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## [Review of: D. Hitchcock, B. Verheij (2006) Arguing on the Toulmin Model: new essays in argument analysis and evaluation]

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# David Hitchcock and Bart Verheij (eds): Arguing on the Toulmin Model. New Essays in Argument Analysis and Evaluation

## Springer, Dordrecht, 2006, vii + 439 pp

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## 1 Introduction

Few academic contributions have been as influential in the field of argumentation theory as the work of Stephen E. Toulmin. His model of argument as well as his general insights and approach are still used as a point of departure and highly valued after more than half a century. Because of the important, central position of Toulmin's work within argumentation theory, the publication of a volume compiling the most eloquent contemporary essays inspired by Toulmin can come as no surprise. Neither is it surprising that handbooks offering an introduction to argumentation theory include a chapter on Toulmin, cf. for example van Eemeren, Grootendorst and Kruiger (1978), Foss, Foss and Trapp (1991), and van Eemeren et al. (1996). Toulmin's *The Uses of Argument* (1958) has inspired scholars to take up the study of argumentation. In Van Eemeren et al. (2012), it is even regarded as one of the neo-classical works—another of which would be Perelman and Olbrecht-Tyteca's *The New Rhetoric* (1969).

Although there can be no doubt about the influence and importance of Toulmin's work, at present there does not seem to be a unified Toulminian tradition but rather a series of scholarly contributions and studies inspired by it. The book reviewed here, *Arguing on the Toulmin Model: New Essays in Argument Analysis and Evaluation*, testifies to this and is at the same time an outline of Toulmin-associated research. David Hitchcock and Bart Verheij, the editors of this tenth volume in the *Argumentation Library* series, voice their aim in the

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introductory chapter: "to bring together the best current reflection on the Toulmin model and its current appropriation" (p. 3).

*Arguing on the Toulmin Model: New Essays in Argument Analysis and Evaluation* is a bulky volume incorporating 25 chapters by 27 authors. Most chapters consist of essays originally written in response to calls for submissions to a special issue of the journal *Argumentation* (vol. 19, no. 3, 2005) on "The Toulmin model today" or to a conference held at McMaster University in May 2005 on "The uses of argument". Three other essays have been published first in *Informal Logic* (vol. 24, no. 2, 2004 and vol. 26, no. 3, 2006).

## 2 Overview of the Book

*Arguing on the Toulmin Model* contains a selection of essays by scholars working in a variety of domains, ranging from artificial intelligence to philosophy and speech communication. Although the content list does not show it, according to paragraphs 2–11 of the introduction the essays can be divided into several general topics of interest or themes. All contributions are selected because they "are not exegetical but substantive, extending or challenging Toulmin's ideas in ways that make fresh contributions to the theory of analyzing and evaluating arguments" (p. 3).

The first substantive theme is composed of chapters 2 and 3 and focuses on the *general reception* of Toulmin's work. In chapter 2, Stephen E. Toulmin himself presents his thoughts and reflections on the impact his work has had. In his essay "Reasoning in Theory and Practice", presented as a keynote address at the 2005 OSSA conference at McMaster University, he briefly goes into the historical relativity of standards for argument evaluation in various fields.[1] He claims that we need to know how standards have evolved to be able to judge how these standards are dealt with and refined in the present. In Toulmin's view, the success of his model lies largely in its "colloquial words […] which everybody understands" (p. 29). The important challenge he sees for the study of argumentation is to come to a clear-cut division of labour between philosophy and argument analysis.

Ronald P. Loui, in "A Citation-Based Reflection on Toulmin and Argument" (chapter 3), focuses on the citation count of Toulmin's work, which places him among the most influential philosophers of science and philosophical logicians of the twentieth century.[2] Loui supports the empirical claim that Toulmin's work has been influential by pointing at the substantial level of citations and showing that this level remains relatively constant in English journals—taking into account the expanding amount of publications within the last decades.

The next four chapters are aimed at the purported *relativism* of "Toulmin's field-dependency thesis" (p. 4). In his essay, "Complex Cases and Legitimation Inferences: Extending the Toulmin Model to Deliberative Argument in Controversy" (chapter 4), G. Thomas Goodnight critically extends the Toulmin model with an element of legitimation inferences in order to clarify Toulmin's field-dependency

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[1] Previously published in *Informal Logic* as Toulmin (2004).

[2] Previously published in *Argumentation* as Loui (2005).

thesis. This clarification is important when decisions need to be made about the grounds that support warrant-using and warrant-establishing arguments. Because these grounds are intrinsically related to fields, the selection of the backing to support an argument involves the justification of the choice of field in which to ground the argument.

In "A Metamathematical Extension of the Toulmin Agenda" (chapter 5), Mark Weinstein epistemologically grounds Toulmin's notions of warrant and backing through what he calls a "model of emerging truth" (MET). This model is based on the idea that truth emerges from historical progress, so that it "will be identified with the progressive appearance of a model that deserves to be chosen" (p. 54). According to Weinstein, formalism can provide such a foundation on a meta-theoretical level. He uses the field of chemistry as a prime example of an axiomatised mathematical theory grounded in physical reality.

Continuing the theme of relativism from a different perspective, Lilian Bermejo-Luque's "Toulmin's Model of Argument and the Question of Relativism" (chapter 6) counters a reading of the Toulmin model in which the field-dependency of modal terms leads to the conclusion—as drawn by Toulmin in chapter 2—that the standards of appraisal of arguments are field-dependent.[3] She states that such a reading is undesirable, because it would force us to describe the practices of relevant fields in order to determine the standards to which arguments must adhere, making the standards incommensurable and relativistic. In her reading of the Toulmin model, in which she interprets the warrant as a material conditional and synthesizes the warrant and the backing, she limits the scope of fields to providing accepted truth-values for the propositions involved.

In "Systematizing Toulmin's Warrants: An Epistemic Approach" (chapter 7), James B. Freeman turns his attention to the problems associated with Toulmin's notions of field and warrant.[4] He is critical of Toulmin's conception of the warrant because of the looming risk of infinite regress, while he is a critical of Toulmin's notion of field because of its vagueness. Freeman proposes an epistemologically motivated classification into: (*a priori*) necessary, empirical, institutional and evaluative warrants. As such, warrants find a foundation in the modes of intuition used to grasp or understand the warrant as opposed to the reliance on fields of Toulmin's original account—while some dependency is retained.

Chapters 8 and 9 focus on a particular element of the Toulmin model, the *warrant*, and provide accounts that are different from the interpretations of warrants encountered in the essays of Bermejo-Luque and Freeman. James F. Klumpp's essay "Warranting Arguments, the Virtue of Verb" (chapter 8) is primarily motivated by the pedagogy of argumentation. The Toulmin model can be used as a 'working logic' for both synthesis and analysis of argumentation. Warrants are then seen as elements of a dynamic conversational process, where one item is there *to warrant* another.

In a different take on the subject, Robert C. Pinto proposes to view warrants as generalised rules of inference that are epistemological rather than logical. The

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[3] Previously published in *Informal Logic* as Bermejo-Luque (2004).

[4] Previously published in *Argumentation* as Freeman (2005).

inferences are of a material nature rather than fully dependent on logical form. His "Evaluating Inferences: The Nature and Role of Warrants" (chapter 9) shifts the focus from truth-preservation to entitlement-preservation: a conclusion is warranted when the data provide adequate reasons for it.[5] The authority of such warrants depends on the objective likelihood of 'good' outcomes and is thus not necessarily field-dependent.

Another element of the Toulmin model, the *qualifier*, is the theme of Robert H. Ennis' "Probably" (chapter 10). As the concise title already gives away, his essay has a rather narrow scope focusing primarily on the qualifier 'probably'. Defending Toulmin's 1964-take on this qualifier, Ennis adopts a contextualized speech-act perspective.[6] The qualifier 'probably' allows one to guardedly commit to a statement. Any attempt to reduce this to a numeric value as computerisation (i.e. formalisation) of the qualifier will not do justice to actual use, for it will never grasp the true implications of a tentative commitment.

The chapters by Wouter H. Slob and Bart Verheij focus on Toulmin's use of *rebuttals*. In "The Voice of the Other: A Dialogico-Rhetorical Understanding of Opponent and Toulmin's Rebuttal" (chapter 11), Slob argues that argument analysis in dialogical logic is often aimed at mapping established reasons leading to a conclusion. A reason for a conclusion is only established if both discussants have accepted it and hence evaluated it positively. In Slob's interpretation arguments are interchanges between supporting and rebutting forces, in which the opponent has an argumentative responsibility in arriving at the conclusion and in which rebuttals play an instrumental role.

In a similar take on the subject, Bart Verheij, one of the editors, argues in "Evaluating Arguments Based on Toulmin's Scheme" (chapter 12) that compared to the traditional premises-conclusion model the Toulmin 'scheme' enriches argument analysis.[7] Verheij gives his own formal reconstruction of the model. In line with "recent research on defeasible argumentation" (p. 181), he interprets the rebuttal—which can be applied to all elements of this amended Toulmin model—as a possibility to render a claim unsupported or defeated, in spite of the data in its support. He then extends this interpretation "with a treatment of the formal *evaluation*" (p. 181) of arguments in terms of their assumptions.

David Hitchcock, the other editor, provides the only contribution to the theme of *evaluation*. In his essay "Good Reasoning on the Toulmin Model" (chapter 13), Hitchcock points out that the Toulmin model is a tool for analyzing micro-arguments arising in a process of justifying a claim that articulated one's prior beliefs.[8] Since Toulmin did not deal with the question of how someone might adopt a belief in the first place, he proposes epistemic criteria necessary for justified reasoning: the "grounds are justified and adequate", the "warrant is justified, and the arguer is justified in assuming that no defeaters apply" (p. 203). These criteria help to differentiate between presumption-creating and presumption-defeating

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[5] Previously published in *Informal Logic* as Pinto (2006).

[6] A paperback version of 1958's *The Uses of Argument*.

[7] Previously published in *Argumentation* as Verheij (2005).

[8] Previously published in *Argumentation* as Hitchcock (2005).

critical questions, while in an argument scheme approach these two kinds of critical questions are lumped together.

Toulmin's views have not just proven of interest for theoretically inclined researchers. This is evidenced by responses from the perspective of *practical* or *legal* reasoning, decision-making and argumentation. Within the theme called "practical reasoning" four authors turn their attention to these considerations. In the chapter "The Fluidity of Warrants: Using the Toulmin Model to Analyse Practical Discourse" (chapter 14), Olaf Tans defends a dynamic use of Toulmin's model and the role of the warrant therein. A warrant should be understood as an abstraction from the data, getting refined dynamically by discursive testing of its authority. He argues for this by using examples from legal practice—i.e. within the context of the United States Supreme Court—and captures it in an alternative diagram of the Toulmin model.

In "Artificial Intelligence and Law, Logic and Argument Schemes" (chapter 15), Henry Prakken focuses on the cross-fertilization between artificial intelligence and law.[9] The field of research has developed partly along the lines set out by Toulmin: a functional difference has been made between premises providing inference licences (warrants) and those providing authorization (backings), so that arguments are not taken to be proofs and the criteria for argument evaluation are taken to be field-dependent. Prakken arrives at the conclusion that the application of artificial intelligence to the field of law has provided the original Toulmin 'scheme' with more refined classifications, which are nevertheless formal and computational.

In chapter 16, Christian Kock argues that the typology of warrants concerning practical claims that stems from Brockriede and Ehninger is insufficient for pedagogical applications. In his essay "Multiple Warrants in Practical Reasoning", he maintains that the singleton set of the "motivational" warrant should be extended and refined. The resources for the extension and refinement can be found in the rhetorical handbook *Rhetorica ad Alexandrum*. On the basis of this handbook, Kock arrives at a typology of warrants based on incommensurable values—due to the inherent "multidimensionality" of practical reasoning—implying that more than one claim can be legitimate at the same time. According to him rhetoric must be used to win adherence for a claim, making it not only legitimate but also necessary.

In the last contribution to the practical reasoning theme, Txetxu Ausín argues in "The Quest for Rationalism without Dogmas in Leibniz and Toulmin" (chapter 17) that Toulmin's conception of rationality is not as irreconcilable with that of Leibniz as Toulmin suggests. Leibniz distinguishes between contingent and necessary truths. Because the logical calculus does not apply to the first, the weighing argumentative method should be used instead. When trying to rationally justify contingent statements, Toulmin and Leibniz both share the view that rationality must be open to differences, pluralism and controversy.

The theme covering more chapters than any other is the *application* of the Toulmin model. In "From Arguments to Decisions: Extending the Toulmin View" (chapter 18), John Fox and Sanjay Modgil propose to extend the Toulmin model to facilitate computationally supported clinical decision-making. They introduce some

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[9] Previously published in *Argumentation* as Prakken (2005).

problems with a statistics-based approach to decision-making and provide a short overview of the non-statistical systems that are already used in practice as an alternative. Within the Logic of Argument, Fox and Modgil have developed several elements of Toulmin's model can be recognised. In order to guarantee safety for applications in the medical field, special attention is given to the termination conditions of the decision-making process: the point at which one can safely commit to a certain decision.

Switching from the medical to the legal domain, John Zeleznikow's chapter "Using Toulmin Argumentation to Support Dispute Settlement in Discretionary Domains" (chapter 19) remains on the software-supported discretionary decision-making side of what could be regarded as practical applications of the Toulmin model. Zeleznikow introduces us to some decision systems that are used in the legal domain. The Toulmin model is used as a tool in the development of software to enable pre-trial Online Dispute Resolution. Furthermore, elements of the model are applied in the development of a neural network-based resolution system for discretionary decision-making.

In "Toulmin's Model and the Solving of Ill-Structured Problems" (chapter 20), James F. Voss describes an empirical study in which an amended version of the Toulmin model is used to examine the resolution of ill-structured problems by experts.[10] To cope with the complexity encountered in the studied expert protocols, six amendments to the Toulmin model are proposed to allow for recursive composition, so that: (1) data can be claims in their own right; (2) an implicit warrant is implied in every argument; (3) the backing can be an argument; (4) a rebuttal can have a backing; (5) the rebuttal can be an argument; (6) qualifiers can be arguments. In Voss' experiment virtually no explicit statement of warrants was recognized and distinguishing between data and backing proved to be difficult. While the Toulmin model did appear to facilitate the isolation of lines of argument, it did not constitute a proper model of the problem-solving process.

Yet another application of Toulmin's model is given by Manfred Kraus. In "Arguing by Question: A Toulminian Reading of Cicero's Account of the Enthymeme" (chapter 21), Kraus applies the model to complement Cicero's classical formal approach. He argues that even though Cicero's enthymeme is logically valid, it is difficult to justify the exclusive conjunction in actual practice. The Toulmin model can solve this deficiency. By presenting Cicero's enthymeme in the form of a rhetorical question—psychologically and morally pressuring the audience—the weakness of the warrant's possible accompanying rebuttals can be veiled.

The last in the series of essays on the application of the Toulmin model is "The Uses of Argument in Mathematics" (chapter 22) by Andrew Aberdein. He argues that in meta-mathematics argumentation is used quite similarly to how it is used in natural language.[11] As such, Toulmin's layout of arguments should be applicable to mathematics. The main value of the layout in this instance is the identification of any non-constructive steps or flaws due to ambiguity within a proof. From the

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[10] Previously published in *Argumentation* as Voss (2005).

[11] Previously published in *Argumentation* as Aberdein (2005).

example of two apparently different layouts of the Four Colour Theorem, he argues for the necessity of extending Toulmin's account of the rebuttal to include undercutting defeaters in the sense of Pollock (1986).

The next, and second to last, theme the editors introduce is simply called *Comparisons*. It covers two chapters which both, as we would assume, compare the Toulmin model in some way to another similar approach. The first essay compares Toulmin's layout of arguments to the more traditional box-and-arrow diagramming and emphasizes the consequences these depictions have for the underlying theory. Chris Reed and Glenn Rowe report on their project of devising software—Araucaria—enabling the user to transform one visual form of argument representation into another. In "Translating Toulmin Diagrams: Theory Neutrality in Argument Representation" (chapter 23), Reed and Rowe use an extended version of the Toulmin model allowing for multiples of most elements in the original model and adding recursion.[12] In contrast to the view of Aberdein we encountered earlier, Reed and Rowe regard Toulmin's original notion of rebuttal akin to Pollock's undercutting defeaters. It gets an interpretation in their software close to argument schemes.

Fabio Paglieri and Cristiano Castelfranchi, in "The Toulmin Test: Framing Argumentation within Belief Revision Theories" (chapter 24), use Toulmin's model as a preliminary test to determine the possibility of covering belief revision theory—in particular Alchourrón-Gärdenfors-Makinson and their own Data-oriented Belief Revision—with the same conceptual framework as argumentation theory. The starting point in Paglieri and Castelfranchi's paper is that belief revision and argumentation are, respectively the cognitive and the social side "of the same epistemic coin" (p. 360). The results are primarily used to consider the problems that could come up when dealing with more elaborate argumentation theories.

The concluding chapter of the book—barring a list of background information on the contributors, the references and index—is "Eight Theses Reflecting on Stephen Toulmin" (chapter 25) by John Woods. Exemplifying the last theme "*reflecting* on Toulmin", Woods lists eight lessons associated with Toulmin. He views these as benchmarks for the research field at present. Generally Toulmin's lessons are about the applicability of logical theories to actual practice—or rather the lack thereof. To become more applicable to everyday reasoning logical theories should be highly context-sensitive and take into account human nature.

At the end of the book, the editors provide us with some background information on all authors, a list of collected references from all essays and a subject index. This index appears to be quite elaborate and well done at first sight, but the quality of indexes is, of course, something inherently hard to determine. The list of contributors is useful to provide more perspective to the backgrounds of specific essays as the authors' original viewpoints vary widely—giving evidence to the truly multidisciplinary nature of the field of argumentation theory: ranging from communication studies to logic, from computer science to ancient philosophy, from legal studies to epistemology and from linguistics to cognitive science.

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[12] Previously published in *Argumentation* as Reed and Rowe (2005).

## 3 Critical Comments

Being basically a collection of essays, *Arguing on the Toulmin Model* lends itself well to being read only partially or in fragments. Researchers or graduate students might prefer to read individual chapters that are of particular interest to them, not necessarily caring about the rest of the volume. It would be preferable to facilitate this process by providing reference lists at the end of each essay instead of a combined list at the end of the book. Although this would create some, and possibly a lot of, references that would have to be listed multiple times, seeing the size of the book at present—446 pages—these few pages more could hardly be considered insurmountable.

Following the title of the book, the introductory chapter tells us that the chapters reflect "on the Toulmin *model* and its current appropriation" making "fresh contributions to the theory of analyzing and evaluating *arguments*", being "*substantive*", "not exegetical" (p. 3, our emphases). Nonetheless, some of the chapters appear to be primarily about reasoning and decision-making rather than about *argumentation*. Prime examples thereof include the essays by Fox and Modgil, and Hitchcock where we are asked to focus on, respectively clinical decision-making in the medical domain and adequate grounds for monological verbal reasoning. In light of the fact that most chapters were published before, we wonder why they were not revised more rigorously to fit the chosen theme of the book as a whole. The editors could at least have given a background explanation about the relation between reasoning and argumentation.

Aside from the question whether the chapters are about argumentation, not all chapters argue on the Toulmin *model* either—which is what we were initially expecting in a book titled *Arguing on the Toulmin Model*. Some rather reflect on Toulmin's ideas (e.g. Prakken), Toulmin's impact (e.g. Loui) or present another theory in the light of Toulmin's approach (e.g. Paglieri & Castelfranchi). Perhaps this just signifies the current state of research being inspired on Toulmin's work rather than constituting a coherent programmatic *Toulminian* approach. In such a case, a volume like the present one can also be less restrictive including several topics that do not allow for a fully consistent typological categorization. Although it is clear why the current title has been chosen, a title like *Arguing on Toulmin's Legacy* might have been a fairer reflection of the book's contents. Moreover, we feel that more direction could have been given to the topical selection and clustering of the essays at hand. A more well-defined delineation of topics and mark-up of the volume would facilitate easy reading and reference for prospective *Toulminians*, argumentation theorists in general and interested scholars from the various related fields.

Let us now return to the first introductory chapter of the book where the editors conclude their chapter with a synthesis. Surprisingly, they propose another possible division into relevant topics distilled from the work represented in the volume from the one they introduced in the prior part of their introduction. Up to this point we were somewhat unconvinced that the themes chosen and divisions made by Hitchcock and Verheij would result in the best volume of collected work on this topic. It is rather awkward, for example, that three guiding themes are represented

by just one essay each—Qualifiers, Evaluation and Reflecting on Toulmin—while the theme Application covers five chapters on its own.[13] Even more surprisingly, or perhaps less so, the themes we envisioned after reading the chapter summaries and full chapters were quite close to what the editors highlight in their synthesis.

A recurring point of attention we can note concerns the explicit elements of Toulmin's model, most obviously the interpretation of the *rebuttal* and the *warrant*. Chapters 11, 12, 22 and 23 all extend or elaborate Toulmin's notion of rebuttal—characterising work *inspired by* Toulmin's rather than continuing on it. With respect to argument analysis and evaluation "the development of Toulmin's ambiguous conception of the rebuttal into a comprehensive doctrine of argument defeaters" (p. 21) is an important one. In chapter 11, Slob is concerned with interpreting the rebuttal in order to give the opponent a more substantial role in a dialectical framework. In chapter 12, Verheij makes a direct connection between rebuttals and recent developments within defeasible argumentation—whereas in chapters 22 and 23 the authors relate Toulmin's rebuttal to Pollock's notions of *undercutting* and *rebutting* defeaters (cf. Pollock 1986).

An additional starting point found in many of the chapters is the need for elements of the Toulmin model to be taken as a possible claim of another argument or to allow for multiples of certain elements. This recursive characteristic is instrumental in the formalisation of the Toulmin model and in evaluation on the basis of the model. Reed and Rowe, for example, are primarily concerned in chapter 23 with such a formal representation. As Paglieri and Castelfranchi report in chapter 24, Toulmin already recognised the need for a possible recursive element in his model in *The Uses of Argument* (Toulmin 1958, p. 106). Chapters 10, 12, 15, 18, 19 and 25 all contribute to a debate on the formal characteristics of Toulmin's model. Some do this through general comments, as Woods does, others by rejecting a statistics-based computerisation of qualified claims, as is Ennis' goal. So far we have extrapolated two closely linked themes: *relating rebuttals to defeasibility* and *formal reconstruction of the Toulmin model*.

Another theme drawing directly from an element of the Toulmin model is reflection on the *warrant*. An issue that comes up in several papers is how the warrant is to be interpreted. *Arguing on the Toulmin Model* includes "proposals to take them as singular truth-functional conditional (Bermejo-Luque), as generalizations of conditional inference (Hitchcock), as generalizations of singular defeasible conditionals (Verheij), as law-like generalizations supporting counter-factual claims (Freeman), as authorizations of entitlements (Pinto) and as acts of authorizing (Klumpp)" (p. 23). Another take on the warrant is portrayed in Tans' essay where he proposes the dynamic construction of warrants through discursive procedures. A similar dynamic turn is evident in Klumpp's essay. Kock reflects on the warrant as well by providing a typology of warrants drawn from "ancient rhetorical thinking" (p. 247). While one could have concerns with regards to the well-foundedness and actual substantiveness of Kock's contribution, it could still be incorporated as an extraordinary perspective on the theme.

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[13] This could, of course, just have been a representative reflection of the state of the scholarly field, but the editors do not confirm this.

A further theme that can be distinguished is: *epistemology and the Toulmin model*. The subject matter of chapter 24 by Paglieri and Castelfranchi is inherently epistemic in nature, examining possible overlap between argumentation and belief revision theories. In chapter 13, Hitchcock proposes epistemic criteria for justified reasoning. Interestingly, considering an *epistemic evaluation* brings up the question whether the standards for argument evaluation are to be considered *field-dependent*. In chapter 2, Toulmin recognises the need to know how the standards of a field have evolved to judge how these standards currently are dealt with and refined. In chapter 4, Goodnight actually extends the Toulmin model with the element of legitimation inferences in order to clarify how the field-dependency of the evaluation works. In chapter 6, Bermejo-Luque wants to save the model from looming *relativism*, the consequence of field-dependent standards for argument evaluation. Freeman (chapter 7) returns to epistemology to establish warrant reliability, sidestepping the problematic notion of field while retaining relativity. Weinstein finally sets out to found warrants and backings in a meta-mathematical sense in chapter 5.

The connection between argumentation and reasoning is an implicit issue within this volume, since chapters are often about both. In chapter 13, Hitchcock mentions that the Toulmin model applies to argumentation and to *reasoning*. Whereas argumentation involves an attempt to convince an active or passive audience of a *claim*, reasoning is the process of careful consideration to come to a justified *conclusion*. Some essays are focused primarily on *reasoning with the Toulmin model*. This is most evident in the contributions on decision-making, such as the essay of Fox and Modgil in chapter 18 and those by Zeleznikow in chapter 19 and Voss in chapter 20. Another example is the way in which Tans in chapter 14 accounts for the dynamics of juridical reasoning by using the Toulmin model. When compiling a book such as *Arguing on the Toulmin Model* it is a matter of choice whether you limit it purely to argumentation or whether contributions on reasoning are considered as well. It is at least clear that Toulmin's model is not solely used for studying argumentation.

If we would take the thematic topics synthesised so far as a guide, some of the essays in the original selection of papers do not really fit in any, while others might fit into several categories. Some of the ones that do not fit a category could contribute to the introductory part of the book if they cover the relevance of Toulmin's work, its impact or if they reflect upon it. It would then be less of a problem that they cannot be considered substantive contributions. Together the chapters could form a well-balanced introductory overview, but at present this is not the case. Besides Hitchcock and Verheij's introduction, the chapters by Toulmin, Loui and Woods could fit this bill, introducing Toulmin's insights and establishing its relevance to argumentation and within its historical context. If taken as an introduction to the rest of the volume—not so much as reflecting substantive contributions as much as putting the following chapters in perspective and establishing the relevance of the book—these chapters can be included.

However, certain chapters—such as those by Ausín and Kraus—are neither useful for an introductory section nor fitting to any of the themes. They appear not to be instrumental towards a fulfilment of the expectations raised by the book. This is not to say that the insights in these chapters are uninteresting or without value.

When looking at chapter 17 by Ausín, for example, an interesting philosophical connection is made explicit between Toulmin's and Leibniz's conception of rationality. Still, one could argue whether it adds to the overall strength of the volume to include such chapters, or whether it would be better to really include only "fresh contributions to the theory of analyzing and evaluating arguments" being "substantive", "not exegetical" (p. 3). As mentioned before, we would have preferred a more strict selection on such accounts.

Sometimes we had doubts regarding the terminology used in individual chapters. It is at least strange in a book that is supposed to be about the Toulmin 'model' that in certain chapters the term Toulmin 'scheme' is used—as is done by Verheij in chapter 13 and by Prakken in chapter 15. It came unexpected that one of the editors himself deviates from the terminology used in the title and the introduction. Another terminological choice that we found confusing is Zeleznikow's use in chapter 19 of 'Toulmin argumentation'. This would portray a different take on the matter from the one we have: where we are looking for research on the phenomenon of argumentation, being sensitive to the different views that exist, but not thinking that theories describe several distinct naturally occurring forms of argumentation—nor that any theory of argumentation should. It turns out that Zeleznikow actually just makes use of the Toulmin model and its structure.

Besides these terminological remarks, we would like to point out that the chapter summaries provided by the editors in their introduction do not always appear to be fully in line with the actual chapters. An example is Voss' fourth amendment of the Toulmin model, proposed in chapter 20: "The fourth allows for a rebuttal statement to have backing" (p. 307), which the editors paraphrase as a change where "backing arguments […] have a rebuttal" (p. 16). Both indicate the possibility of chaining together several arguments, but they do so in different ways, permitting different structures to arise. Taking a second example from the same passage, in the editors' summary extensions 5 and 6 have switched places. Although in this case it does not lead to any bad consequences, it does show an unexpected lack of precision on Hitchcock and Verheij's account—something that is also evident in further minor editing flaws.

## 4 Conclusion

A typo in the first paragraph of the introduction of a book that is being reviewed does not fill one with great confidence about what to encounter in the remainder. But we are happy to say that the overall editing and printing quality of *Arguing on the Toulmin Model* is generally good. A verdict we regrettably cannot repeat when it comes to graphical quality. There are not many images contained within the chapters: primarily some graphs and outlines of arguments. Sadly most of those are of a lower quality than we had expected (cf. for example pp. 348 and 349 in which the shade is nigh unrecognisable).

Although in their introductory chapter Hitchcock and Verheij divide the subsequent chapters into several topics and fields of interest, the volume does not contain a strong comprehensive typological categorization. This lack of

programmatic approach could be due to the splintered nature of current research within Toulmin's approach. The essays in *Arguing on the Toulmin Model* can best be regarded as a series of scholarly contributions and studies that are not so much a continuation of Toulmin's work but are rather generally inspired by it.

Even though it is already a few years old when this review appears, *Arguing on the Toulmin Model* has not lost any of its usefulness. Most of the contributions included in the volume are relevant as part of an overview of the contemporary development of Toulmin's ideas and model. Several of the collected essays go beyond the scope the title and subtitle of the book imply: besides arguing on the Toulmin *model*, some authors argue on Toulmin's work in general, and besides *argumentation* reasoning appears to be a major topic. This can be seen as a good or as a bad development. While some will applaud the connections made between different fields of research and will embrace its multidisciplinary character, others might expect a book that purports to be about "argument analysis and evaluation"—as the subtitle reads—to be primarily about *argument analysis* and *evaluation*.

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