PRACTICAL REASONING AND THE ACT OF NAMING REALITY
Fabrizio Macagno et Douglas Walton

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Fabrizio Macagno[*]
Douglas Walton

In the tradition stemming from Aristotle through Aquinas, rational decision making is seen as a complex structure of distinct phases in which reasoning and will are interconnected. Intention, deliberation, and decision are regarded as the fundamental steps of the decision-making process, in which an end is chosen, the means are specified, and a decision to act is made. Underlying this process is the notion of classification, the way a state of affairs is regarded and evaluated. The assessment and classification of an end or the means thereto become the reason of an action, to which the agent needs to assent and commit to. The Aristotelian-Thomistic account, underscoring the essential dependence between naming, assessing, and choosing, can provide a new perspective for analysing the modern models of decision making and practical reasoning developed in argumentation theory, philosophy, and Artificial Intelligence (Bench-Capon 2003; Atkinson and Bench-Capon 2007; Russell and Norvig 1995; Walton 2015; Brandom 1998).

The purpose of this paper is to analyze the Aristotelian and Thomistic structure of the reasoning underlying decision making in order to bring to light the structure of argument from practical reasoning (Walton, Reed, and Macagno 2008).

1. Reasoning, decision, and action

The Aristotelian structure of decision-making, grounded on the distinction (*Nicomachean Ethics* III) between ends, means, and action (Westberg 2002, 17), was the basis of the Thomistic account. Thomas Aquinas introduced another fundamental element, namely the differentiation between reason and will. On this view, the process of action consists of four interconnected steps (four stages), each having an element of reason and will (Westberg 2002, 131), which can be represented as follows (Fig 1).
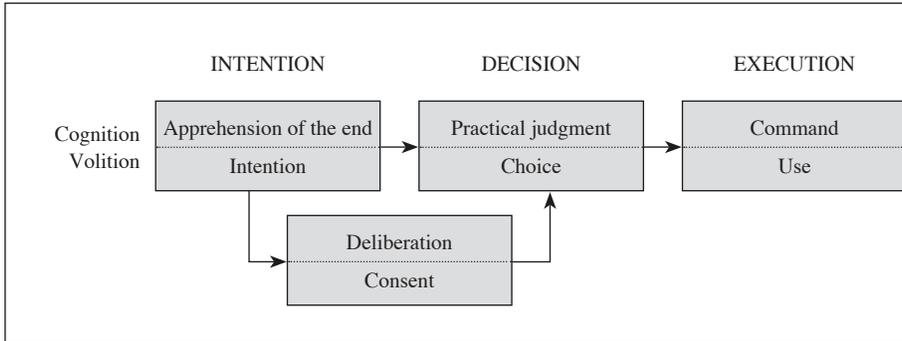
Figure 1: The classical structure of decision-making

Figure 1 shows how the deliberation step is part of a sequence of reasoning based on an intention, a decision, and finally the execution of a selected action. In this structure, a crucial role is played by the rational nature of choice, relative to both ends and means (Westberg 2002, 83). In the Aristotelian tradition, an action is moved by desire as the desirable has the nature of an end, and "every efficient cause acts for the sake of an end and some good" (Aquinas, *On Evil*, Q. 1., art. 1., 53, 58; see id., Q. 3, art. 3, 152). Desire has a rational component (Finnis 2011, 23; Westberg 2002, 83), based on the reasons that support the classification of what counts as good (Aristotle, *Nicomachean Ethic*s, 1113a15). The classification corresponds to the rational dimension of action (it can be correct or incorrect, reasonable or unreasonable) to which the will needs to assent (*On Evil*. Q. 3 art. 3, 151).

The rational passage from the abstract principle (the desirable) to an action is guaranteed by the so-called practical syllogism. The desirable needs to be specified, namely applied to individual states of affairs towards which action can be directed (Westberg 2002, 85). This reasoning is represented as follows (Westberg 2002, 163):

Major	Do good and avoid evil	
Minor	This is good	This is evil
Conclusion	Do this	Do not do this

In this defeasible syllogism (Westberg 2002, 160), a step is missing. In order to establish whether a specific object is good or bad, more specific principles expressing an agent's desires (Westberg 2002, 160) need to be applied, such as "One must not harm the innocent" or "One should obey God." This aspect of the operational syllogism can be further specified as follows:

Major	Do good and avoid evil	
Major II		Committing adultery is evil.
Minor II		This act is adultery
Minor	This is evil	
Conclusion	Do not do this	

According to Aquinas, the classification of a state of affairs as desirable or not is not a cognitive operation, or rather it is not only a purely intellectual judgment. When an agent classifies a state of affairs as good, he is not *describing* it; rather, he is pursuing what is good, while his preferences direct his classification (Westberg 2002, 162). A person's orientation towards particular goods affects the way he regards a state of affairs. In this sense, a classification depends on the values the agent accepts and the hierarchy thereof he maintains. For this reason, the principle "One should obey God" can direct the actions of a theist, but not the ones of an atheist.

2. Practical classification

The aforementioned syllogism is the core of the mechanism of rational action in Aquinas. We can notice that there are two distinct components, namely 1) the passage from the classification of a state of affairs as falling under a value or another (evaluative classification) to the desirability of brining it about; and 2) the passage from the characteristics of a state of affairs to the evaluative classification thereof. These reasoning steps can be represented using the tools provided by argumentation theory, namely argumentation schemes (Walton, Reed, and Macagno 2008), namely abstract patterns of argument indicating the semantic relation between premises and conclusion, and the defeasibility conditions thereof. The first dimension of the operative syllogism can be represented as follows (Walton, Reed & Macagno 2008, 321; see also Bench-Capon 2003a; 2003b):

Argumentation scheme 1: Argument from values to commitments

PREMISE 1:	The state of affairs *x* is *positive/negative* as judged by agent *A* according to Value *V* (value judgment).	Having an *affair with this married woman* is *negative (positive)* as it is *adultery (pleasure)*.

Premise 2:	The fact that *x* is *positive/negative* affects the interpretation and therefore the evaluaton of goad *G* of agent *A* (If *x* is *good*, it supports commitment to goal *G*).	If having *an affair with this maried woman is negative (positive),* I should not do it (I should do it)
Conclusion	The evaluation of *x* acording to value *V* is a reason for retaining/ retracting commitment to goal *G*.	I should not carry out this act of *adultery* (act of *pleasure*).

This scheme can be thought of as the interpretation of the practical syllogism in terms of commitments. Intentions (choice) can be understood as commitments to bring about a specific type of action (Brandom 1998; von Wright 1972). Goal *G* is the specific action that specifies the ultimate object of desire (the good). Premise 2 represents thus the major premise of the practical syllogism, while Premise 1 is the specification (the instantiation of the desirable end) corresponding to minor premise. This scheme includes also the principles of classification that the agent accepts and agrees on, namely the values. For example, in the aforementioned case, premise 2 is guaranteed by the values "adultery is evil" and "pleasure is good."

The second dimension of the operative syllogism – indicating the relationship between the values and the classification of possible actions – can be analyzed in terms of classification and reasoning from classification. In the Aristotelian tradition, the assent of the will to an action is grounded on the concept of desirable (αἱρετόν) or objectionable (φευκτόν), namely on how an agent evaluates a state of affairs or rather classifies it as good or bad (Aristotle, *Topics* III, 1, 116a 18). This pattern of reasoning proceeds from principles of "practical" classification to a value judgment (Macagno & Walton 2010; Walton & Macagno 2009), where the classification principle is practical in the sense that the agent agrees to it. This aspect of the operational syllogism can be represented as a kind of classification (Walton, Reed & Macagno 2008: 319):

Argumentation scheme 2: Argument from classification

Premise 1:	If some particular thing *a* can be classified as falling under verbal category *C*, then *a* has property *P* (in virtue of such a classification).
Premise 2:	*a* can be classified as falling under verbal category *C*.
Conclusion	*a* has property *P*.

This scheme can be assessed dialectically by considering the circumstances of the action to be assessed. The first critical dimension concerns the possibility

that the circumstances taken into account are only a selection of the relevant ones, and that the pondering of other circumstances could lead to a different evaluation (Bowlin 1999, 6:82). The second critical dimension concerns the choice of the definition, or rather evaluative criterion. Depending on the choice of what is considered as good, the evaluation can change. For example, the killing of a man to save the life of other people can be desirable as it is an instance of a good act, saving lives. However, if the man killed is innocent and not the agent himself, the action would be a murder, which according to our laws is illegal and evil.

This pattern describes the relationship between two acts of will and intellect, namely holding a value, namely a principle connecting a state of affairs with its desirability, and choosing how to see a situation. According to Aquinas, while holding values shapes an agent's life (a man can be an atheist or a theist; he can prefer money to knowledge, etc.), choosing how to see a situation defines one's action (Westberg 2002, 163). This practical classification scheme represents the freedom of action in terms of freedom to classify something as good or bad. In this sense, this classificatory process is a combination of will and judgment. The freedom of classification does not correspond to arbitrariness of classification. It simply means that an agent acts based on reasons, which, however, can be good or bad based on shared values, and can be dialectically assessed. Every action can be framed and judged differently according to the intention it pursues (its end), and according to the circumstances that are taken into account (Bowlin 1999, 6:82). However, circumstances can shape intention, as they provide essential elements for deciding what kind of intention was the determinant one (Rhonheimer and Murphy 2008, 84)[2]. The analysis of the circumstances and the proximate end can provide critical questions that can be used in the assessment of the evaluation.

3. Evaluating means

The core of the operational syllogism is the framing of a state of affairs, namely how the agent chooses and wants to describe it. However, the conclusion, just like the minor premise, is an act of will (Westberg 2002, 163–164), which an agent consents to after assessing it and comparing it to the possibility and the

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2.   For example, killing in self-defense can be determined by the intention of stopping an aggression, and not causing a person's death. For this reason, it is *praeter intentionem*. Killing an innocent in order to save another's life is still determined by the intention of the death of someone (and for this reason it is still murder).

goodness of not performing it. Intending an end corresponds to the choice of its constitutive means, namely the means that are essential for the end (Westberg 2002, 138–139; 144). For example, the decision to commit adultery or to have pleasure with a specific woman presupposes having a sexual affair with her. The decision to save one's own life in the specific circumstance (in which the agent is clinging on a clifftop and a friend is hanging from a safety rope tied to the agent's waist) presupposes (as the only means available) cutting the safety rope and killing a person (Westberg 2002, 145). In this sense, the evaluation of an action depends on the evaluation of the reason why it has been carried out (*Summa Theologiae*, IIaIIae, q. 64, a. 7), namely the quality of the underlying intention or its proximate end (Pilsner 2006; Rhonheimer 1993), which includes the complexity of factors that specify the act of choice.

This type of reasoning corresponds to the classical topic from the end: that whose end is good is itself also good (Boethius, *De Topicis Differentiis*, 1189B 33-34). For example, in the case mentioned above, an affair can be considered as intended to achieve pleasure, which is good. The end chosen is the proximate one (an action can result in a further positive consequence, but this does not constitute the object of the end), as remote ends are merely circumstances. The problem is how to assess the specific end that is pursued, and the necessary or constitutive means used to achieve it. To this purpose, we need to distinguish the principles used for describing the operational syllogisms (the individual values and intentions) from the ones that can be used to assess dialectically one (apparent) good over another, which is matter of the law or the moral system shared by a community.

The choice of a good depends on several circumstances, which can make an object appear as good when in fact it is not. Thomas Aquinas pointed out that the will can include one thing more than another, for the following reasons (Westberg 2002, 93), which Aristotle expressed as hierarchies of values (*Nicomachean Ethics* 1095a 18-27) and listed as topics (Aristotle, *Topics* 115b 19-27):

(1) one consideration may have more weight than another;

(2) a person may ponder over one particular circumstance or aspect and not another, applying different perspectives; and

(3) dispositions vary in people, and moods may also change in the same person. The will of an angry man will be moved differently from that of a calm man.

For example, an affair with a woman can appear to be good (inasmuch as it leads to pleasure) but if we specify it further, we may need to change its classification and, therefore, its evaluation. Thus, an affair with a married woman constitutes primarily an act of adultery, whose desirability needs to be taken into account for evaluating the whole act (while adultery is not the only means to achieve pleasure, it consists in breaching the fidelity of marriage) (Schmidtz 1994; Rhonheimer 1993). The choice of taking all the circumstances of the state of affairs into consideration or only some of them corresponds to the agent's will and results in his act of evaluation.

When the quality of an action, or the means to achieve an end, is doubtful or conflicts of values arise, the Aristotelian topics of the good and the preferable can guide the analysis of the doubt or the conflict. They provide meta-arguments for deciding what value is better and shall be pursued. To this purpose, Aristotle provides in the *Rhetoric* and in the *Topics* a set of topics setting out operational definitions of what is good or desirable, such as good is "that which ought to be chosen for its own sake" or "that which is sought after by all things, or by all things that have sensation or reason" (*Rhetoric* I, 7). This type of definitions also applies to the classification of what is better, i.e. what is desirable relatively to a certain situation (*Topics* 116a 28-34).

Aristotle provides other definitional criteria in the *Topics* and the *Rhetoric*. In particular, he provides definitions by listing the various species of what is good, i.e. by enumerating its essential parts (the virtues must be something good; pleasure must be a good thing; pleasant and beautiful things must be good things, etc.) (*Rhetoric*, 1362b 2-18). The various species of absolute good, i.e. what is to be chosen for its own sake, can be considered as specific reasons for acting, i.e. values. Some of them can mirror preferences while others can be set out as laws, which establish the ordering of values that shall be complied with. The point is that their ordering can be argued for and dialectically established, based on various types of grounds. The fact that what is good is good for a reason provides at least a ground for discussing conflicts of values, and addressing them dialectically.

4. Practical reasoning

In the decision-making framework set out in the classical tradition, deliberation describes the operation of choice under uncertainty, namely when the means to achieve a goal is doubtful. When there are set operations to achieve specific ends (such as the ones constituting writing or driving), or when the means do not

affect at all or much the outcome, there is no need to deliberate. However, when the means to an end or the best means to it are uncertain, a type of reasoning combining the investigation of the means with their evaluation is at work. The reasoning from goals to an intended action can be thought of as a pattern of reasoning connecting an intention, or commitment to bringing about a state of affairs (von Wright 1972), with the means to achieve it. This reasoning provides a reason for acting, which the agent can assent to as the best means to pursue an end (Walton 2015, 122–124). This generic type of reasoning proceeds from a commitment to bring about a specific state of affairs, and specifies means that are necessary for or productive of to the desired situation:

Argumentation scheme 3: Practical reasoning

Premise	I (an agent) have a goal *G*.
Evaluation	Carrying out this action *A* is a means to realize *G*.
Conclusion	Therefore *A* should (not) be brought about.

This scheme conflates two patterns of reasoning. The first pattern is the choice of the means: the agent chooses the best means to pursue a goal. The second pattern is an argument from values: the agent chooses to carry out an action based on his values (Walton 2015, 122–125).

Concerning the first dimension of the scheme, a diction needs to be drawn between necessary (or constitutive) and productive means. In the first case (Walton, Reed, & Macagno, 2008, p. 94-95), the agent needs to act in a specific fashion (according to the possible alternatives) if he wants the state of affairs to occur. Unless he acts according one of the possible alternatives, the desired state of affairs will not be brought about. At this point, he needs to choose about whether to carry out such a means or not, evaluating it. A different type of reasoning is the sufficient scheme (Walton, Reed, & Macagno, 2008, p. 96), in which the paradigm of the possible efficient causes of the desired state of affairs remains open. The two patterns have different criteria of evaluation. In the necessary condition scheme, the agent needs to assess whether acting is more desirable than non-acting. In the sufficient scheme, the agent needs to assess the action (means) in itself, and cannot justify it based solely on its end (which can be pursued in another way).

The evaluation of the various possible means to achieve a goal and the evaluation of the performance of an action under uncertainty can be described as a type of assessment based on the relationship between an action and its possible foreseeable consequences. While the analysis of the quality of an *action* is matter of the

operational syllogism (argument from values, taking into account the proximate and not the further intentions of an act), the assessment of the *means* to achieve an end can be conducted considering its foreseeable consequences (von Wright 1963, 129–130), namely the wanted effect and the side-effects. More precisely, the intended effect needs to be compared with all the possible negative consequences, which, even if unintended, determine the preferences among the means.

The criteria at work in the choice of the means are two: a) the unavoidable harm (or negative consequences) shall be compared and minimized; b) the avoidable harm shall be simply avoided (von Wright, 1963, pp. 131). According to these criteria, in the necessary scheme the agent needs to assess the possible good and harm resulting from performing and forbearing to perform an act, while in the sufficient scheme he needs to consider only the intended and foreseeable consequences of the act. Finally, the choice between the possible means to bring about a desired state of affairs needs to be made considering the possible harm resulting from each option, and the good and negative consequences resulting from the choice of the ones that minimize the harm.

This type of evaluation corresponds to a pattern of reasoning linking actions and goals that is different from the practical reasoning argument. It proceeds from an action to its effect, evaluating it as the necessary or productive cause of a desirable or undesirable state of affairs. We represent this type of reasoning as the argument from consequences (adapted from Walton, Reed, & Macagno, 2008, p. 332):

Argumentation scheme 4: Argument from consequences

PREMISE	If action Q is brought about, good (bad) consequences will plausiby occur.
EVALUATION	That whose production is good is itself also good, and vice versa; that whose destruction is bad is itself also good, and vice versa (*De Topicis Differentiis*, 1190A 7-1190B 1).
CONCLUSION	Therefore Q is good (bad).

Argument from consequences depends crucially on the circumstances that define the means to achieve an end. The circumstances can be thought of as the specifying features of an action. By disregarding or omitting a circumstance, the agent can avoid taking into account some possible negative consequences that may follow the action. Just like in the case of evaluating an end, also choosing the means is matter of framing.

5. Conclusion

The decision-making process can be described as a combination of reasoning and free choice, in which the agent rationally selects what is desirable for him and the best means to achieve it, but then needs to assent to such a goal and such an action to bring the goal about. Argumentation theory can contribute to the debate on actions and decisions by describing the mechanisms involved in the choice of both the goal and the means. By formalizing the steps of reasoning using argumentation schemes, it is possible to understand the crucial role played by the reasoning from classification. An agent needs first to determine whether a certain state of affairs is desirable or not, in order to commit himself to bring it about. He then needs to assess the possible means to achieve such a goal, and choose the best one (Macagno and Walton 2018).

Reasoning from classification was shown to play a fundamental role. Both the aforementioned reasoning steps presuppose a classification of a state of affairs or an action as desirable or more desirable. These classifications can be based on a systematic type of classification, resulting in a complex analysis of the available information and a comparison between different principles of classification. Otherwise, such evaluations can be made by relying on heuristic processes, proceeding from more accessible definitional criteria for establishing what is good. In this latter case, the agent can reach an easy and fast conclusion, which is, however, more defeasible and more subject to manipulations (Walton and Macagno 2009; Macagno and Walton 2008). By including or omitting circumstances, or by classifying an action improperly providing wrong reasons (Macagno and Walton 2014) it is possible to lead the interlocutor fallaciously to specific judgments or actions (Entman 1993; Lakoff 2010; Schiappa 2003).

An action can be classified by considering the intention underlying it, its consequences, and the values that a society holds. Further intentions or further consequences can be also taken into account in the choice of means to an end, which can affect the quality of an action (mitigating or aggravating circumstances), but not its classification. This distinction, grounded on principles of law, can be used as a possible criterion for analyzing the strategies and the manipulations of framing.

Universidade Nova de Lisboa
University of Windsor

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