

Book Reviews

RICHARD DIETZ and SEBASTIANO MORUZZI (eds.), **Cuts and Clouds: Vagueness, its Nature, and its Logic**, Oxford University Press, 2010, 586 pp., ISBN 9780199570386.

Cuts and Clouds is an impressive collection of 31 papers, devoted to the problems of vagueness in most of its aspects written by leaders in the field. Since the contributions concern various features of vague expressions and offer different perspectives for the development of the theories of vagueness, it is difficult to make general comments and so I will pay attention only to the main aspects of each of them.

The book is divided into two parts: the nature and the logic of vagueness, each of which includes four sections.

Whether vagueness is a semantic phenomenon or is a characteristic of reality itself is the general issue on which a few papers are concentrated. Rayo, Soames and Eklund consider vagueness as a semantic problem and put different emphases on the representational functions of language. A metasemantic view where the origin of vagueness is grounded in the type of linguistic practice that renders the expression meaningful is regarded in Rayo's contribution. He compares the conventions about how to use sentences involving attributions of vague predicates to clear cases as well as to borderline cases concluding that the latter are prevalent to lesser degrees than the former ones [25, p. 24]. In response to Glanzberg's objection against partial definitions, Soames argues that vague predicates in natural language are both partially defined and context sensitive [33, p. 57]. Some arguments for the indeterminacy of translation and the inscrutability of reference are discussed by Eklund who motivates the thesis that vagueness is primarily second-level indeterminacy, having in mind that a sentence is second level indeterminate when it

has different truth values under different acceptable assignments of semantic values. Another relation between indeterminacy and vagueness is the accent of Weatherstone's paper where interesting and useful comments are presented on different views of vagueness, including Eklund and Greenough's proposals. The author distinguishes his view from the supervaluationist account that he thinks false and takes vagueness to be indeterminacy of denotation [35, p. 90]. A sufficient way of reasoning in vague languages is the usage of the notion of degree of closeness to clear cases [6, p. 106], according to Edgington. She challenges Sorensen's idea of sharpness and correctly contends that the inductive step in the sorites paradox is false due to the small departure from the clear truth of a large number of its instances, because of which its rejection is not a warrant to accept sharp boundaries of which we are ignorant [6, p. 92].

Contrary to the semantic accounts, Schiffer and Salmon admit vagueness in reality. The focus of Schiffer's analysis is the nature of vague properties, which admit of borderline cases. He proposes to use a *Quandary* as a psychological state that is characteristic of taking a thing to be a borderline case and motivates a constraint on theories of vague properties [29, p. 113]. A theory of vagueness must be consistent with *Q-Constraint*, which is the claim that there need be nothing incorrect about being in a *Quandary* [29, p. 129]. The vagueness-in-language approach and the vagueness-in-the world approach (ontic vagueness) are both investigated by Salmon. The author argues that the second approach gives an adequate diagnosis for the sorites paradox [28, p. 147]. Shapiro's paper proposes a reconciliation between these opposing accounts. His main idea is that the linguistic and worldly components to vagueness are thoroughly intertwined and cannot be disentangled [30, p. 161]. An interesting point is his motivation against the crispness postulate according to which when science is sufficiently advanced it will invoke only precise, non-vague predicates and singular terms [30, p. 156].

The legitimacy of the tolerance principle and the ways of solving sorites paradoxes are problems which a couple of authors concern in their contributions. A characteristic feature of Beall's, Pagin's and Gomez-Torrente's papers is that they don't reject tolerance and instead try to accommodate it as part of the proper understanding and usage of vague predicates, giving different solutions (some of which are hybrids). Gomez-Torrente proposes a dual picture, neutral and indifferent to the shortcomings of paradigmatic, generatist and strongly nihilist views of sorites. It is based on used-based division of sorites susceptible predi-

cates into regular and irregular, depending on whether the predicate has a reference on the occasion of use or not [12, p. 230]. Regarding vague predicates as fully tolerant and without cut-offs for which *Utility* fails (because it presupposes a presence of cut-offs), Beall proposes a way to overcome the tension between *Tolerance* and *Utility* in his contribution and suggests (a little bit unexpectedly) that instead of vague predicates, their look-alikes should be used: sharp predicates that are homonyms of vague and by virtue of being sharp yield cut-offs and therefore are useful [2, p. 192–193]. The focus of Pagin’s paper is the notion of a *central gap* — a sufficiently large middle segment of the ordering relation which is uninstantiated [20, p. 254]. The author makes a comparative analysis between the strong and weak tolerance principles arguing that the first of them is false in domains with significant central gaps for the vague predicates whereas the second one is true. Recent challenges towards the thesis of the non-transitivity of perceptual indiscriminability are critically discussed by Horsten. Analyzing Fara and Raffman’s views for the transitivity of this relation as well as Wright’s argument for its non-transitivity, he points out how these positions reflect on the concept of an identity criterion for colour shades. An agnostic theory concerning vague terms is proposed by Rosenkranz, according to which, the reference conditions of vague terms are either determined in epistemicist way or by means of our ordinary criteria of application, but there is no way to be known the correct one. He appeals for non-classical solutions of the sorites paradox, namely for an intuitionistic restriction to classical logic, but contrary to Wright, this theory is not committed to any form of anti-realism [27, p. 185]. Field discusses Horwich’s ideas concerning vagueness. His significant contribution is the connection between semantic paradoxes, sorites paradoxes and Sorensen’s ‘no-no’ paradox.

That the context has an important role for the assessment of expressions containing vague terms is the focus of the next views. Iacona analyses in detail the underspecification view, standard supervaluationism and non-standard supervaluationism. Although I disagree with some of his examples, I think that the author gives satisfactory arguments that borderline cases can be accounted for in accordance with the thesis that truth and falsity apply to sentences relative to interpretations [15, p. 299]. The main thesis of Dan Lopez De Sa is that borderline cases do not produce the phenomenon of apparent faultless disagreement. It is accounted for by paradigm cases of vagueness as semantic indecision as well as by the epistemic views and is compatible with other views of

vagueness [18, p. 330]. That vagueness in natural languages is normal and shouldn't be treated as imperfection is claimed by Kolbel. Considering three ways that standard semantics can be used for extensional indeterminacy of predicates, he maintains that vagueness is a form of relativity to the circumstances of evaluation [17, p. 304]. Akerman and Greenough's paper concerns the simple objection to contextualism that even when the context is fixed vagueness remains. The authors present two approaches, namely *Epistemicist Contextualism* and *Radical Contextualism*, which defuse to a certain extent the objection [1, p. 276].

The virtues and shortcomings of supervaluationist logic, one of the most controversial logics of vagueness, are examined in several papers. Keefe objects to Schiffer's claim that supervaluationism is undermined by considerations about indirect speech reports and argues that it can deal successfully with such cases, in particular with the demonstratives [16, p. 360]. Garcia-Carpintero also responds to Schiffer's argument against supervaluationist account of vagueness, based on reports of vague contents. His critique differs from Keefe's account mainly, because contrary to her he admits vague entities [11, p. 358]. Fara analyses the advantages and disadvantages of supervaluationism and levels, as also Hyde does, good criticisms against the failure of truth-functionality, but unlike him, she believes in bivalence. Arguments are also advanced that supervaluationism can't explain convincingly people's belief in the inductive premise of the sorites paradox.

The topic of how to use paraconsistent logic with respect to sorites paradoxes is examined in Hyde's and Priest's papers. Arguing against the weak paraconsistency of subvaluationism and weak paracompleteness of supervaluationism (where although bivalence fails, the law of non-contradiction and the law of excluded middle are retained), Hyde gives serious and persuasive arguments in favour of the strong paraconsistent as well as the strong paracomplete approach for dealing with these paradoxes. Priest develops an account of identity and some of its applications, one of which concerns vagueness. His proposal is based on the second-order version of the paraconsistent logic LP. In accordance with vagueness and the sorites arguments, he presupposes the existence of cut-offs which he explains in terms of metalinguistic non-transitive identity [23, p. 414]. Actually these views could be counterposed to another solution concerning some of the aforementioned aspects which avoids the paraconsistency. By this I mean Pinheiro's suggestion [21] where speech must be translated into logical language and when are ut-

tered two contradictory statements each of them has to be interpreted as false. Her idea about the sorites argument is as follows. The statements that are uttered without any confusion (in the beginning of the sorites sequence) are to be valued as true, the series of statements where the speaker is confused (and utters both any statement and its negation) are to be valued as false (contrary to the paraconsistent approaches where the contradictory statements are valued as true simultaneously) until the moment where there are clear examples of true cases (where the object hasn't the certain property) at the end of the sequence [21, p. 320]. Pinheiro's solution has virtues as it demonstrates the non-equivalence between human speech and logical language; on a logical level it retains the law of identity, the law of excluded middle is not valid (in contrast to supervaluationism, whose disadvantages Hyde excellently explains), and implication is not truth-functional (something that I mostly respect in relevance logic, for example). But since *ex falso quodlibet* is valid here, which is counterintuitive to me, especially in the context of natural language and human reasoning, it seems to me that relevance logic can contribute more to the analysis of vagueness and solving the sorites paradox as it is both strongly paraconsistent and paracomplete (characteristics that, as I already mentioned, Hyde recommends). In this connection I hope there will be further work from Hyde and Priest in exactly this direction, having also in mind the views developed in [34, p. 15] where ideas are given, based on relevance logic, for a restriction of transitivity in the sorites argument by adding an operator of indiscernibility and Priest's fuzzified relevant logic [22, pp. 267–269] where inconsistent and incomplete worlds typical of relevant world semantics are included.

Some aspects of the degree-theoretic semantics, characterised by a continuum of truth values and the truth-functional connectives, are adopted and examined in the book. Forbes considers in his interesting paper three kinds of identity puzzles which reduce to one familiar kind — the sorites paradox — and proposes a *Uniformity Constraint* in order to defuse it [10, p. 424], using some of the advantages of fuzzy logic. MacFarlane suggests a hybrid account that includes degrees of truth admissible, in his opinion, even for the epistemicists. According to it, uncertainty and partial truth are necessary to be understood the attitudes towards vague propositions [19, p. 438]. Another hybrid approach is proposed by Simons, which he calls supernumeration. It takes from fuzzy logic the numerical values and from supervaluationism the treatment of tautologies as true and contradictions as false. It also em-

employs the idea of an *expected truth value* for a statement adapted from probability theory. Similar issues are discussed in Smith's paper where the degree of belief in any proposition is regarded as one's expectation of the degree of truth of this proposition and is identified with expectations [32; pp. 491, 502]. The author proposes an account of subjective probability which is appropriate for vague as well as precise languages [4, p. 15] and shows how it is related to degrees of truth. Richard gives arguments that the objection to the trisection thesis — the view that vague predicates trisect their domains into classes — is not compelling and if the indeterminacy is confessed as contrastive, then higher-order vagueness is not inconsistent with trisection [26, p. 480].

The rest of the three contributions cast a shadow either on the legitimacy of *higher-order vagueness* or on the use of the iteration of the definiteness operator, or both. The theme of Raffman's paper is that the notion of higher-order vagueness is problematic. She reasonably maintains that borderline cases are not properly defined via the definiteness operator and that the iteration of some metalinguistic prescriptive predicates is semantically redundant [24, p. 522]. Discussing critically the *ineradicability* intuition and *seamlessness* intuition, Wright gives significant arguments that higher-order vagueness is due to misunderstanding of the nature of first-order vagueness and is an illusion. Dorr's paper also concerns definite truth and its iterations. If a sentence with countably many iterations of the definiteness operator is true, is called ultratrue [4, p. 17]. His idea is that there aren't ultratrue sentences and the definite truth conditions of a sentence depend on its usage [5, p. 562–564].

Cuts and Clouds provides a vast survey of recent investigations and contemporary debates about vagueness. I would recommend it mainly to an audience with serious interests in vagueness, but since it is related also to many general philosophical themes, the book would be useful even for philosophers who don't work mainly in this area.

References

- [1] Akerman, J., and P. Greenough, "Hold the context fixed – vagueness still remains", pp. 275–288 in [3].
- [2] Beall, J., "Vague intensions: A modest marriage proposal", pp. 187–199 in [3].
- [3] Dietz, R., and S. Moruzzi (eds). *Cuts and Clouds. Vagueness, its Nature and its Logic*, Oxford University Press 2010.

- [4] Dietz, R., and S. Moruzzi, “Introduction”, pp. 1–18 in [3].
- [5] Dorr, C., “Iterating definiteness”, pp. 550–576 in [3].
- [6] Edgington, D., “Sorensen on vagueness and contradiction”, pp. 91–106 in [3].
- [7] Eklund, M., “Vagueness and second-level indeterminacy”, pp. 63–76 in [3].
- [8] Fara, D., “Scope confusions and unsatisfiable disjuncts: Two problems for supervaluationism”, pp. 373–382 in [3].
- [9] Field, H., “This magic moment: Horwich on the boundaries of vague terms”, pp. 200–208 in [3].
- [10] Forbes, G., “Identity and the facts of the matter”, pp. 419–437 in [3].
- [11] Garcia-Carpintero, M., “Supervaluationism and the report of vague contents”, pp. 345–359 in [3].
- [12] Gomez-Torrente, M., “The sorites, linguistic preconceptions, and the dual picture of vagueness”, pp. 228–253 in [3].
- [13] Horsten, L., “Perceptual indiscriminability and the concept of a color shade”, pp. 209–227 in [3].
- [14] Hyde, D., “The prospects of a paraconsistent response to vagueness”, pp. 385–405 in [3].
- [15] Iacona, A., “Saying more (or less) than one thing”, pp. 289–303 in [3].
- [16] Keefe, R., “Supervaluationism, indirect speech reports, and demonstratives”, pp. 360–372 in [3].
- [17] Kolbel, M., “Vagueness as Semantic”, pp. 304–326 in [3].
- [18] Lopez De S., “How to respond to borderline cases”, pp. 327–340 in [3].
- [19] Macfarlane, J., “Fuzzy epistemicism”, pp. 438–463 in [3].
- [20] Pagin, P., “Vagueness and central gaps”, pp. 254–272 in [3].
- [21] Pinheiro, M., “A solution to the sorites”, *Semiotica* 160, 1/4 (2006): 307–326.
- [22] Priest, G., “Fuzzy relevant logic”, pp. 261–274 in *Paraconsistency. The Logical Way to the Inconsistent*, Proceedings of The World Congress Held in Sao Paulo, 2002.
- [23] Priest, G., “Non-transitive identity”, pp. 406–416 in [3].
- [24] Raffman, D., “Demoting higher-order vagueness”, pp. 509–522 in [3].
- [25] Rayo, A., “A metasemantic account of vagueness”, pp. 23–45 in [3].
- [26] Richard, M., “Indeterminacy and truth value gaps”, pp. 464–481 in [3].
- [27] Rosenkranz, S., “Agnosticism and vagueness”, pp. 165–186 in [3].
- [28] Salmon, N., “Vagaries about vagueness”, pp. 131–148 in [3].
- [29] Schiffer, S., “Vague properties”, pp. 109–130 in [3].
- [30] Shapiro, S., “Vagueness, metaphysics, and objectivity”, pp. 149–162 in [3].
- [31] Simons, P., “Supernumeration: Vagueness and numbers”, pp. 482–490 in [3].
- [32] Smith, N., “Degree of belief is expected truth value”, pp. 491–506 in [3].
- [33] Soames, S., “The possibility of partial definition”, pp. 46–62 in [3].

- [34] Sylvan, R., and D. Hyde, “Ubiquitous vagueness without embarrassment: logic liberated and fuzziness defuzzed (i.e. respectabilized)”, *Acta Analytica* 10 (1993): 7–29.
- [35] Weatherson, B., “Vagueness as indeterminacy”, pp. 77–90 in [3].
- [36] Wright, C., “The illusion of higher-order vagueness”, pp. 523–549 in [3].

DOROTEYA ANGELOVA
Department of Logical Systems and Models
Institute for Society and Knowledge Studies
Bulgarian Academy of Sciences
doroteyaan@gmail.com