatively large portion of the rich concepts and accurate analyses elaborated in the tradition, which could help explain how arguments support standpoints, was seemingly lost in modern approaches. In our view, for the evaluation of the logical hold of arguments, as well as their grounding in communication, the concepts elaborated on in the tradition of topics need to be taken into account more. At the same time, however, we realized that the tradition was neither unitary nor homogeneous; different concepts had been introduced without elucidating a clear connection between them, as in the case of *endoxon* and *maxim*; some concepts had been abandoned without a clear reason, or became foggy over time.

Therefore, when we developed the AMT, we wanted it to profit from the tradition. However, at the same time, we designed an innovative model that could go beyond the tradition. The novelty, specifically, lies in the fact that we provide a new semantic network of previously developed concepts, which allows us to look at the inferential configuration of arguments in a different way. In addition, we wanted this model to be situated within the current dialogue in Argumentation theory; we think of it as a contribution to the analysis of the inferential configuration of arguments – and not as a historical reconstruction of the past.

Before moving on to illustrating the main features of the AMT, we will delineate what this model *is not*. First, the AMT is not a purely logical model of reasoning, as it intends to explain argumentation as it happens in communicative interactions, which take place within

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<sup>1</sup> Sections 6.2-6.4 of this chapter are largely based on a revised and expanded version of the following publication: Rigotti, E., and Greco Morasso, S. (2010). Comparing the Argumentum Model of Topics to other contemporary approaches to argument schemes: The procedural and material components. *Argumentation* 24(4): 489-512. We are grateful to Springer for having allowed us to reuse these contents.

social relationships. Second, because it delves into inference in argumentation, the AMT does not cover the whole process of argumentative dialogic interaction. Its province is what we call the *inferential configuration of single arguments* (and combinations thereof).

This micro-analytical focus of the AMT explains why, in the Preface to this volume, we explained that our model could be integrated into a framework that takes into account processes of dialogical argumentation, such as the pragma-dialectical approach to argumentation (see the discussion on this integration in Greco Morasso 2011, Palmieri 2014).

In what follows, we will focus on how the AMT provides argumentation analysts with a perspective for the analysis and evaluation of single arguments. The same model may also be used by communication experts to reflect on their own arguments whilst designing them. Explaining the main features of the AMT is the main goal of section 6.3. In section 6.3, we will go through some of the contemporary approaches to argument schemes and explicate how the AMT differs from those approaches and why. This introductory part is concluded with a discussion (6.4) in which we summarize the main advantages of the AMT for the reconstruction of the inferential configuration of arguments. In the second part of this chapter (section 6.5), we will talk about how arguments are combined into complex argumentative structures and how the AMT supports the analysis of complex argumentation.

Chapters 7 and 8 ideally complete the overview of the AMT. In fact, chapter 7 presents a typology of loci and discusses some critical aspects. Chapter 8 presents four case studies, which are based on examples of contextualized argumentation that are analyzed by means of the AMT. The intention of this final chapter is to provide readers with concrete examples that show how the AMT might be used and what aspects are best explained through this model.

## 6.2 The Argumentum Model of Topics

Contemporary argumentation scholars tend to consider argument(ation) schemes as the structures that connect the premises to the standpoint or conclusion in a piece of real argumentation (see chapter 5). In Garsen's (2001: 81) words:

The link between the argument and the standpoint is appropriate if the acceptability of the premise is "transferred" to the standpoint by means of the "argument scheme" that is being used.

The distinction between locus (as *habitus*) and maxims (as premises of argumentation) we discussed in chapters 2 and 3 of this volume defines what the concept of "inferential principle of support" means. A locus from cause to effect, for example, can be the principle of support for a number of different arguments in different contexts. It can be employed with different maxims, for example: "if the cause is present, the effect will be present". The maxims work as premises of argumentation.

However, in real life argumentation, the acceptability of the standpoint does not exclusively depend on the locus and on the maxims. A basic tenet of the AMT is that the acceptability of the standpoint depends not only on an inferential principle but also on how the argument is anchored in the context and, in particular, to the premises shared by the interlocutors. In other words, we must consider whether maxims are, in reality, correctly applied in specific domains. For example, a maxim like “if the cause is present, the effect will be present” is not enough to make an invalid argument, such as the following, valid:

“\*It will be cold and windy tomorrow; because my car is green”.

In fact, “my car is green” is not a cause that can support the standpoint “it will be cold and windy tomorrow”. The cause-effect relation is acceptable *in abstracto*; but its implementation in this example is not. This simple example shows that we need a careful consideration of the manner in which loci and maxims are applied when constructing arguments. As previously pointed out by other authors (see for example Ennis, 1982; Freeman, 1995; see also section 6.3 in this chapter), some premises that are necessary in argumentation represent the arguer’s *common knowledge* or shared value or perception of reality.

Therefore, the AMT neatly distinguishes between premises, as maxims, which represent the logical principles of support of arguments, and premises that reflect the arguers’ knowledge, worldviews and cultural expectations. For this reason, this model revisits the distinction proposed by the pragma-dialectical approach between procedural and material starting points in the opening stage of an argumentative discussion.<sup>2</sup> The AMT distinguishes between a *procedural-inferential* component of the inferential configuration of an argument, which includes the inferential connection (maxim) that is activated; and a *material-contextual* component, which guarantees the applicability of the maxim to the actual situation considered in the argument<sup>3</sup>.

Inferential-procedural and material-contextual components are then combined within the inferential configuration of a single argumentation (Rigotti 2006, Rigotti and Greco Morasso 2010), as we will show in the following sections. We will first discuss the type of premises that constitute the inferential-procedural starting point; then we will focus on the types of premises that constitute the material-contextual starting point. As we proceed, we will make clear what concepts we adopt and reformulate from the preceding tradition and how the AMT is different from this tradition.

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<sup>2</sup> In this work, we consider “starting point” as a synonym of “premise”.

<sup>3</sup> Both the procedural-inferential and the material-contextual component contribute to the inferential configuration. However, the procedural-inferential component specifies the habitudo and maxim that activates inference in argumentation; this is why we call it *procedural-inferential*.

### 6.2.1 The Procedural Component

With regards to the procedural component, the AMT distinguishes three levels in the reconstruction of the inferential configuration of each single argument.

*First level.* The first level is the *locus*, as the source from which arguments are taken: “unde argumenta ducuntur”, following Cicero (see chapter 2), or, according to the medieval tradition (see chapter 3), the *habitus*. The *habitus* is seen as an “ontological”<sup>4</sup> relation on which a given argument is based. Consider the relationship between definiendum and definitum, the cause-effect relationship, the analogy (comparability) relationship, and so on. The loci-habitudes are evoked by the names of the loci themselves: one speaks for example of the *locus ex auctoritate*, or of the *locus ab oppositis*, and so on, nowadays translated into the expression “argument from” (from authority, from opposition) in English. As shown in chapter 3 (figures 3-1 and 3-2), seeing loci as *habitudes* simplifies the conceptual system of loci considerably. In fact, *habitudes* have two poles (for example, cause and effect), whereby each locus-habitus can be read from two directions (for example: from cause to effect and from effect to cause). In the AMT, we adopt the notion of *habitus* to substantiate the concept of locus.

*Second level.* The locus is not sufficient to explain how arguments work at the level of their inferential configuration. For this reason, the AMT also adopts the notion of *maxim* (introduced by Boethius, see chapter 2) from the tradition. Each locus has a series of corresponding maxims; each of them create a subclass of possible arguments. For example, the locus from the final cause (see Rigotti 2008) presents a series of possible maxims. We will only mention three of them as an example:

1. If a certain goal is to be achieved, it is reasonable to act in order to reach it.
2. If no means are available, the goal cannot be achieved.

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<sup>4</sup> We have discussed the use of the term *ontology* in the AMT in Rigotti and Greco Morasso (2010). For the present purposes, it is worth recalling some aspects of that discussion. In philosophy, the concept of *ontology* was originally used to approach questions concerning what entities exist or at what conditions they can be said to exist, and how such entities can be regrouped and organized hierarchically. When we use this term within the AMT, we build on the following three notions. First, the concept of ontology of *social reality*, as defined by John Searle (1995), meaning a network of (institutionalized) commitments that create specific interaction fields (see Rigotti and Rocci 2006). Second, ontology as it is understood in computer sciences, i.e. a formal representation of a set of concepts and their relationships. Third, the notion of ontology entailed by linguistic semantics (Jackendoff 1983, 1990), which we deem particularly relevant for the study of argumentation. In fact, when dealing, for instance, with the problem of reference, natural language semantics needs to postulate an ontology of some sort. The study of referential expressions shows that language(s) seem to require very specific “ontological presuppositions” (Jackendoff 1983) or “metaphysical assumptions” (Bach 1981:79). For instance, natural languages force us to recognize things such as events, to set them apart from states, and cut even finer distinctions between different types of events (Vendler 1957; Bach 1981). Early linguistic contributions such as Whorf (1997 [1956]) had seen this basic common-sense ontology as eminently culture-specific, but most contemporary semanticists would maintain with Bach (1981) that at the level of the most basic ‘world furnishing’ we are interested in a common-sense ontology that is inter-culturally shared and is primarily bound to our common experience of the world.

3. If a certain behaviour is not oriented towards a goal, properties that are normally attributed to human actions (such as responsibility, merit, guilt and so on) cannot be attributed.

To give a different example, in chapter 1 we considered Aristotle's topos (locus) based on *time*, and, more specifically, *duration*. The same locus is then illustrated by Boethius, who reformulates Aristotle's interpretation and specifies a maxim of this locus: "The more permanent a good is, the more it is worthy of choice". Therefore, according to Boethius, "Rule by a king lasts longer than rule by a consul, in case both are good; but a good that lasts longer is better than one which lasts a short time; therefore, rule by a king is better than rule by a consul" (see the discussion in chapter 2, section 2.2.3.2). This argumentation contains its maximal proposition, that is, its Topic, which is 'Goods that last a longer time are of more worth than those which last a short time'" (translation adapted from Stump 1978: 46-47). We could recognize that we can reason from time and duration – when we establish, for example, that a job position should be preferred over another because the former is more stable (more durable); or, give an example from a different domain, that one should not choose laminate but solid hardwood flooring when refurbishing your house, because the latter maintains its value over time.<sup>5</sup>

*Third level.* In every inferential configuration, the maxim activates a *logical form*<sup>6</sup>, such as the modus ponens, the modus tollens or the logical disjunction. For example, the maxim "if the cause is present, the effect will be present" activates the logical form of modus ponens:<sup>7</sup> "if the cause is present, the effect will be present; and the cause is present; therefore, the effect will be present".

If we now read the locus from cause to effect in the opposite direction of the habitudo (i.e. from effect to cause), we will obtain a questionable maxim "if the effect is present, the cause will be present". This activates the logical form of false modus ponens, which is usual in symptomatic argumentation: "if the effect is present, the cause will be present; and the effect is present; therefore, the cause will be present". Symptomatic arguments, which are very common in all forms of explanation (for example, in the formulation of medical diagnoses), start from the connection between an effect and its (possible) cause. The relation between effect and cause is normally not necessary, since the same effect might be produced by different causes. Yet, ideally, what a good symptomatic argument should do is to identify

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<sup>5</sup> A different example based on the locus from time and related to frequency, has been discussed in Cigada and Greco Morasso (2014).

<sup>6</sup> The terms adopted by logicians to define the concept of logical form vary considerably; Layman (2002: 20 ff.) uses the term "argument form", Haack (1978: 201), Barth and Krabbe (1982: 156), as well as Hughes and Cresswell (1996: 25) and Epstein (2001: 196) use the term "rule" (e.g.: rule of modus ponens).

<sup>7</sup> Cf. Braet (2005: 66): "The topical principles from the *Rhetoric* [by Aristotle] will be regarded as the core of a modern argumentation scheme".

the most probable (ideally the unique) cause for a given effect (see the discussion on Whately in chapter 5, section 5.1.3).<sup>8</sup>

Another maxim pertaining to the same locus, “if the effect is not present, the cause will not be present” activates the logical form of modus tollens: “if the effect is not present, the cause will not be present; and the effect is not present; therefore, the cause will not be present”. Moreover, if the locus from immediate opposites is instantiated and p and q are immediate opposites, the following maxim arises: “if one opposite is the case, the other opposite is not”. This maxim activates the logical form of an exclusive disjunction.

### 6.2.2 The Material Component and its Intertwining with the Procedural Component

The three levels described in section 6.2.1 represent the procedural component of the inferential configuration of an argument. Yet, according to the AMT, the procedural component is not sufficient for a complete reconstruction of argument schemes. In fact, argument schemes account for the relation between arguments used in real-life discussions and the standpoints they support; therefore, beyond the procedural starting point now reconstructed, we also have to shed some light on what we call the *contextual-material* starting points or premises (Rigotti and Greco 2006; Rigotti and Greco Morasso 2009, 2010). These are necessary to give a full picture of the inferential process.<sup>9</sup>

We will consider an example based on the argument scheme from analogy (based on the locus from analogy, in AMT terms), as analyzed by van Eemeren and Grootendorst (1992), van Eemeren, Grootendorst and Snoeck Henkemans (2002: 99) and van Eemeren, Houtlosser and Snoeck Henkemans (2007: 138). The argument scheme goes as follows:

1. Y is true of X
2. Because Y is true of Z
3. And Z is comparable to X

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<sup>8</sup> In the typology proposed by pragma-dialecticians, symptomatic argumentation is considered one of the argument schemes. Instead, we prefer to reserve this label for the logical form of an argument scheme and not to the name of a locus. In fact, not just one locus, but many loci could be used symptomatically – i.e., establishing a false modus ponens. For example, the locus from the *material cause* could be used with the logical form of a modus ponens if we reason as follows: “This scarf is very warm and soft *because* it is cashmere”. In this case, we have the following valid syllogism: “Garments made of cashmere are very warm and soft; this scarf is made of cashmere; therefore, this scarf is very warm and soft”. Yet the same locus could be used symptomatically if we say: “This scarf is very warm and soft. It *must be* cashmere”. Speaking of logical forms, this latter case is a false modus ponens, because we know that “Garments made of cashmere are very warm and soft; this scarf is very warm and soft”; and, logically, we cannot validly conclude that “this scarf is made of cashmere”. In fact, it could be a synthetic scarf made of a very innovative hi-tech soft and warm material. Note that the ability to infer the cause from the effect also depends on the level of experience a person has in a given domain – by which he or she can exclude other possible causes for the same effect.

<sup>9</sup> On this point, one might refer to the discussion on Aristotle’s notion of “argumentatively relevant fact” in chapter 1, section 1.2.1; and the assignment of a locus in Abelard’s conception, chapter 3 of this volume.

This argument scheme builds on the analogy of two comparable entities (X and Z), which is assumed as a premise. This allows us to draw the conclusion that a property (Y) inhering in one of the two comparable entities (Z) should also inhere in the other one (X). The whole inference from the premises to the conclusion is comprised by this representation of the argument scheme. An argument scheme, in fact, is expected to make the whole mechanism explicit that connects the premises to the standpoint. We claim that this type of analysis is helpful but not completely satisfactory as a means to understand what the real force of the argument is based on. Let us apply this analysis to an actual argument in order to show how an AMT-based analysis would account for all levels of the inferential configuration of the scheme while, at the same time, allowing us to focus on the connection to its material starting points. Consider the following very ordinary argumentation:

A: Should we travel by train or by car?

B: Remember the traffic jams on New Year's Eve? And today is our national holiday!

Following the abovementioned pragma-dialectical characterization of the argument scheme, we have a standpoint supported by two coordinate arguments (more on this aspect can be found in section 6.6):

1 It might be true of this evening (our national holiday) that there will be traffic jams.

1.1a Because the fact that there were traffic jams was true for New Year's Eve.

1.1b And the national holiday is comparable to New Year's Eve

Now, it will emerge from our presentation that all elements put forward in the pragma-dialectical approach are considered within the AMT; moreover, the AMT explicitly includes further information that allows us to identify how the argument supports that specific standpoint. To start with the procedural starting point, the three levels concerned may be summarized as follows:

- First level: Locus from analogy
- Second level - maxim: If something has been true for a case of the same *functional genus* (Walton and Macagno 2009: 158) as X, it may be true for X;
- Third level - logical form of modus ponens: If something was true for a case of the same functional genus as X, this may be true for X; now, the presence of traffic jams was true for a case that belongs to the same functional genus as the national holiday; therefore it may also be true for the national holiday (i.e. for tonight).

The logical form that we just sketched at the first level is inferentially valid if all premises are true. However, the truth of the second (minor) premise in the logical form is not derivable from the maxim; it must be derived from outside. This is why we claim that a complete reconstruction of the inferential configuration of an argument must also include

material-contextual starting points. In other words, for the truth of the minor premise to be ascertained, some backing is necessary taken from the interlocutors' common ground. This backing is necessary in order to exhaustively represent the inferential configuration of a real argument, since the maxim, in order to actually work, needs to be applied to an appropriate situation (Rigotti and Greco Morasso 2010).

The pragma-dialectical account, as shown above, identifies a necessary requirement that must be met in order to arrive at a complete description of an argument scheme: the national holiday and New Year's Eve must actually be considered comparable circumstances. However, the comparability needs further backing. Following Walton and Macagno (2009: 158), we might say that, in our case, both celebrations are part of "a common functional genus"—that of "great celebrations", in which people treat themselves with day off and go on a trip somewhere.<sup>10</sup> This functional genus must be present as a premise of the argument; this premise is an assumption based on the discussants' shared knowledge of the two considered celebrations. In terms of Walton (2001), we could speak of a *plausible* premise, whereby plausibility is defined as "a body of knowledge shared by language users concerning what typically happens in certain kinds of stereotypical situations" (Walton, 2001: 93). Generally speaking, plausible premises are typically part of the material starting point. In this connection, we propose to reconsider the Aristotelian notion of *endoxon* (Rigotti 2006, 2008; Tardini 1997, plur. *endoxa*):

Endoxa are opinions that are accepted by everyone or by the majority, or by the wise men (all of them or the majority, or by the most notable and illustrious of them) (*Topics* 100b21).

In the AMT interpretation, an endoxon is a general premise that is accepted by the relevant public in a specific argumentative situation. Although *endoxon* is an argumentative notion introduced by Aristotle, the preceding tradition of topics *de facto* did not include it in the analysis of loci<sup>11</sup>: this is one of the aspects in which the AMT model, although relying on concepts elaborated in the previous tradition, proposes a new conceptual system to analyze arguments. The endoxon is also a major premise in the material-contextual component, but it differs from the abstract principle expressed by the maxim.

Participants to an argumentative discussion must agree upon the material starting points in order to resolve their difference of opinion. In the case proposed above, it is up to them to accept the two celebrations as equivalents. As for material starting points, one must add to

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<sup>10</sup> In relation to analogy, semantic analysis (see chapter 7, section 7.4) is of use for defining the connected notions of *comparability* and *functional genus*. That two entities are comparable, in fact, cannot be mechanically established. The property of comparability holds only if it focuses on a *relevant* dimension of the concerned property. For example, in this case, the two celebrations are not claimed to have the same meaning; they are comparable as to the behaviours they provoke. Or, to draw an example from a different domain, we might say that a Federal State could be compared to a family only because member States, like family members, are expected to help each other; yet we would not expect that, in a family-like manner, member States grow old and die.

<sup>11</sup> As discussed in chapter 3 (section 3.5.4), Abelard's notion of *assignatio loci* (assignment of the locus) could be read as a hint towards a close consideration of the material-contextual component of real-life argumentation. However, Abelard does not develop his intuition enough to interpret it univocally.

the general premise represented by the endoxon also a factual premise: “there were traffic jams on New Year’s Eve”. Following Toulmin, we call this premise of factual nature *datum*. From the logical point of view, the conjunction of the endoxon with the datum (in a categorial syllogism) leads us to the conclusion that “the fact that there were traffic jams holds for a circumstance that belongs to the same functional genus as the national holiday”.

<b>Material-contextual component</b>	<b>Inferential-procedural component</b>
The national holiday and New Year’s Eve belong to the same functional genus of “big celebrations”, in which people take a day off, and more people go on a trip somewhere than on a regular day.	
There were traffic jams on New Year’s Eve.	If something was the case for a circumstance of the same functional genus as X, this might be the case for X
<i>Therefore</i> , the fact that there were traffic jams holds for a circumstance of the same functional genus as the national holiday	The fact that there were traffic jams holds for a circumstance of the same functional genus as the national holiday
	<i>Therefore</i> , there may be traffic jams tonight (on the national holiday)

**Table 6-1: Material-contextual and inferential-procedural component of the New Year’s Eve-national holiday analogy argument**

Table 6-1 wraps up the material-contextual and the inferential-procedural components illustrated so far. It is evident that the two components have one premise in common: the conclusion in the material-contextual component is “used” as a minor premise in the inferential-procedural component. This is where the two component intersect. Figure 6-1 (taken from Rigotti and Greco Morasso 2010) better visualizes this intersection.

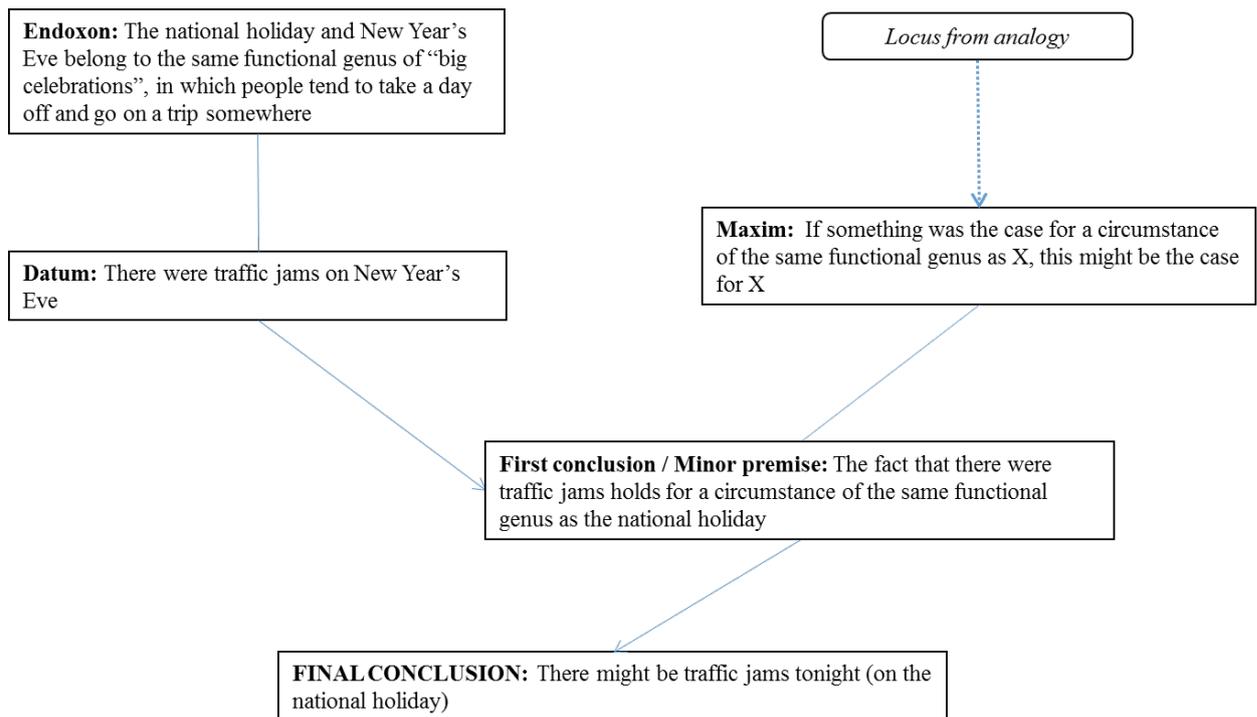


Figure 6-1: AMT's synergistic representation of the New Year's Eve-national holiday analogy argument<sup>12</sup>

Some graphical notes might be of use to understand this representation. First, as stated earlier, the Y structure graphically represents the intersection of the two syllogistic structures; as based, respectively, on the material-contextual and on the procedural-inferential components. This point of intersection is crucial in the perspective of the AMT: in fact, it represents the junction between the material and the procedural starting points and shows how different types of premises are combined in real argumentation. The locus is presented, in a separate box, although it is the source of the argument and it is not directly part of the inferential configuration of it. The dotted arrow connecting locus and maxim means that this specific maxim is one among the possible maxims associated to the locus (see figure 6-1).

As for the other connections between the different boxes, note that maxim and minor premise are connected by a line (not an arrow); this line means logical conjunction (*and*), namely, that these two premises should be taken together – as in a syllogistic structure of reasoning. Together, they lead to the final conclusion. The arrow pointing at the final conclusion means “therefore” and is meant to signal inference.

<sup>12</sup> This is the representation that we propose for the complete reconstruction of argument schemes. With respect to Rigotti and Greco Morasso (2010) and other earlier publications, the representation has been simplified from a graphical viewpoint, though it maintains all the same core concepts that the AMT has introduced.

The same applies to the left-hand part of the diagram, i.e. to the syllogistic structure that starts from the material-contextual premises. Endoxon and datum are associated by a plain line meaning that they need to be taken together to infer the “first conclusion”; the arrow pointing at the first conclusion means “therefore” and is meant to signal inference.

### 6.2.3 The AMT reconstruction and the evaluation of argument schemes

In the perspective of an analyst who wants to reconstruct the inferential configuration of a standpoint + argument, we suggest to first proceed by eliciting the locus. The first question to be asked would thus be: “what is the basis on which the argument supports the standpoint”? is it analogy, final cause, material cause, or something else? (see chapter 7 for a list of loci). Once the locus has been identified, the analyst will reconstruct the specific maxim that specifically works as *Schlussregel* (to use the term introduced by Kienpointner 1992, see chapter 5 section 5.3) in that concrete case. Because different maxims are associated to one and the same locus, it is possible that the analyst will find a recurrent maxim namely one that is widely used; or that the analyst will find a maxim that is very rare.<sup>13</sup> The analyst will also place the standpoint in the box named “final conclusion”: the standpoint, in fact, by definition, is the endpoint of the inference, because it is the dubious statement that must be proven through argumentation.

Once this is done, the analyst will reconstruct the minor premise as the missing link between the maxim (major premise in the syllogistic structure) and the final conclusion. Having reconstructed the right-hand part of the diagram, the analyst will now turn to the material-contextual premises. He or she will reconstruct the endoxon and datum that are necessary to bring to the first conclusion (which coincides with the minor premise on the right-hand side, see figure 6-1). The endoxon is a general premise (major premise), whilst the datum is a piece of specific evidence<sup>14</sup>.

The quasi-Y structure diagram of the inferential configuration of an argument scheme as proposed by the AMT is analytical but not evaluative. This means that an argument is analysed as it is, including its possible faults. However, an evaluative phase should always follow the analysis of inferential configurations. Christopher Guerra (2008) has shown that each node of the inferential configuration as represented in the AMT is possibly subject to specific critical questions<sup>15</sup>. An analyst might discuss the validity of a maxim (see Rigotti

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<sup>13</sup> As we will further argue in chapter 7, by distinguishing loci and maxims, the AMT allows us to keep in mind a non-excessive number of loci, whilst at the same time allowing for a nuanced reconstruction of specific maxims, which outnumber the loci. The reconstruction of maxims is left to the analyst and depends on concrete examples.

<sup>14</sup> This practical procedure for reconstructing the inferential configuration of arguments should only be taken as a heuristic suggestion, as other procedures are possible.

<sup>15</sup> In the examples presented in chapter 8, we will complement the inferential analysis with an evaluation of the inferential configuration. This kind of evaluation does not cover a whole argumentative discussion, as argument schemes and loci are relative to the argumentation stage/opening stage of an argumentative discussion only.

2008 for an example; more on this in chapter 7); or discuss how much an endoxon is shared by the relevant audience; or evaluate whether what is presented as a “datum” actually is a piece of evidence in the relevant context. Thanks to the explicit distinction between the material and the procedural component, we may also establish whether the possible faults of an argumentative move depend on the use of an invalid maxim or on a false, incorrect or partial anchoring to the arguers’ material starting points (endoxon and datum).<sup>16</sup>

### 6.3 The AMT and other reconstructions of the inferential configuration of arguments

We will now compare the theoretical proposal represented by the AMT to other existing approaches to argument schemes. The approaches discussed in this section have been already presented in chapter 5, as concerns their general features. In this chapter, we will only discuss how other proposals for a reconstruction of the inferential configuration of arguments compare to the AMT. In general, our claim is that the AMT is both more explicit and more complete in identifying the inferential configuration of arguments (see Rigotti and Greco Morasso 2010) and in the reconstruction of implicit premises (see the discussion in Bigi and Greco Morasso 2012).

#### 6.3.1 Toulmin’s model

The well-known “Toulmin model” is open to different interpretations, as it may be interpreted either as a tool to describe the argumentation structure of a speech/text or as a means to analyze the *internal structure* of a single argumentation (see chapter 5). However, the latter interpretation seems more appropriate (Hitchcock 2003: 69); in fact, Toulmin sets out to propose a model that explains how “one’s assertion in response to a challenge” may be justified (ibid., see the discussion in chapter 5, section 5.2.1).

If this interpretation is correct, what aspects of the Toulmin’s model can be considered equivalent to the concepts elaborated within the AMT? First, we have assumed the concept of *datum* as a factual premise of argumentation. The datum in the AMT is a factual and specific premise; in this sense, it is interpreted in the same way as Toulmin’s model. However, the AMT interprets data as part of a whole syllogistic structure related to the material starting points of argumentation; in this perspective, a datum is a minor premise that, if associated with an endoxon, permits us to get to a first conclusion that will then be exploited in the inferential-procedural component of argumentation (see section 6.2.2). This way of looking at and inserting data into a syllogistic structure is more than a minor revision

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<sup>16</sup> Greco Morasso and Morasso (2014) have shown that attaching critical questions to the different nodes of the AMT representation can, in their view, give a more systematic and complete account of what critical questions need to be asked for each argument scheme.

of Toulmin's proposal. In fact, by shedding light on the material component of arguments, the AMT gives a more comprehensive interpretation of how data contribute to support standpoints (claims).

Second, one might want to draw an equivalence between Toulmin's warrant and the concept of *maxim*, or inferential rule, which comes from the tradition and which we have discussed in the previous section as an important component of the AMT reconstruction of the inferential configuration of arguments. In fact, Toulmin, declares that warrants are general patterns, "certifying the soundness of all arguments of the appropriate type" (Toulmin 1958: 100), while Toulmin et al. (1984: 199) use warrants as the defining criterion for the classification of arguments. Also, Toulmin clearly distinguishes warrants and backing, as noted by Pinto (2006: 129), attributing a "*normative and action-guiding force or function*" to warrants (*ibid.*, emphasis in the original), which would bring them close to the abstract nature of inferential rules, as maxims are. However, the analysis proposed by Hitchcock (2003) shows that the concept of warrant by Toulmin is not to be interpreted as an (implicit) premise of argumentation but as an *inference-licence*. Inference-licences are not necessarily premises of argumentation; but they can potentially be retrieved from the mind of the arguer (*ibid.*). The interpretation of warrants, anyways, is the subject of an open debate in contemporary argumentation theory (see for example the contributions on this topic in Hitchcock and Verheij 2006; see also the interpretation by Kienpointner of warrants as *Schlussregeln*, as discussed in chapter 5, section 5.3). As a consequence, the equivalence between warrant and maxim is controversial at best.<sup>17</sup>

Finally, the dialogical dimension, which is so important in the Toulmin model, is not absent from the AMT: in fact, an endoxon and a datum will be effective as far as they are *shared by the addressees* (i.e. what may be called the audience of argumentation). In other words, endoxon and datum derive their appropriateness from a dialogical principle, as they are effective insofar as they are accepted by the addressees (see Bigi and Greco Morasso 2012; see also the discussion in Greco 2016). At the same time, however, as announced in the Preface to this volume, the AMT deliberately renounces to explain the dialogic dynamics of argumentation – for example, the fact that arguments might have rebuttals. This is because, as said, the AMT focuses on single arguments and does not cover the whole argumentative interaction.

### 6.3.2 Kienpointner's *Alltagslogik*

As discussed in chapter 5, Manfred Kienpointner (1992) highlights and reinterprets the relation between loci and argument schemes; in this sense, his contribution is one of the

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<sup>17</sup> For this reason, we avoid the use of the term *warrant* in the AMT model and keep the ancient *maxim*, which more directly indicates the meaning that we intend to convey. In Rigotti and Greco Morasso (2010), our interpretation of warrants followed Kienpointner's (1992) analysis more closely; therefore, we said that it was possible to understand warrants as maxims. After careful review, we now feel that it is more adequate to highlight that there is a vivid debate on this topic in argumentation theory and informal logic. Such debate shows that the interpretation of the concept of warrant is not an easy task and that, probably, some ambiguity will remain. We would like to thank an anonymous reviewer for raising this point.

most closely comparable to the AMT. In particular, Kienpointner (1997, but see also the discussion in chapter 5) focuses on a heuristic reading of topics and proposes its integration not only in the ancient status theory, but also in several modern techniques of argument invention (debate theory, encyclopedic systems, creativity techniques). We will take an example of Kienpointner’s analysis, considering his reconstruction of the inferential configuration of the argument scheme from the whole to the parts (Kienpointner 1992: 274).

In table 6-2, we reproduce Kienpointner’s interpretation.<sup>18</sup> The left column includes the argument scheme; the right column provides an example.

<b>Scheme from the whole to the parts</b>	
<i>What is asserted of the whole, is asserted of the parts too</i>	<i>If the countries of the third world<sup>19</sup> are generally very poor, their inhabitants are generally very poor too</i>
X [poverty] is asserted of the whole	[These countries are generally very poor]
Therefore: X is asserted of the parts	Therefore: their inhabitants are generally very poor

**Table 6-2: Reconstruction of Kienpointner’s account of the inferential configuration of arguments**

As clearly emerges from this example, Kienpointner explicitly formulates rules (*Schlussregeln*), which can be considered as equivalent to maxims; in this case, we have “What is asserted of the whole, is asserted of the parts too” (see table 6-2). However, in our view, this reconstruction lacks a focus on what we call the material component. How do maxim inferentially support real arguments? If we take the example in table 6-2, we notice that this example is formulated hypothetically: “*If* the countries of the third world are generally very poor...” (our emphasis). In order to know whether countries of the third world are generally very poor or not, we need some extra-backing, which can only be provided by material-contextual premises: it is our knowledge of the economic and social situation in the so-called third world that permits us to get to the conclusion that “their inhabitants are generally very poor” (table 6-2). Without material-contextual premises (endoxon and datum), this argument would remain at a hypothetical level. This is why, in our view, a reconstruction of the inferential configuration of arguments cannot do without a careful reconstruction of the material-contextual premises and an explanation of how these are connected to the more abstract *Schlussregeln*.

### 6.3.3 Walton’s studies on argument schemes

As noted in chapter 5, Walton’s approach to argument schemes<sup>20</sup> has been systematized in Walton, Reed and Macagno (2008), including the integration of the graphical representation

<sup>18</sup> See Kienpointner (1992: 274) for the original table, which we have translated from German into English and adapted. This is the scheme that Kienpointner (ibid.) calls “descriptive”, as opposed to “normative”.

<sup>19</sup> We keep this example as it is in the original even though the phrase “third world” has a negative connotation and should be avoided.

<sup>20</sup> For reasons of uniformity, here we adopt the phrase “argument scheme”; Walton and colleagues, however, prefer “argumentation scheme”.

allowed by the argument visualization software Araucaria.<sup>21</sup> Walton has also widely contributed to the study of different argument schemes through a series of publications that highlight the structure and use of such schemes in different domains, from science, to ethics, to juridical argumentation, and so on. In order to highlight the components that Walton and colleagues consider relevant to describe the inferential configuration of arguments, we will consider an example first discussed in Walton (1997: 210), then rephrased in Walton (2005: 54) and in Walton, Reed and Macagno (2008: 310); this example concerns appeals to expert opinion.

<b>Argument(ation) scheme from expert opinion</b>	
Major premise	E is an expert in subject domain S containing proposition A
Minor premise	E asserts that proposition A (in subject domain S) is true/false
Conclusion	A may be plausibly taken to be true/false

Table 6-3: Reconstruction of the argument(ation) scheme from expert opinion according to D. Walton (this version is taken from Walton (2005: 54).

Strictly speaking, the conclusion “A may be plausibly taken to be true/false” (table 6-3) does not logically follow from the premises explicitly indicated.<sup>22</sup> On the basis of such premises, we can only conclude that “A, belonging to subject domain S, is asserted by an expert in this subject domain”. In order to get to the conclusion, one needs a more complex inferential structure. In fact, the present reconstruction does not include an inferential connection (*maxim*, in our terminology) that can justify the whole reasoning: “If a proposition A is asserted to be true by an expert of the field to which A belongs, then A may plausibly be taken to be true”. In general, in the Araucaria representations of the inferential configuration of real-life arguments provided in Walton, Reed and Macagno (2008), the material starting points tend to be present, while the *maxim* is often left unstated (see for example the argument scheme from verbal classification in Walton, Reed and Macagno 2008: 77; or the argument scheme from expert opinion in Walton, Reed and Macagno 2008: 262).

A different reconstruction, as discussed in Walton (2006: 285), presents a more complex situation. An argument is reproduced in table 6-4; this analysis, as presented in Walton (*ibid.*), might be considered a formulation of an argument; but it is not the analysis of its inferential configuration.

<b>Argumentation scheme for the direct ad hominem argument</b>
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<sup>21</sup> At the time of writing this book, Araucaria has been replaced by updated software applications (see the website of the Center for Argument Technology at the University of Dundee, UK: <http://www.arg-tech.org>, last visited November 2017); the main function of these applications being the reconstruction of argumentation schemes.

<sup>22</sup> Note that the two premises presented in this reconstruction, i.e. major premise and minor premise, would correspond to endoxon and datum in AMT terms. It seems as if Walton’s (and colleagues’) approach privileges the material starting points of argument schemes. However, it does not explain how these premises are inferentially connected to the conclusion or standpoint.

The respondent is a person of bad (defective) character
Therefore the respondent's argument should not be accepted

Table 6-4: Walton's representation of the argument(ation) scheme for the direct ad hominem argument (taken from Walton 2006: 285)

In fact, the representation in Table 6-4 only states the datum, whilst ignoring the maxim. The latter could be reconstructed as: "If an argument is used by a person of bad character, it should not be accepted". As a side note; this is a fallacious principle—a paramaxim, in Rigotti's (2008) terms, or anyway a maxim that has some limitations. In fact, even a person with a defective character can advance a good (valid) argument. Within the AMT, the same move would be reconstructed as in Table 6-5.

	(PARA)MAXIM: If an argument is advanced by a person of bad (defective) character, it should not be accepted
PREMISE 1: X is a person of bad (defective) character	
PREMISE 2: Argument A has been advanced by X	
PROVISIONAL CONCLUSION: Argument A has been advanced by a person of bad (defective) character	
CONCLUSION: Argument A should not be accepted	

Table 6-5: Interpretation of Walton's account of the argumentation scheme from expert opinion

The representation in table 6-5 is based on an ATM-like reconstruction, which allows making explicit all the components of the argument scheme. It also allows showing how the unacceptability of this argument depends on clear limits of the maxim (see section 6.2.3).

### 6.3.4 The Pragma-Dialectical approach to Argument Schemes

We have already considered some specific aspects of the AMT in relation to the pragma-dialectical view of argument schemes in chapter 5. However, it is worth briefly elaborating on the specific approach to the elicitation and representation of the inferential configuration of arguments. In previous works, in fact, we have already proved that the AMT can be profitably integrated into a pragma-dialectical framework of analysis (Rigotti and Palmieri 2010; Greco Morasso 2009, 2011). In particular we take into account van Eemeren and Grootendorst (1984), van Eemeren, Grootendorst and Snoeck Henkemans. (2002), Garssen (2001, 2009), and Van Eemeren, Houtlosser and Snoeck Henkemans (2007).

Going back to the example presented in section 6.2, concerning argumentation by analogy, we will now consider how the different components of argument schemes are treated in the pragma-dialectical account. In the pragma-dialectical perspective, the first level of the procedural component (or *locus*) in the AMT could be seen as associated with the *name* of the argument scheme itself. Pragma-dialecticians speak of symptomatic, analogical and causal relationships or relations (Garssen 2001: 92 ff, see chapter 5, section 5.7). Van Eemeren, Houtlosser and Snoeck Henkemans (2007: 138 ff.) focus on a series of sub-types

of argument schemes, thereby suggesting that more specific loci can be identified within these three generic categories (see the discussion in chapter 5).

What we have called *maxim* in the AMT is not explicitly formulated in the general representation of the argument scheme in pragma-dialectics, albeit some maxims are discussed in the discursive description of the different subtypes of argument schemes (see for example van Eemeren, Houtlosser and Snoeck Henkemans 2007: 137 ff; Garssen 2009). As a matter of fact, maxims are specific argumentative principles at work in specific applications of argument schemes and, therefore, can only be identified within specific subtypes. For example, Garssen (2001: 92) states that there is a specific sub-type of argumentation from analogy based on the “principle of justice” (also called *normative analogy*, see the discussion in van Eemeren and Garssen 2014). Normative analogy includes cases such as the following:

“The employees in the administration department should get a salary raise because the sales persons in our team also got a salary raise” (van Eemeren & Garssen 2014: 50).

The principle at the basis of normative analogy is that “people who are in similar situations should be treated similarly” (Garssen 2001: 92); this principle corresponds to a maxim in the AMT account. However, the distinction between locus and maxim, which is clearly pushed to the forefront in the AMT, is not put in the foreground in pragma-dialectics. In our view, this blurs the possibility for a systematic and pragmatically usable categorization of argument schemes. In fact, it is the one-to-many relation of a locus to its maxims that makes the classification manageable in terms of number of loci and still flexible in terms of adding new maxims, insofar as these emerge in the analysis of argument schemes (see chapter 7, section 7.1 in particular).

Moreover, pragma-dialectics does not systematically distinguish the procedural-inferential and the material-contextual components. If we stay with the case of analogy, van Eemeren, Grootendorst and Snoeck Henkemans (2002: 99, see section 3) identify both a statement about the actual comparability of two entities “Z is comparable to X” (which is to be interpreted as an endoxon in AMT’s terms) and the attribution of a certain characteristic to the entity that is assumed as a comparison term “Because Y is true of Z” (a Datum in the AMT) as premises of the argument scheme. In pragma-dialectics, some of the premises that are included into argument schemes are sometimes of a material nature; but the fact that material-contextual premises are different in nature from those pertaining to the procedural component is not explicitly theorized. To put it in more general terms, we might say that the AMT can provide an exhaustive representation of the argument scheme that is partially kept implicit in the pragma-dialectical approach. In particular, the representation offered by the AMT has the advantage of requiring a precise identification of the maxim at work, as well as the advantage of making the intersection between the procedural and the material starting points explicit.

A further example might help understand how the AMT makes some aspects more explicit (and therefore easier to discuss and evaluate) within the inferential configuration of single arguments. In the example (inspired by ancient history) “Mauritanians cannot have arms. They do not have iron”, a pragma-dialectical reconstruction could be: “If there is no iron, there cannot be arms” (and the Mauritanians lack iron; therefore they cannot have arms)”. Now, the premise (“If there is no iron, there cannot be arms”) reconstructs a class that includes all cases in which the lack of iron hinders the production of arms (at any time, when iron is lacking, arms are lacking). However, this reconstruction does not specify the *reason* why the lack of iron should hinder the production of arms. Therefore, the argument-standpoint relation remains opaque. To solve to this problem, the AMT reconstructs the inferential configuration of the argument on the basis of the relation between the product and its material cause. This is evoked in all actual instances of this locus-habitus (iron/arms, milk/butter, chocolate/Sachertorte, flour/bread, etc.) where specific endoxa can be activated: “Arms are made of iron”, “Butter is a dairy product”, “Sachertorte is basically a chocolate cake”, “Bread is a product of flour”, etc.). More specifically, the AMT would split the premise “If there is no iron, there cannot be arms” into three parts: (1) a maxim, founded on the locus from the material cause: “if the material cause is not present, the product cannot be present”; and (2) a material starting point, stating that “Iron is necessary to make arms” (endoxon) and “The Mauritanians lack iron” (datum). This reconstruction explains what the force of the argument relies on more clearly. In fact, it is precisely from the lack of the necessary material cause (iron) that the argumentation supporting the Mauritanians’ lack of arms derives its force.

## 6.4 Discussion: Reasons for Adopting the AMT perspective

The overview of different contributions offered in section 6.3 as well as in chapter 5 has shown that, while many relevant aspects of argument schemes were considered in depth within argumentation theory research, the inner inferential structure of arguments still needed to be clarified and systematized. In fact, we have shown that other approaches propose representations that, in order to be consistent, need to be thoroughly integrated by including further premises – or making these premises explicit. However, including these integrations ultimately brings us to “translate” other authors’ approaches into representations that become very similar to the AMT.

We might say that the Y-shaped structure proposed by the AMT allows for making explicit and connecting some elements that had previously been indicated as relevant in the study of argument schemes. As figure 6-2 shows, some areas of conceptual overlapping can be identified but no previous models put all the elements together in such an interconnected

and explicit way. There are also elements that are specific to the AMT (e.g. the endoxon and the first conclusion).

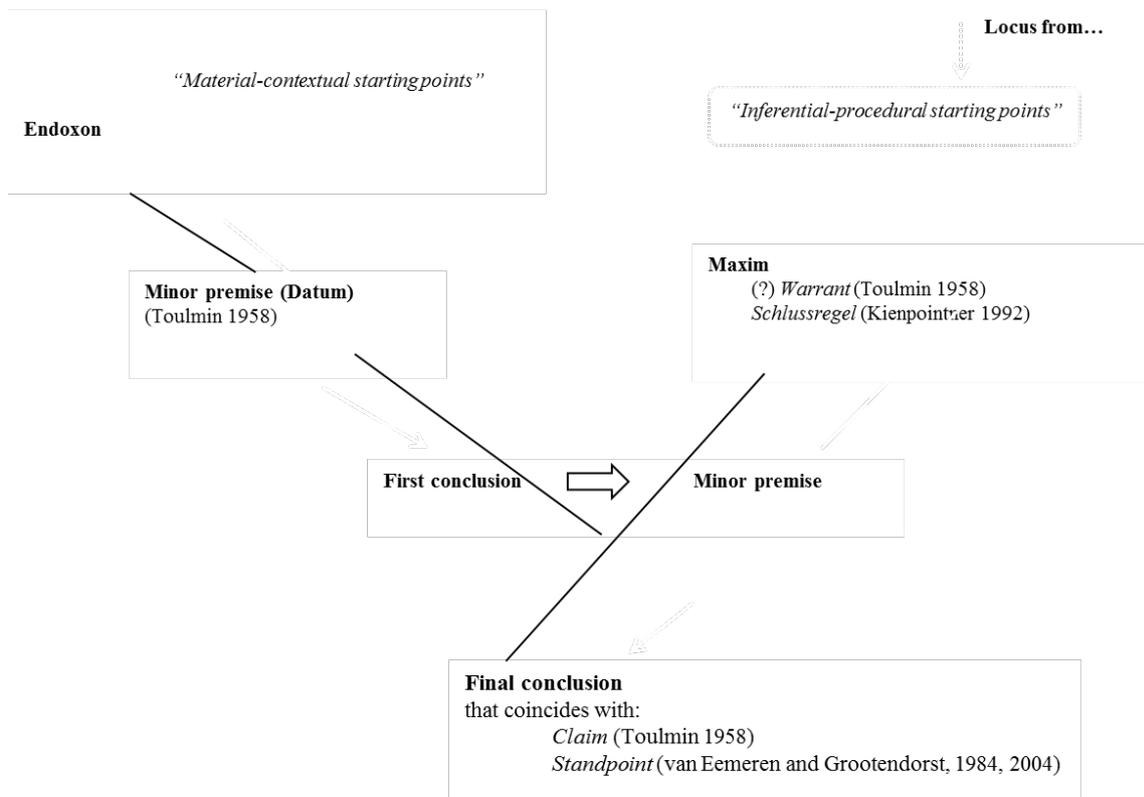


Figure 6-2: How the AMT allows to interconnect essential components of argument schemes (revised and adapted from Rigotti and Greco Morasso 2010: 508).

Now, it is the fact that the AMT offers a more explicit, systematic and complete way to represent the different components of the inferential configuration of single arguments (in comparison to other models) enough to argue for the adoption of this model? We believe that it is. In fact, any model that intends to show how arguments support a standpoint should account for the vital elements of these arguments; and show how they are interconnected from a logical viewpoint. Explicitness, systematicity, and consistency from a logical point of view and completeness are, therefore, important characteristics of a model for the inferential configuration of arguments.

In terms of the main specific advantages that the AMT offers in relation to other models of argument schemes, a defining trait of the model is the possibility to distinguish material-contextual and inferential-procedural starting points within the same argument scheme. The connection between procedural and material premises allows us to understand how premises of a different nature might work together, i.e. how they are interrelatedly present within the inferential configuration of an argument (a single argument-standpoint connection).

So far, the distinction and interrelation between inferential-procedural and material-contextual component was not so systematically accounted for. This distinction also paves the way for an understanding of how cognitive operations work in the context of a social interaction, such as an argumentative discussion is.<sup>23</sup> In this sense, the fact that the AMT makes two different lines of reasoning within one and the same inferential configuration explicit is not an unnecessary “duplication” or complication of the inferential configuration of a single argument. As shown in section 6.3, when the double nature of premises is not taken into account, there is always some missing link that does not allow us to fully understand how the standpoint is supported. The two lines within the inferential configuration of arguments are certainly interrelated but they are also distinguished. The opposition maxim-endoxon as general premises (“major premises”) of a single argument serves the purpose of explaining that, in order to accept an argument, an arguer will on the one hand recognize a general inferential principle, as something that can virtually be applied to all contexts. On the other hand, he or she will then connect this abstract principle to knowledge of a specific domain. Rigotti (2006) discusses a simple but interesting example that might be functional for this aspect. In a context of advertising, declaring “this butter is very good, because it is made of fresh Alpine milk” grounds the acceptability of the standpoint (“this butter is very good”) on its ingredient (fresh Alpine milk). To use the categories of Aristotle and the medieval scholars (chapters 1 and 3), this argument is based on the locus from material cause; in particular, the maxim at work is “if the material cause of a product has a certain quality, the product will have that quality”.<sup>24</sup> As such, this inferential-procedural principle can be applied to different domains (a piece of furniture can be said to be of good quality because it is made of oak wood; a blazer can be said to be of good quality because it is 100% wool, and so on). In order to accept the argument about the butter, however, the arguers also need to accept an endoxon that can be formulated as: “fresh Alpine milk is very good”. If this is not accepted, or if the arguers simply do not know why Alpine milk should be very good (for example, because they are not familiar with the Alps and their micro-climate), the acceptability of the standpoint is jeopardized. This does not depend on an inferential problem but on a problem of anchoring of the argument to the arguers’ shared premises and perceptions. To conclude, the distinction between procedural-inferential and material-contextual premises does not put the two branches of the Y structure at the same level. In fact, the procedural-inferential component is directly deriving from the locus and, in this sense, it is the overarching structure within the inferential configuration of an argument. However, the maxim in the inferential-procedural component needs to be instantiated in specific contextual-material starting points in order for it to work as a real-life argument.

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<sup>23</sup> We owe this annotation to Anne-Nelly Perret-Clermont and Michèle Grossen.

<sup>24</sup> This maxim has some limitations because, of course, the material is not the only aspects that bears an influence on the product. This said, however, this principle can be accepted and is normally accepted in a variety of settings.

Moreover, the elicitation of material-contextual premises also accounts for the context-dependence of arguments in argumentation (Rigotti 2006). In this sense, it offers a specific contribution to the study of contextualised argumentation in different domains. Endoxa and data are dialogic and contextual. For example, in their case-study analysis of a juridical text, Greco, Palmieri and Rigotti (2016) observe that the endoxon is the text of the law, while the datum is represented by the concrete case that a person is considering. In a different domain, Zampa (2017) notes how endoxa reveal news values shared by journalists in newsrooms. These are only two examples that show how an accurate reconstruction of arguments via the AMT allows us to enrich the study of argumentation in context. It shows how the same inferential principles (*loci* and *maxims*) are applied in different domains of communicative practice.

As pointed out by Bigi and Greco Morasso (2012), the distinction between procedural-inferential and material-contextual also helps in the reconstruction of implicit premises in argumentation. In fact, if an analyst starts from the inferential-procedural component (*locus* and *maxim*), he or she anticipates what is needed to “fill in the slots” of implicit premises of a material-contextual nature.<sup>25</sup> To put it in pragma-dialectical terms, as Bigi and Greco Morasso (2012) show, the quasi-Y structure that is typical of an AMT reconstruction guides the reconstruction of the *logical minimum* and the *pragmatic optimum* (van Eemeren and Grootendorst 1992) in argumentation. According to van Eemeren and Grootendorst (1992), the logical minimum “consists of the “if-then” sentence that has as its antecedent the explicit premise and as its consequent the conclusion of the explicit argument” (van Eemeren and Grootendorst, 1992: 64). The logical minimum is necessary but often not sufficient for the reconstruction of argumentation, because as such it is not informative. Therefore, it is often necessary to add other premises that complement the logical minimum, though without attributing implicit premises to the arguers that they are not accountable for (cf. van Eemeren and Grootendorst 1992: 64-65). The material-contextual component – and especially the endoxon, which is often left implicit because it is supposedly shared by the interlocutors, can be used as a guide to understand the pragmatic optimum that is necessary to complement the if-then structure of the *maxim*.

In terms of evaluation, the AMT offers an added value in comparison to other models as well. As Garssen (2001: 91) remarks, argument schemes can be distinguished “because each scheme comes with different critical questions”. Walton, Reed and Macagno (2008: 3 and *passim*) also highlight the significance of critical questions to evaluate argument schemes. In this regard, the AMT can support the elicitation of the possible critical questions that are relevant for each node of the Y-structure (see Christopher Guerra 2008), specifying exactly to which node the validity problems of an argument are connected. For example,

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<sup>25</sup> In a recent study, Andone and Greco (2018) have discussed the integration of an analysis based on the AMT in research on the pragma-dialectical concept of *argumentative patterns* (van Eemeren 2016), taking the example of European soft law (in particular, recommendations) as a case in point. Whilst this type of research has only just started, it is important to observe that an AMT perspective appears to be particularly important as concerns the reconstruction of implicit premises in argumentation.

Greco Morasso and Morasso (2014) have shown that considering the AMT as a basis for the analysis permits to identify a new critical question for the argument scheme (locus) from expert opinion, which had not been considered in the previous literature. Also in this context, the distinction between procedural-inferential and material-contextual starting points might offer an important tool for the evaluation of arguments. In the case of a misunderstanding, or in the presence of a “mistake” by one of the contributors to a dialogue, an AMT reconstruction might help explain whether the problem that interlocutors are experiencing depends on an inferential (logical) aspect or on the fact that they do not share the same material-contextual premises. For example, Greco, Mehmeti and Perret-Clermont (2017) discuss a case of misunderstanding and disagreement between a teacher and her pupils within a pedagogical context; the analysis reveals that the difference of opinion could be solved if the endoxa implicitly adopted by the teacher and the students respectively would be made explicit. Similar results are discussed in Schär (2018) in relation to the analysis of misalignments in family conversations. Therefore, the AMT might offer a tool for the evaluation of arguments, both for an analysts who is interested in understanding why disagreement has emerged; and for parties within the discussion (for example, teachers, mediators and other professional facilitators of dialogue) who wish to solve disagreement in a reasonable fashion.

## 6.5 From arguments to argumentative discourse: the interaction of AMT analysis and argument structures

The fact that the AMT proposes the analysis of the inferential configuration of single arguments does not mean that the AMT cannot be applied as a more fine-grained tool to analyze complex argumentative structures, i.e. cases in which more than one argument is presented to support a standpoint. The different AMT reconstructions, in such cases, will be interconnected. In what follows, we will discuss how an AMT analysis is combined with argumentation structures.

In order to do so, we will need to briefly recall the notion of *argumentation structure* in the pragma-dialectical perspective. Pragma-dialectics is not the only approach that has considered argumentation structures (see Freeman 2011; see also the discussion in Snoeck Henkemans 2000, 2001). However, because in this book we primarily discuss the integration of the AMT within a general pragma-dialectical framework, we will discuss how the AMT analysis of the inferential configuration of arguments fits in this framework<sup>26</sup>. In some parts of our reconstruction, we will refer to Palmieri (2014) for some of the considerations regarding how to interpret the combination of pragma-dialectics and the AMT. In fact, Palmieri (2014) has extensively dealt with the combination of the pragma-

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<sup>26</sup> A complete discussion of the different approaches to argumentation structures is beyond the scope of the present chapter.

dialectical notion of argumentation structure and the AMT reconstructions of the inferential configuration of arguments<sup>27</sup>.

### 6.5.1 Combination of the analysis of argument structures and AMT analysis of argument schemes

Four main types of argumentation structure have been distinguished in the pragma-dialectical account: *single argumentation* (composed by one single argument), *multiple argumentation*, *coordinative* (or *compound*), and *subordinative* (see van Eemeren et al 2002; van Eemeren and Snoeck Henkemans 2017).

To start with the simplest structure, *single argumentation* means that there is just one proposition expressed in support of the standpoint. In order to represent the argumentation structure of this single argument, we take inspiration from van Eemeren, Grootendorst and Snoeck Henkemans (2002: 63-73). A single argumentation is presented in figure 6-3:

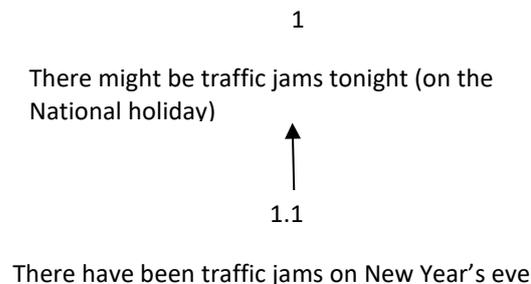


Figure 6-3: Argumentation structure in the case of a single dispute (adapted from Rigotti and Greco Morasso 2010)

The standard representation in pragma-dialectics foresees that a standpoint is indicated on the top and is assigned a number. The argument supporting it is numbered by adding a decimal (1.1) and it is connected to the standpoint by an arrow. The arrow points to the standpoint because it is the argument that supports the standpoint; verbally, the meaning of this arrow might be “therefore”. However, argumentation is often *complex*, i.e. the protagonist expresses more than one proposition to defend his or her standpoint. Depending on how these propositions are related to each other, a complex argumentation can be *multiple*, *coordinative* or *subordinative*.

The principle regulating how to move from the argumentation structure to the Y-structure is that each arrow of the argumentation structure tends to correspond to a Y-structure diagram (see Rigotti and Palmieri 2010). Thus, as Palmieri (2014: 40) observes, “the single

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<sup>27</sup> Although Palmieri (2014) is the first important work that has dealt with the integration of argumentation structures and the AMT, we have finally taken a slightly different position on this topic, in specific as concerns coordinative argumentation. We are indebted to Corina Andone, Andrea Rocci and Rudi Palmieri for precious critical comments and discussion on this matter.

argumentation coincides with a Y-structure in which the explicit premise indicated in the analytic overview typically<sup>28</sup> assumes the function of *datum*”.

*Multiple argumentation* “consists of alternative defenses of the same standpoint, presented one after the other” (van Eemeren and Snoeck Henkemans 2017: 58). In other words, each argument put forward by an arguer constitutes an independent reason for the standpoint to be accepted, which means that each argument is potentially capable of justifying the standpoint independently from the other premises. Palmieri (2014: 38) makes the example of Mr. George, who puts forward two separate arguments to persuade his colleague that it is impossible to expand their pizza delivery business: “we lack capital” and “we will never obtain the legal permission from the local authorities”. Both 1.1 and 1.2 would, independently, provide a sufficient reason to prove that the business cannot be improved. In pragma-dialectics, each argument within multiple argumentation is independently linked to the standpoint (thus, there is one arrow for each argument). Arguments are numbered as follows: 1.1, 1.2, 1.3, and so on.

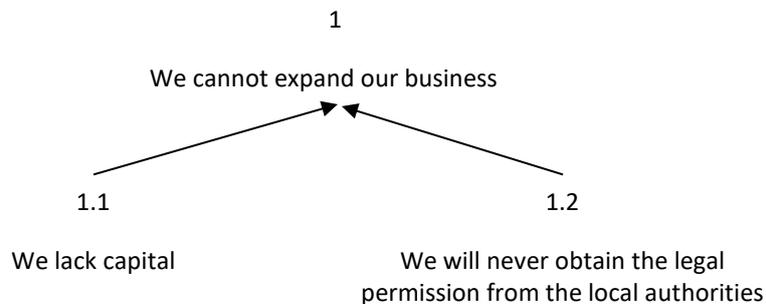


Figure 6-4: Argumentation structure of a multiple argumentation (example taken from Palmieri 2014: 38).

In *coordinative (compound) argumentation*, the propositions expressed by the arguer are, instead, interdependent, i.e. they justify the standpoint only if taken together. In van Eemeren and Snoeck Henkemans (2017: 59), coordinative argumentation is defined as “one single attempt at defending the standpoint that consists of a combination of arguments that must be taken together to constitute a conclusive defense”. A classic example of coordinative argumentation given by pragma-dialecticians (van Eemeren and Grootendorst 1992; Snoeck Henkemans 1997; van Eemeren, Grootendorst and Snoeck Henkemans 2002) could be represented as follows:

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<sup>28</sup> Note that “typically” does not mean “always”. In what follows, we will discuss the complex case of coordinative argumentation, to which this rule does not apply.

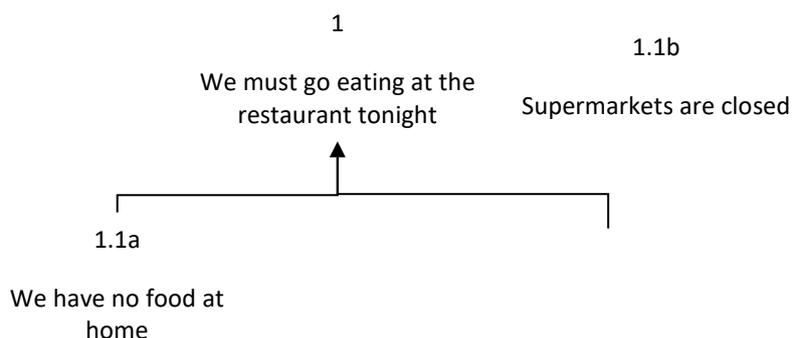


Figure 6-5: Compound argumentation (as presented in Palmieri 2014: 39, cf. also van Eemeren and Snoeck Henkemans 2017: 61 for the a recent pragma-dialectical presentation of this example).

The arguments that form a compound argumentation are linked by one arrow and are annotated by the adding a letter to the same number (1.1a, 1.1b, 1.1c and so on). This is meant to signal their interdependency.

Because of this emphasis on the fact that arguments in compound argumentation are “dependent on each other for the defense of the standpoint” (van Eemeren and Snoeck Henkemans 2017: 59), Palmieri (2014) proposes to consider compound argumentation as a special case of single argumentation in which more than one premise is made explicit. In his interpretation, 1.1a and 1.1b would represent *different premises within the same inferential configuration*; they would both be included within one AMT reconstruction.

In what follows, we will discuss and extend Palmieri’s interpretation. In a number of cases, his interpretation allows for a clarification of how arguments are “interdependent”: two compound arguments (1.1a and 1.1b) could be endoxon and datum within the same argument. For example, Palmieri (2014: 41) proposes a representation of the example in figure 6-5 in AMT terms that helps clarify how 1.1a and 1.1b are endoxon and datum of a *locus from alternatives*<sup>29</sup>. This locus requires the inclusion of *all* alternatives to action A in order to justify the necessity of undertaking A (see figure 6-8):

<sup>29</sup> The locus from alternatives is described in chapter 7 of this volume, alongside with other loci in the AMT interpretation; see in particular section 7.2.2.2.

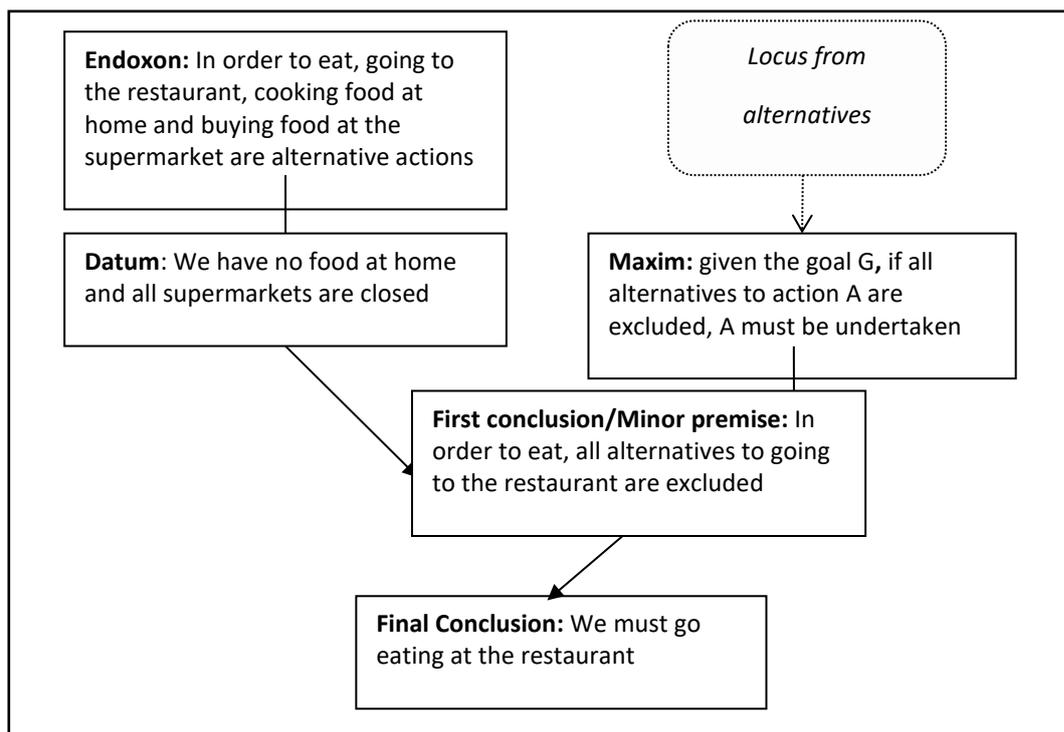


Figure 6-6: AMT analysis of an example of coordinative argumentation – the “restaurant” example (taken from Palmieri 2014: 41).

When it is the case that the different premises in coordinative argumentation are part of one argument scheme (based on one locus), the AMT reconstruction has explanatory potential in relation to the pragma-dialectical account, because it gives a more precise definition of the “interdependency of arguments” at an inferential level.

In other cases, different arguments seem to be different “cumulated” data to be used under one and the same locus and maxim (Palmieri 2014: 40). An example that would fall into the category of “cumulated data” in the AMT has been illustrated by van Eemeren and Snoeck Henkemans (2017: 59). The example is the following:

The dinner was organized perfectly, for the room was exactly the right size for the number of guests, the arrangement of tables was well thought out, and the service was excellent (van Eemeren and Snoeck Henkemans (2017: 59).

According to van Eemeren and Snoeck Henkemans (2017: 59), in such a case, the different arguments “complement each other [...], because each separate argument by itself is too weak to conclusively support the standpoint”. An AMT interpretation of this case would consider that:

- a. This argument is based on a *locus from definition* (see the typology of loci in chapter 7), because it intends to prove what it means for a dinner to be “organized perfectly”.

- b. The different components of coordinative argumentation (“the room was exactly the right size for the number of guests”, “the arrangement of the tables was well thought out”, and “the service was excellent”) represent different parts of the datum;
- c. This datum is associated with an endoxon that considers: “For a dinner to be organized perfectly, one needs a room that is exactly the right size for the number of guests, tables need to be arranged in a well thought out fashion, and the service must be excellent”.

Also in this case, thus, the interpretation proposed by Palmieri (2014) holds: the different components of coordinative argumentation are interdependent because they are actually premises that work under the same locus.

However, this is not always the case. Van Eemeren and Snoeck Henkemans (2017: 59) clearly say that “the arguments in coordinative argumentation can be dependent on each other *in several ways*” (our emphasis). This means that “interdependency” is a polysemous word in pragma-dialectics. We might distinguish two cases: an *inferential interpretation* and a *pragmatic interpretation* of coordinative argumentation. The inferential interpretation coincides with Palmieri’s (2014) proposal. The pragmatic interpretation takes into account that coordinative argumentation might also refer to the fact that different arguments, albeit independent from a point of view of the loci, are interrelated in the sense that they are all necessary for a successful defense of a standpoint. In fact, in this specific sense, coordinative arguments are interrelated not because they are part of one and the same argument scheme; but because, even though they might be based on completely different loci and maxims, *they all need to be used in a specific text or speech*. Andone and Greco (2018) discuss cases of recommendations written by the European Commission to persuade Member States of possible courses of action. In these cases, a frequently occurring argumentative pattern shows that the EU commission employs more than one argument to support Member States. These arguments are different in AMT terms (they are based on different loci, so obviously also on different maxims) but they are all pragmatically expected and necessary in that situation to successfully defend the standpoint, because the EU Commission needs to prove that they are not going against several different fundamental principles within the European treaties. This type of interdependency would not fit in Palmieri’s (2014) interpretation of coordinative argumentation, because it is a pragmatic and not an inferential interdependency.

To sum up, we might conclude that the notion of coordinative argumentation in pragma-dialectics covers two different interpretations and three sub-cases:

1. Inferential interpretation of coordinative argumentation.
  - a. Components of coordinative argumentation are an endoxon and datum of one and the same inferential configuration under the same locus (as in the example discussed by Greco, Palmieri and Rigotti 2016).

- b. Components of coordinative argumentation are part of a complex datum within one inferential configuration under the same locus (as in the example taken by van Eemeren and Snoeck Henkemans 2017: 59 and discussed above).
2. Pragmatic interpretation of coordinative argumentation.<sup>30</sup> Components of coordinative argumentation are actually different arguments, based on different loci and, thus, independent from an inferential viewpoint; and yet they work together pragmatically to defend a specific standpoint in a specific argumentative interaction (as in the example discussed by Andone and Greco 2018).

Finally, as the name suggests, *subordinative argumentation* occurs when the proposition supporting the standpoint is in turn supported by another proposition, in which “arguments are given for arguments” (van Eemeren and Snoeck Henkemans 2017: 59). In other words, the argument supporting the standpoint becomes a sub-standpoint that is justified by another argument. As Palmieri (2014: 39) puts it, “subordinative argumentation is typically adopted when the argument justifying the standpoint does not constitute a shared premise”; thus one needs to provide further arguments to support that premise.<sup>31</sup> The representation of subordinative argumentation, thus, amounts to a chain of single argumentation structures for which a decimal is added at each level. In the example below (introduced by Palmieri 2014: 39-40), subordinative argumentation is the relation between sub-argument 1.2.1 and argument 1.2.

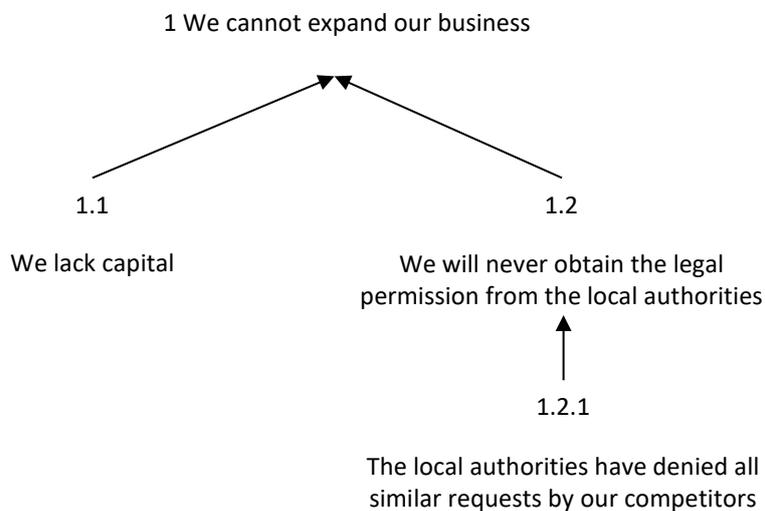


Figure 6-7: Subordinative argumentation (both example and representation are taken from Palmieri 2014: 40).

<sup>30</sup> We observe that, whilst the inferential interpretation of coordinative argumentation gives a clear-cut criterion to identify coordinative arguments, the pragmatic interpretation leaves the door open for a possible overlapping between coordinative and multiple argumentation.

<sup>31</sup> Chains of subordinative argumentation are not endless. Ultimately, they must reach a shared premise if argumentation needs to be persuasive. Our view (see Rigotti and Greco 2005) is that some extreme or ultimate level of common evidence is guaranteed by the common nature of human interlocutors.

In practice, this final example also shows that different structures might be combined; in this case, for example, we have both multiple argumentation (1.1 and 1.2) and subordinative argumentation (1.2.1 to 1.2, see Palmieri 2014: 40).

From an AMT perspective, “in subordinative argumentation, the Y-structure of the sub-argument produces a conclusion which coincides with the datum or the endoxon of the “main” Y-structure” (Palmieri 2014: 41).<sup>32</sup> When an endoxon or a datum is supported by further argumentation, strictly speaking, one cannot say that they are shared among the interlocutors. For this reason, Rigotti and Palmieri (2010) and Palmieri (2014) have introduced the labels “Justified Endoxon (JE)” and “Justified Datum (JD)”, to speak of endoxon and datum in case they are supported by subordinative argumentation. In this book, for reasons of clarity in the representation, we will not use these labels. However, in principle, it is correct to note that the supported endoxa and data are supported precisely because the arguer feels that they cannot be taken for granted.

### 6.5.2 From argument structures to argument schemes: a case in point

We are now going to illustrate the combination of AMT and argumentative structures by means of an example of reconstruction. The purpose of this example is illustrative, as we aim to show how this combination works and what the AMT adds to the analysis of complex argumentation.

The case is taken from an initiative in public communication, which has to do with the labor domain and, in particular, with the work-life balance as a measure for employees’ satisfaction, productivity and prevention of health problems. We concentrate on an initiative in Switzerland but, obviously, the relevance of this kind of initiative goes well beyond the Swiss national boundaries,<sup>33</sup> because it touches upon innovation (information technologies and how they impact on the organization of work), social and health issues (employees’ motivation, health, work-life balance), and sustainability (reduction of carbon footprints, traffic, etc.).

On 9 June 2015, a group of Swiss companies signed a programmatic document on the Work Smart initiative<sup>34</sup> during their first meeting in Bern. The objectives of the Work Smart initiative were promoting flexible and mobile working and exchanging on these practices

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<sup>32</sup> It is possible, at a speculative level, that the maxim is also supported by subordinative argumentation; but in practice, this will not be a frequent case.

<sup>33</sup> To mention but a case for comparison, see the document about smart working in the UK government as part of the Civil Service reform programme: <http://www.flexibility.co.uk/downloads/TW3-Guide-to-SmartWorking-summary3mb.pdf> (last visited November 2017).

<sup>34</sup> Their website in German and French is available here: <http://work-smart-initiative.ch> (last visited August 2018). A brief story of the foundation of this initiative has been published on the website of the SRG SSR, i.e. the Swiss public radio and television, which was one of the founding companies: <http://www.srgssr.ch/fr/srg-ssr/emploi-et-formation/work-smart/>. This is the press release announcing the initiative, dating back to 9<sup>th</sup> June 2015: [http://work-smart-initiative.ch/media/36139/150609\\_work\\_smart\\_medienmitteilung\\_fr.pdf](http://work-smart-initiative.ch/media/36139/150609_work_smart_medienmitteilung_fr.pdf) (last visited November 2017).

with other companies. The founding companies were both public (CFF, Swisscom, La Poste and SSR) and private (La Mobilière, Microsoft Suisse and Witzig The Office Company). At the moment of writing this book, 138 Swiss companies have co-signed this document.

Work Smart is characterized by a goal that typically requires complex argumentation: the companies are trying to reach different groups of addressees at the same time and persuade them that mobility and flexibility of work is an important and advantageous practice. In particular, the website is mainly aimed at company managers and meant to encourage them to sign the document. Because mobility and flexibility are objectives of Work Smart, we can assume that it is not a state of affairs that is already present in Switzerland; at least, not at the level that the companies promoting the initiative would like to implement.

Argumentation in this case is best described as a complex (multiple) argumentation structure, as it involves different arguments. We will now turn to the main arguments, presented on the following page of the website: <http://work-smart-initiative.ch/fr/travailler-de-fa%C3%A7on-flexible/fonctionnement-de-work-smart/>. Because this is the official webpage of the promoters of the Work Smart initiative, their standpoint is prominent; the difference of opinion with potential adversaries is left implicit and the voices of the adversaries (their standpoint and arguments) are not represented.

This page is organized as a hypertext; which, as we will show, is important because both the introduction page and the linked pages contribute to the argumentation structure. On the entry page, “Profiter du changement en tant qu'employeur”,<sup>35</sup> i.e. “profit from this change as an employer”, is written as a title, in large characters. Six boxes (which vary every time the page is refreshed) are positioned on the right, as in figure 6-8; most of them represent advantages of smart working<sup>36</sup> and most of them can be interpreted as arguments supporting the standpoint “employers can profit from smart working”. Clicking on each of the boxes, the user is redirected to an in-depth page. Each in-depth page has a long title, which more often than not includes further subordinative argumentation; it also includes further discussion on the specific advantage mentioned in the title.<sup>37</sup>

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<sup>35</sup> We have been looking primarily at the French version of the website; the translation into English is ours.

<sup>36</sup> Each box is also associated with a stylized graphical symbol. In our analysis, however, we only consider verbal argumentation and exclude multimodal elements. In this case, though important, these graphical elements do not seem indispensable for reconstructing the main line of argumentation. They support arguments but they are not necessary to complete the verbal component.

<sup>37</sup> In this reconstruction, we consider the title of the in-depth linked pages but we skip the text that contains further subordinative argumentation. Our goal is not to analyse all the aspects of the Work Smart initiative but to illustrate how the AMT helps in the reconstruction of complex argumentation.

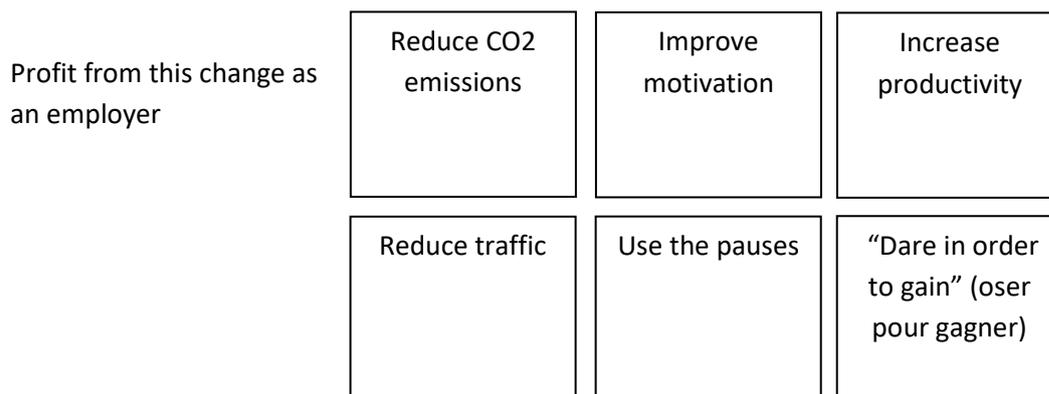


Figure 6-8: Sketched graphical representation of a possible configuration of the entry page discussing the advantages of the Work Smart initiative. This representation does not faithfully reproduce *all* the contents and graphics of the website but it shows how contents are structured.

In our analysis, we will consider “employers can profit from smart working” as the main standpoint. In table 6-6, we reconstruct the main arguments including both the short advantages mentioned on the entry pages and the long titles mentioned in the in-depth pages.

Not all the contents in the boxes are to be reconstructed as arguments in support of standpoint 1. In fact, some of them (such as “use the pauses”) are rather instructions for managers about how to best organize smart working. Therefore, our reconstruction is based on van Eemeren and Grootendorst (2004) principles of transformation. Only argumentative parts are included, i.e. those parts of the discourse or text “that play a role in the process of resolving a difference of opinion” (van Eemeren and Grootendorst 2004: 107). In this sense, we have *deleted* information that was unimportant in view of our argumentative analysis. Besides, we have adopted a *substitution transformation*, replacing formulation that were “disturbingly imprecise” into formulations with a clear meaning in relation to the argumentative function of utterances (van Eemeren and Grootendorst 2004: 109); also, consider that we have translated the original French text into English. Finally, we have used *permutation*, because the text has been “rearranged in such a way that an optimal picture is given of the resolution process” (van Eemeren and Grootendorst 2004: 109). Specifically, sometimes subordinative arguments were found on the entry page and the arguments they supported were found on the in-depth linked page. However, sometimes it was the other way round. In table 6-6, we have permuted the order of arguments where necessary in order to make the argumentative structure as visible as possible.

## 1 Employers can profit from smart working

### 1.1 Flexible work in general and a home office in particular help save the environment

#### 1.1.1 they permit the reduction of CO2 emissions

### 1.2 More flexibility and collaboration increase employees’ motivation

- 1.2.1 Because increasing productivity in everyday work and family life increases satisfaction and employees' involvement
  - 1.2.1.1 because the work-life balance (in normal working conditions) is becoming more difficult over time
- 1.3 Increase productivity with 12%
  - 1.3.1 because employees can work according to their biorhythm
  - 1.3.2 12% has been proved by studies
- 1.4 Obtain advantages from the reduction of traffic at peak hours
  - 1.4.1 because employees will be more relaxed at work
  - 1.4.2 Because a transportation system that is efficient and not surcharged is important for the Swiss economic place
  - 1.4.3 Because we will not need to spend extra money to extend public service
    - 1.4.3.1 Because its use will be more homogeneous
- 1.5 Because in this way you take a risk in order to gain
  - 1.5.1 because you actively participate in making a new job world emerge

**Table 6-6: Reconstruction of the argumentative structure of the Work Smart initiative webpage**

The reconstruction in table 6-6 shows that the Work Smart initiative website is a case of multiple argumentation.<sup>38</sup> As the website is a public form of communication by definition, this multiple structure is at least partly explained by the fact that employers (managers) are not really the only addressees, despite the fact that they are explicitly mentioned in the standpoint. This website can also be read by employees who want to learn about smart working; it can also be read by policy-makers. Whilst some arguments might appeal to employees (e.g. 1.2.1), others (e.g. 1.1.1 and 1.4) might be more appealing to policy makers. Finally, some arguments such as 1.3 (increase in productivity) or 1.5 (personal “gain”) are clearly aimed at employers and managers.

In what follows, we will provide some examples selected from table 6-6 of how the same structure can be reconstructed with the help of the AMT and what this adds. To start with, we concentrate on arguments 1.1 and 1.1.1.

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<sup>38</sup> Even though the different arguments certainly have a cumulative effect and the presence of different arguments helps better support the standpoint, we believe that in this case they are to be seen as independent arguments rather than as a coordinative structure; the reasons being that the different arguments probably have different addressees and that they are completely independent at an inferential level. Also, the graphical structure of the webpage – different boxes that appear in different combinations every time the webpage is refreshed – seems to indicate that the authors of the webpage think of the different boxes as independent arguments that can be combined in different ways and that can be read as a whole or taking into account only different partial sub-sets.

In AMT terms, argument 1.1 is connected to the standpoint based on a locus from final cause (means-end argumentation); in fact, smart working is seen as an instrument that allows employers to help save the environment (figure 6-9).

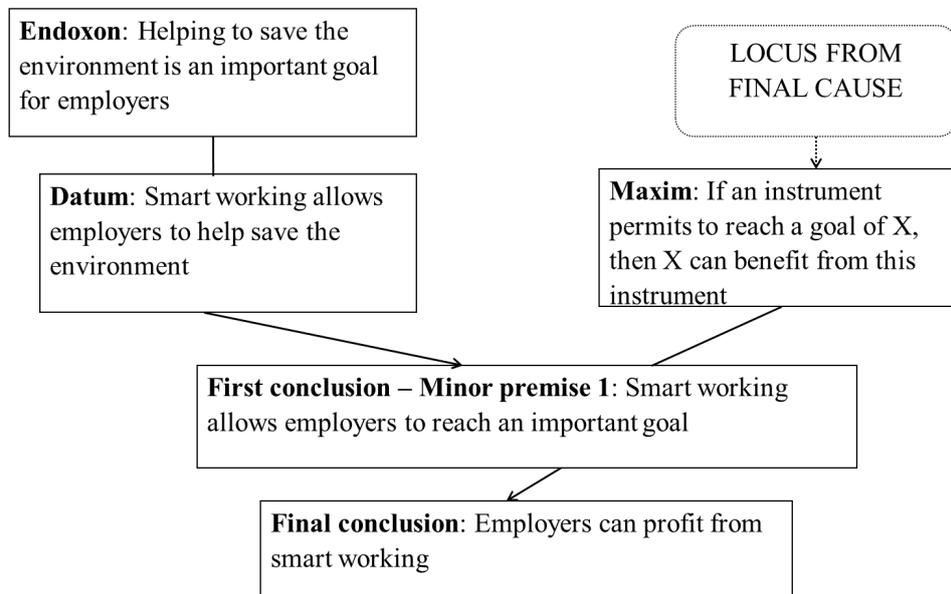


Figure 6-9: AMT reconstruction of argument 1.1

The inferential configuration shows that helping to save the environment is a goal of employers that is taken from granted: perhaps, this is because it is considered a goal that any employer should have. Argument 1.1.1, subordinate to 1.1, supports the datum instead (see figure 6-10): the fact that smart working and home office allow to reduce CO2 emissions” is presented as factual evidence, which supports the datum “smart working allows employers to help save the environment”. Figure 6-10 represents the AMT reconstruction of argument 1.1.1, which is based on a locus from cause to effect.

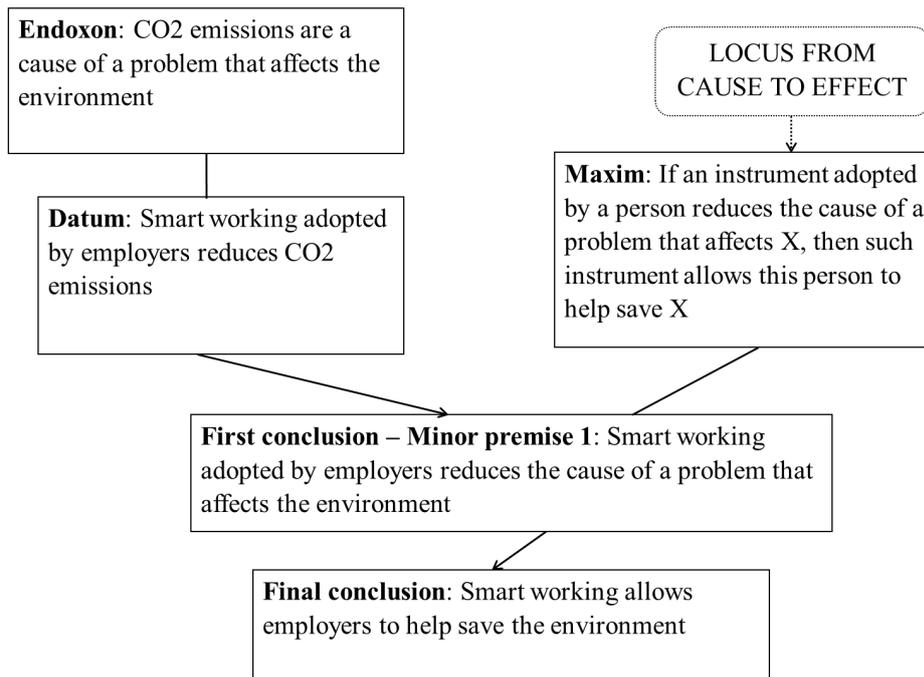


Figure 6-10: AMT reconstruction of argument 1.1.1

In order to show how the two inferential configurations are connected, we present them together in figure 6-11. The graphical representation reveals that the subordinative argument supports the datum.

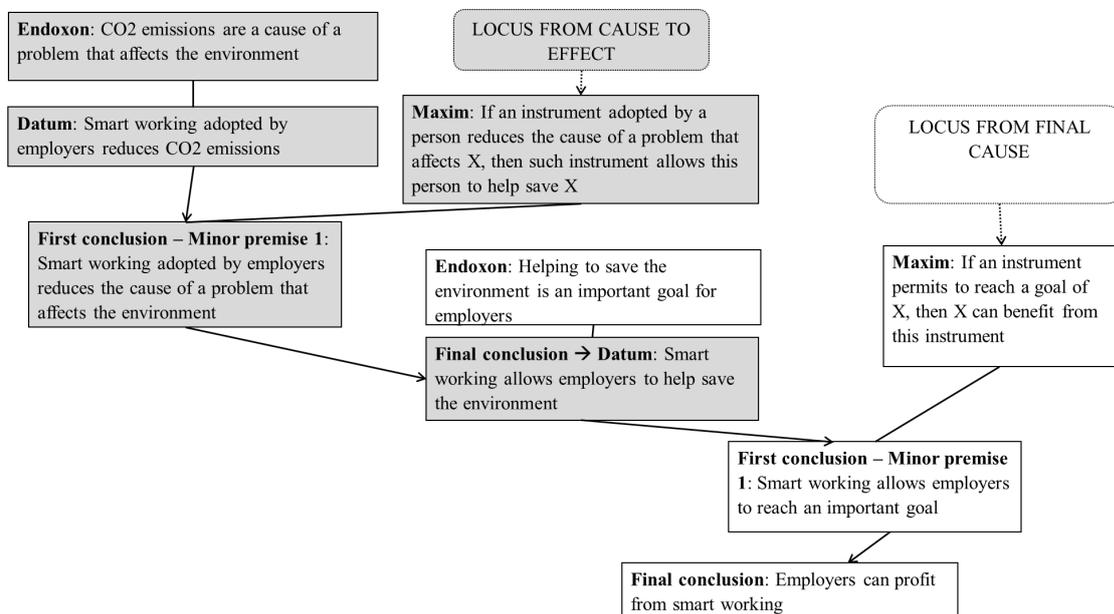


Figure 6-11: AMT reconstruction and combination of arguments 1.1 and 1.1.1. The use of white and grey background colors is meant to highlight how the two inferential configurations are combined.

For reasons of space, we will not go through all the AMT reconstructions of the different arguments. We note, however, that in this example it is often the case that the different multiple arguments are based on loci from the final cause. This can be explained by using

the concept of *stock issues* (see for example Ziegelmüller and Kay 1997: 172ff): when a new policy is introduced (in this case, smart working), the first problem to be tackled is why the policy is important, i.e. what “ill” it cures. The locus from final cause responds to the “ill” as well as to the “cure” stock issues (Ziegelmüller and Kay 1997), because it shows how smart working is a cure to reach an important goal, thus solving existing problems (too much traffic at peak hours, employees who are stressed out and not so much productive, etc.).

To mention but a couple of examples, argument 1.3 is identical to 1.1 as for the inferential-procedural component; what is different is only the material-contextual component (endoxon and datum, see figure 6-12). The same holds for argument 1.4 (see figure 6-13).

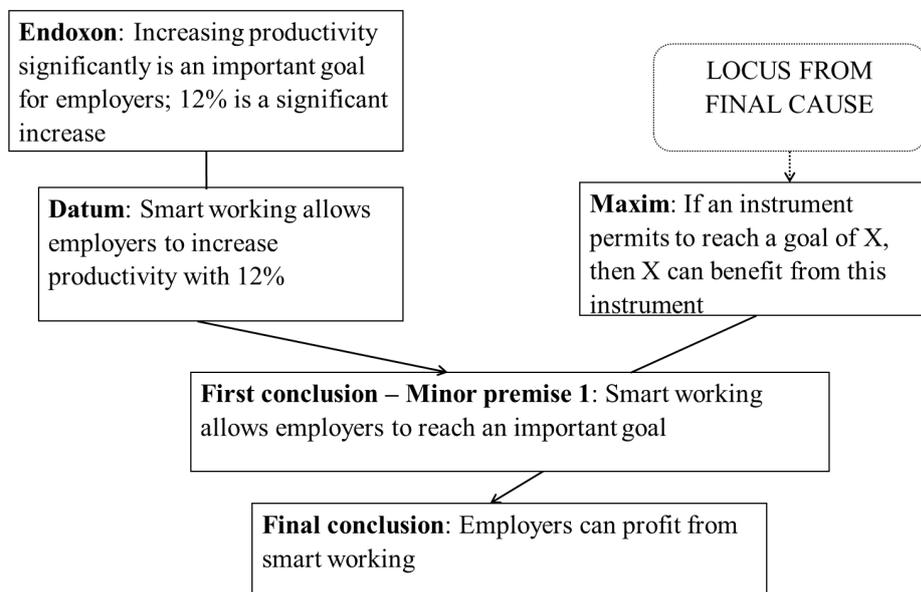


Figure 6-12: AMT reconstruction of argument 1.3

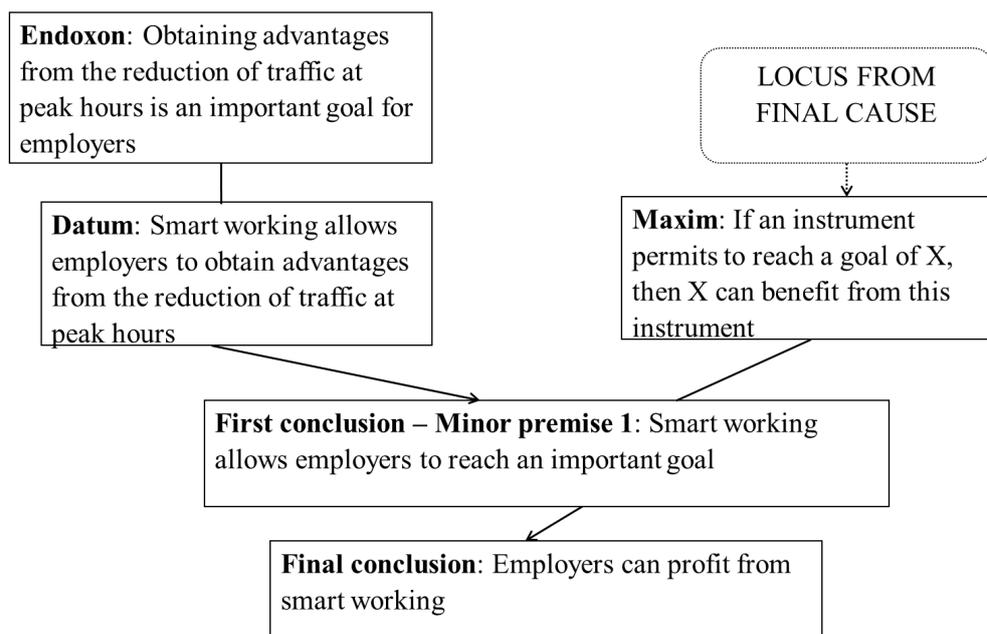


Figure 6-13: AMT reconstruction of argument 1.4

Note that in both 1.3 and 1.4, as in 1.1 above, it is the datum that is further supported by subordinative argumentation (see table 6-6; the graphical representations of the inferential configurations are omitted for reasons of space).

In the case of argument 1.3, we note that subordinative arguments 1.3.1 and 1.3.2 target different aspects of the datum. 1.3.1 further supports the reason why productivity can be increased by giving the cause (locus from cause to effect): “because employees can work according to their biorhythm” and, therefore, they are more productive. Argument 1.3.2 provides some backing for the figure of a 12% increase in productivity by means of an argument based on the locus from authority: “12% has been proved by studies”.<sup>39</sup> In this case, thus, the linguistic proposition that represents the datum, i.e. “smart working allows to increase productivity with 12%” is split: argument 1.3.1 gives a cause of the increase in productivity, whilst argument 1.3.2 gives backing to the 12% figure.

The analysis of the Work Smart initiative in this section is an example of how the AMT helps reconstruct the inferential configuration of single argumentations and interconnect them. It shows that the locus from final cause is used, regularly repeating the procedural-inferential component; arguments based on final cause are different because of the material-contextual component. In the next section, we will discuss the implications of our analysis.

<sup>39</sup> Note that the word “studies” is vague here and therefore it potentially includes manipulation. In fact, readers cannot check the validity of this argument from authority, not knowing what studies the authors of the website are referring to. For a more detailed discussion on vagueness in argumentation from expert opinion, see Greco Morasso and Morasso (2014).

### 6.5.3 Final remarks

To conclude, the AMT analysis in this case has shown some regularities. First, an emphasis on smart working as a cure for a problem, i.e. as an instrument to reach an important goal; therefore, the locus from final cause is often used. Second, it is often the data and not the endoxa that are supported in the argumentation on the Work Smart website. This is important because it tells us about what the speaker assume the burden of proof (and what they avoid to assume, see the discussion in Andone and Greco 2018). In the case of the Work Smart website, the endoxa, i.e. the employers' goals, are always taken for granted; it is to be noted, here, that the Work Smart initiative has been initiated by a group of employers – not of employees – and perhaps they do not feel an urge to further discuss employers' goals because they consider them common knowledge.

Third, and no less important, the AMT reconstruction shows that sometimes subordinative arguments point at different aspects of the proposition that constitutes the datum, if the datum is complex or needs further backing (as in the case of argument 1.3).

This reconstruction has the purposes of illustrating how the AMT is used in complex argumentation. With this example, we have focused on multiple and subordinative argumentation. The case of coordinative argumentation was not found in this example but has been discussed in section 6.5.1. In conclusion, we have shown how the AMT analysis, although it is focused on the inferential configuration of each single argument, can be inserted into the analysis of argumentation structures. This has different functions:

- 1 It permits the identification of the locus and the specific maxim, i.e. to specify what is the principle of support of the different arguments that are included into the argumentation structure.
- 2 As discussed in Greco (2016), reconstructing endoxa allows for the identification of the specific addressees to which the arguments appeal. Some of the goals identified in the endoxa in this illustrative case, for example, may have a hold on policy makers as well as on employers.
- 3 In the case of a coordinative argumentation, in some cases (see section 6.5.1), it shows how the different arguments in coordinative argumentation might be part of one reconstruction of the inferential configuration of an argument. In these cases, the AMT specifies if the different arguments in coordinative argumentation are endoxa or data and how they are connected.
- 4 In the case of subordinative argumentation, the AMT level of analysis better illuminates the structure of inference in argumentation. In fact, instead of just speaking of “subordinative argumentation, in which “arguments are given for arguments” (van Eemeren and Snoeck-Henkemans 2017: 59), the AMT permits the identification of *what exactly* a subordinative argument is supporting: for example, it allows us to say whether a subordinative argument is supporting an endoxon or a datum (or part of them, as in

the case of argument 1.3 discussed above).<sup>40</sup> In this sense, the connection between subordinative arguments is identified in a more precise way; this makes it possible to understand what aspects arguers feel need further backing.

## References

- Andone, C., and Greco, S. (2018). Evading the burden of proof in European Union soft law instruments: the case of Commission recommendations. *International Journal for the Semiotics of Law* 31 (1): 79–99.
- Bach, E. (1981). On time, tense and aspects: An essay in English metaphysics. In P. Cole (Ed.), *Radical pragmatics* (pp. 63-81). New York: Academic Press.
- Barth, E.M., and Krabbe, E.C.W. (1982). *From axiom to dialogue. A philosophical study of logics and argumentation*. Berlin/New York: De Gruyter.
- Bigi, S., and Greco Morasso, S. (2012). Keywords, frames and the reconstruction of material starting points in argumentation. *Journal of Pragmatics* 44 (10): 1135-1149.
- Braet, A. C. (2005). The common topic in Aristotle's Rhetoric: Precursor of the argumentation scheme. *Argumentation* 2005 (19): 65-83.
- Christopher Guerra, S. (2008). Themen, Thesen und Argumente zur Position des Italienischen in der viersprachigen Schweiz. *Studies in Communication Sciences* 8 (1): 135-159.
- Cigada, S., and Greco Morasso, S. (2014). Good reasons for good manners. An argumentative foundation of courtesy in Giovanni Della Casa's Galateo. In G. Gobber and A. Rocci (Eds.), *Language, reason and education. Studies in honor of Eddo Rigotti* (pp. 51-70). Bern: Peter Lang.
- Eemeren, F.H., van (2016). Identifying argumentative patterns: A vital step in the development of pragma-dialectics. *Argumentation* 30 (1):1-23.
- Eemeren, F. H, van, and Grootendorst, R. (1984). *Speech acts in argumentative discussions*. Dordrecht: Foris.
- Eemeren, F. H, van, and Grootendorst, R. (1992). *Argumentation, communication and fallacies: A pragma-dialectical perspective*. Hillsdale, NJ: Lawrence Erlbaum.
- Eemeren, F. H, van, and Grootendorst, R. (2004). *A systematic theory of argumentation: The pragma-dialectical approach*. Cambridge: Cambridge University Press.
- Eemeren, F.H., van, and Garssen, B. (2009). Problems of argumentation: An introduction. In van Eemeren, F. H., and Garssen. B. (Eds.). *Pondering on problems of argumentation. Twenty essays on theoretical issues* (pp. xi–xxi). New York: Springer.
- Eemeren, F. H., van, and Garssen, B. (2014). Argumentation by analogy in stereotypical argumentative patterns. In H. J. Ribero (Ed.), *Systematic approaches to argument by analogy*, pp. 41-56. Cham: Springer.

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<sup>40</sup> At a theoretical level, it is also possible that a maxim is supported by subordinative argumentation. In our experience of analysing real-life argumentation, this happens less frequently.

- Eemeren, F. H. van, Grootendorst, R., and Snoeck-Henkemans, A. F. (2002). *Argumentation: Analysis, Evaluation, Presentation*. Mahwah (NJ)/London: Erlbaum.
- Eemeren, F.H., van, and P. Houtlosser. (2002). Strategic maneuvering in argumentative discourse: Maintaining a delicate balance. In F. H. van Eemeren, and P. Houtlosser (Eds.), *Dialectic and Rhetoric: The warp and woof of argumentation analysis*, pp. 131–159. Dordrecht: Kluwer Academic.
- Eemeren, F. H. van, Houtlosser, P., and Snoeck-Henkemans, A. F. (2007). *Argumentative indicators in discourse: A pragma-dialectical study*. New York: Springer.
- Eemeren, F. H. van, and Snoeck-Henkemans, A. F. (2017). *Argumentation: Analysis and evaluation (2<sup>nd</sup> edition)*. New York: Routledge.
- Ennis, R. H., (1982). Identifying implicit assumptions. *Synthese* 51: 61-86.
- Epstein, R.L. (2001). *Predicate logic*. Belmont, CA: Wadsworth Thomson Learning.
- Freeman, J. B. (1995). The appeal to popularity and presumption by common knowledge. In: Hansen, V.H., Pinto, R.C. (Eds.), *Fallacies: Classical and Contemporary Readings*. pp. 263—273. University Park: The Pennsylvania State University Press.
- Freeman, J. B. (2011). *Argument structure: Representation and theory*. New York: Springer.
- Garsen, B. (2001). Argument schemes. In F. H. Van Eemeren (Ed.), *Crucial concepts in argumentation theory* (pp. 81-99). Amsterdam: Sic Sat.
- Garsen, B. (2009). Comparing the incomparable: Figurative analogies in a dialectical testing procedure. In: F. H. van Eemeren and B. Garssen (Eds.), *Pondering on problems of argumentation: Twenty essays on theoretical issues* (pp. 133-140). New York: Springer.
- Greco Morasso, S. (2009). *Argumentative and other communicative strategies of the mediation practice*. PhD Dissertation, Università della Svizzera italiana, Lugano, Switzerland.
- Greco Morasso, S. (2011). *Argumentation in dispute mediation: A reasonable way to handle conflict*. Amsterdam/Philadelphia: John Benjamins.
- Greco, S. (2016). Analysing multiple addressivity in research interviews: A methodological suggestion from argumentation theory. *Learning, Culture, and Social Interaction* 8: 61-74.
- Greco Morasso, S., and Morasso, C. (2014). Argumentation from expert opinion in science journalism: The case of Eureka's Fight Club. In T. Herman and S. Oswald (Eds.), *Rhétorique et cognition/ Rhetoric and cognition* (pp. 185-213). Bern: Peter Lang.
- Greco, S., Mehmeti, T., and Perret-Clermont, A.-N. (2017). Do adult-children dialogical interactions leave space for a full development of argumentation? *Journal of Argumentation in Context* 6 (2): 193–219.
- Greco, S., Palmieri, R., and Rigotti, E. (2016). Institutional argumentation and conflict prevention: The case of the Swiss Federal Data Protection and Information Commissioner. *Journal of Pragmatics* 105: 39-53.
- Haack, S. (1978). *Philosophy of logics*. Cambridge: Cambridge University Press.
- Hitchcock, D. (2003). Toulmin's warrants. In F. H. van Eemeren, J. Anthony Blair, C. A. Willard and A. F. Snoeck Henkemans (Eds.), *Anyone who has a view: Theoretical contributions to the study of argumentation* (pp. 69-82). Dordrecht: Kluwer.

- Hitchcock, D., and Verheij, B. (2006) (Eds.). *Arguing on the Toulmin model: New essays in argument analysis and evaluation*. Dordrecht: Springer.
- Hughes, G.E., and Cresswell, M.J. (1996). *A new introduction to modal logic*. London/ New York: Routledge.
- Jackendoff, R. (1983). *Semantics and cognition*. Cambridge: MIT Press.
- Jackendoff, R. (1990). *Semantic structures*. Cambridge: MIT Press.
- Kienpointner, M. (1992). *Alltagslogik: Struktur Und Funktion von Argumentationsmustern*. Stuttgart-Bad Cannstatt: Frommann-Holzboog.
- Kienpointer, M. (1997). On the art of finding arguments. What ancient and modern masters of invention have to tell us about the “ars inveniendi”. *Argumentation* 11 (2): 225-236.
- Layman, C.S. (2002). *The power of logic, 2nd ed.* Boston: McGraw-Hill.
- Palmieri, R. (2014). *Corporate argumentation in takeover bids*. Amsterdam/Philadelphia: John Benjamins.
- Perelman, Ch., and Olbrechts-Tyteca, L. (1958). *La nouvelle Rhétorique. Traité de l'Argumentation*. Paris: Presses Universitaires de France.
- Perret-Clermont, A.-N., Arcidiacono, F., Breux, S., Greco, S., and Miserez-Caperos, C. (2015). Knowledge-oriented argumentation in children. In F. H. van Eemeren and B. Garssen (Eds), *Scrutinizing argumentation in practice* (pp. 135-149). Amsterdam/Philadelphia: John Benjamins.
- Pinto, R. C. (2006). Evaluating inferences: The nature and role of warrants. In D. Hitchcock and B. Verheij (Eds.), *Arguing on the Toulmin Model: New essays in argument analysis and evaluation* (pp. 115-143). Dordrecht: Springer.
- Rigotti, E. (2006). Relevance of Context-bound loci to Topical Potential in the Argumentation Stage. *Argumentation* 20: 519-540.
- Rigotti, E. (2008). Locus a causa finali. In G. Gobber et al. (Eds.), *Proceedings of the IADA workshop “Word meaning in argumentative dialogue. Homage to Sorin Stati”*. Special issue of *L'analisi linguistica e letteraria* 16 (2): 559-576.
- Rigotti, E., and Greco, S. (2005). Introducing argumentation. Argumentum eLearning module, [www.argumentum.ch](http://www.argumentum.ch) (restricted access).
- Rigotti, E., and Greco, S. (2006). Topics: The argument generator. Argumentum eLearning module, [www.argumentum.ch](http://www.argumentum.ch) (restricted access).
- Rigotti, E., and Greco Morasso, S. (2009). Argumentation as object of interest and as social and cultural resource. In N. Muller-Mirza and A.N. Perret-Clermont (Eds.), *Argumentation and education: theoretical foundations and practices* (pp. 9-66). New York: Springer.
- Rigotti, E., and Greco Morasso, S. (2010). Comparing the Argumentum Model of Topics to other contemporary approaches to argument schemes: The procedural and material components. *Argumentation* 24 (4): 489-512.
- Rigotti, E., and Palmieri, R. (2010). Analyzing and evaluating complex argumentation in an economic-financial context. In C. Reed and C. Tindale (Eds.), *Dialectics, dialogue and*

- argumentation. *An examination of Douglas Walton's theories of reasoning and argument* (pp. 85-99). London: College Publications.
- Rigotti, E., and Rocci, A. (2006). Towards a definition of communication context. *Studies in Communication Sciences* 6 (2): 155-180.
- Rocci, A. (2006). Pragmatic inference and argumentation in intercultural communication. *Intercultural Pragmatics* 3 (4): 409–442.
- Ross, W. D. (1958) (Ed.) *Aristotelis Topica et Sophistici Elenchi*. Oxford: Oxford University Press.
- Ross, W. D. (1959) (Ed.). *Aristotelis Ars Rhetorica*. Oxford: Oxford University Press.
- Schär, R. (2018). *Argumentative analysis of the emergence of issues in adult-children discussions*. PhD Dissertation, USI-Università della Svizzera italiana.
- Schwarz, B., and Baker, M. (2016). *Dialogue, argumentation and education. History, theory and practice*. Cambridge: Cambridge University Press.
- Searle, J. (1995). *The construction of social reality*. New York: Free Press.
- Snoeck Henkemans, A. F. (1997). Analyzing complex argumentation. *The reconstruction of multiple and coordinatively compound argumentation in a critical discussion*. Amsterdam: Sic Sat.
- Snoeck Henkemans, A. F. (2000). State-of-the-art. The structure of argumentation. *Argumentation* 14 (4): 447-473.
- Snoeck Henkemans, A. F. (2001). Argumentation structures. In F. H. van Eemeren (Ed.), *Crucial concepts in argumentation theory* (pp. 101-134). Amsterdam: Sic Sat.
- Stump, E. (1978) (Ed.). *Boethius's De topicis differentiis*. New York: Cornell University Press.
- Tardini, S. (1997). L'entimema nella struttura logica del linguaggio. *L'analisi linguistica e letteraria* 2: 419–440.
- Toulmin, S. (1958). *The uses of argument*. Cambridge: Cambridge University Press.
- Toulmin, S., R. Rieke, and A. Janik. (1984). *An introduction to reasoning*. New York: Macmillan.
- Vendler, Z. (1957). Verbs and times. *The philosophical review* LXVI: 143-160.
- Walton, D. (1997). *Appeal to expert opinion: Arguments from authority*. University Park: The Pennsylvania State University Press.
- Walton, D. (2001). Enthymemes, common knowledge, and plausible inference. *Philosophy and Rhetoric* 34: 93-112.
- Walton, D. (2005). How to evaluate argumentation using schemes, diagrams, critical questions and dialogues. In M. Dascal, F. H. van Eemeren, E. Rigotti, S. Stati, and A. Rocci (Eds.), *Argumentation in dialogic interaction*. Special issue of *Studies in Communication Sciences* 5: 51–74.
- Walton, D. (2006). Poisoning the well. *Argumentation* 20 (3): 273–307.
- Walton, D., and F. Macagno. (2009). Argument from analogy in law, the classical tradition, and recent theories. *Philosophy and Rhetoric* 42 (2): 154–182.
- Walton, D., and Reed, C. (2005). Argumentation schemes and enthymemes. *Synthese* 145: 339-370

- Walton, D., Reed, C., and Macagno, F. (2008). *Argumentation schemes*. Cambridge: Cambridge University Press.
- Whorf, C. (1997[1956]). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*, ed. J. B. Carrol. Cambridge: Technology Press of MIT.
- Jackendoff, R. (1990). *Semantic structures*. Cambridge: MIT Press.
- Zampa, M. (2017). *Argumentation in the newsroom*. Amsterdam/Philadelphia: John Benjamins.
- Ziegelmüller, G. W., and Kay, J. (1997). *Argumentation: Inquiry and advocacy*. Boston: Allyn and Bacon.