[Review of] Jacobus C. (Jacky) Visser, A Dialogue Game for Critical Discussion: Groundwork in the Formalisation and Computerisation of the Pragma-Dialectical Model of Argumentation. Dissertation, University of Amsterdam, 2016. Amsterdam Center for Language and Communication, Amsterdam, xiv + 153 pp.

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BOOK REVIEW

Jacobus C. (Jacky) Visser, *A Dialogue Game for Critical Discussion: Groundwork in the Formalisation and Computerisation of the Pragma-Dialectical Model of Argumentation.* Dissertation, University of Amsterdam

Amsterdam Center for Language and Communication, Amsterdam, xiv + 153 pp.

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1 Aims and Set-Up of this Dissertation

Visser's dissertation places itself boldly on the interface between the contemporary field of argumentation studies as it has expanded since the work of Toulmin and Perelman in the 1950s and the more recent field of studies of argument and computation within the area of artificial intelligence. Even though these fields connect in many ways, they have often followed their own separate lines of development. This is not necessarily a bad thing, as long as the many opportunities for interaction and cooperation are not overlooked. Fortunately, since the turn of the century, such interconnections come more and more into view: many argumentation scholars speak at conferences on argument and computation and vice versa. It is noteworthy that the *Handbook of Argumentation Theory* (van Eemeren et al. 2014) contains a whole chapter on argumentation and artificial intelligence whereas its predecessors did not broach the subject.

What is happening at the interface? Of course there is a trade in ideas and insights that goes both ways, but only the argument and computation branch can develop computerized tools to support the production, analysis, evaluation, teaching, and practice of argumentation. For the development of such tools it is necessary to start from a particular theoretical model of argumentation, go through a process of formalization, and a further process of implementation. Thus formalization (with an

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eye on further computerization) is right at the center of the interface; it is also at the core of Visser's concerns.

Since they are developed from a particular theoretical point of view, support tools will typically work only for argumentation as conceived from that same point of view. As yet no such tools have been developed from and for the pragma-dialectical point of view. It is the explicit goal of this dissertation to amend that situation (p. 3). The way to do it is to formalize the pragma-dialectical procedure of "critical discussion," which is "the cornerstone of the pragma-dialectical method of analysis" (p. 4). The pragma-dialectical discussion procedure consists of fifteen Rules for Critical Discussion (van Eemeren and Grootendorst 2004, pp. 135–157), not to be confused with the Code of Conduct, which consists of ten commandments. This procedure is already formal in several senses, but not in the sense that the language used, the kinds of move, and the admissible sequences of moves are rigidly stipulated, as in formal dialogue games. The challenge is then to develop a dialogue game that would count as formalization, in this stricter sense, of the procedure of critical discussion. Thus the precise aims of the dissertation are to find out what would be a suitable approach to the formalization of critical discussion and to develop a dialogue game in accordance with this approach (p. 7).

Besides an introduction and a conclusion, the dissertation consists of five chapters (Chapters 2–6) based on a number of papers published, or to be published, by Jacky Visser, and in one case (Chapter 3) co-authored by Floris Bex, Chris Reed, and Bart Garssen. These papers are self-contained, which is an advantage, but as a consequence the whole text has become somewhat repetitive.

Chapter 2 discusses the use of computational tools to support argumentative tasks in general and explores in particular the possibility of computational support for a pragma-dialectical analysis of argumentation. Visser proposes an incremental approach to the development of a formalization (or, rather, "formal approximation") in which the complexity of the dialogue games that are to approximate critical discussion is gradually increased.

Chapter 3 investigates the capacity of such a formalization of critical discussion to facilitate the connection with extant computational approaches. A provisional formalization (protocol with flow-chart) of critical discussion is formulated and central parts of it are characterized in the Argument Interchange Format, a common ontology for computational argument used in artificial intelligence studies.

Chapter 4 offers a first formalization: a basic dialogue game ($CRIT_1$) based on a number of simplifying restrictions. This chapter is very useful to get acquainted with the author's method.

Chapter 5 offers the dialogue game $CRIT_2$, which is an extension of $CRIT_1$ and able to account in a larger measure for the speech act perspective of critical discussion: moves are based on suitable speech acts and commitments on the associated felicity conditions.

Chapter 6 offers the dialogue game $CRIT_3$, which is another extension of $CRIT_1$ rather than of $CRIT_2$. $CRIT_3$ is able to account for complex argumentation in which for instance more than one reason may be given to defend a standpoint or a reason may be defended by another reason.

2 General Comments

Visser's dissertation is a very fine piece of work with surprisingly good results. The idea of working in an incremental way, starting from a basic dialogue game and adding complications seems very fruitful. Of course one would now like to see the author take the following step, which would consist of combining $CRIT_2$ and $CRIT_3$ into one dialogue game $CRIT_4$, which would be able to account for both, speech acts and complex argumentation. But let that be work for later.

Somehow, the way $CRIT_2$ accounts for the speech act perspective seems to remain a bit on the surface. It gives us a kind of arrangement to lay connections with speech act theory and there is nothing actually wrong with it, but one still has the idea there could be more to it. On the contrary, the way complex argumentation is accounted for goes really to the heart of the matter.

The work is technically very solid and moreover very clearly presented. The formalizations approximate the procedure of critical discussion very closely, even more so than Krabbe's attempt (Krabbe 2017). The rules are meticulously formulated, with only a few typos. The complex flow charts are astoundingly easy to follow, once one has delved into the matter.

3 Some Critical Comments

What I do not understand is why Visser sometimes writes "therefore" where one should expect "if…then". For example in Figure 2.4 on p. 21, he renders the unexpressed premise of an argument as "the clouds keep getting darker, therefore it will start raining soon," but this is just the argument itself!

Although Visser in his formalizations mostly achieves a very close approximation to the letter and spirit of the Rules for Critical Discussion, he does not always take care to render these rules faithfully. For instance, on pp. 33–34, the rendering of Rule 9 is rather fanciful. It would have been better if all these rules had been assembled in an appendix, for the reader to check.

The flow chart of Figure 6.10 is truly wonderful. Actually, a three-dimensional (many-leveled) flow chart would be called for. But on paper two dimensions have to do. Even so there are two arrows missing: one from the lowest box on the left to the box above it (labeled S8a) and one from the other box at the bottom to the second box from the left on the fourth row from below (labeled S9a). These are details, but they arise from a lack of discussion of the recursive nature of the whole procedure and of the need to introduce different levels at which the procedure takes place.

Let me end these critical comments by expressing my regret that the book has no index. Notwithstanding these minor criticisms, I appreciate Visser's dissertation as a highly valuable study and a mighty contribution to a further integration of computational approaches within argumentation theory.

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