

According to Booleans, there are cases where indeterminate credal states (“instates”) better reflect a subject’s doxastic state than precise-credence states. But there are also cases where instates themselves do not seem to fully reflect an agent’s doxastic state. In order to account for these cases, some Booleans (“type-B” Booleans) relax certain traditional Boolean (“type-A” Boolean) assumptions; in particular, they allow that doxastic states outstrip credal states. In this paper, the author argues that- once Booleans acknowledge that doxastic states outstrip credal states, certain motivations for accepting Booleanism over the precise-credence (“Laplacean”) view are undermined. In the final section, the author argues that instates cannot simultaneously perform two tasks Booleans intend for them to perform.

This paper contains some interesting ideas. But because of several flaws, it is not ready for publication. Much of the paper covers points that have already been made elsewhere in the literature; these sections of the paper could be shortened significantly or (in some cases) be removed. By contrast, the novel ideas in the paper (especially in section 6) are not sufficiently developed. In addition, there are structural concerns with the paper, which I discuss below.

STRUCTURAL COMMENTS:

I. The paper claims to establish that agents are subject to a norm requiring sharp credences. (see, e.g., p. 2, p. 4, p. 10). But I do not think the paper’s arguments establish this ambitious claim. At most, the paper undermines certain alleged advantages of Booleanism (specifically: INTERN and INCOMP- see p. 5). The author does consider other arguments for and against sharp-credences. But these sections are very brief and do not fit well with the main theme of the paper.

II. At times, the described structure for the paper seems to depart from the paper’s actual structure.

1. In the overview, the author says that he/she will “assume that the appeal of the Boolean position is immediately obvious”. But after presenting the reasons for this appeal (pp. 5-6), the author immediately argues that these reasons are not persuasive (pp. 7-10). So the reader is left wondering why we need fuzzy credences (which are introduced on p. 12).
2. The same issue arises with Example 3 (pp. 12-15). The author immediately offers a Laplacean response (p. 14), so it is unclear why we need fuzzy credences.
3. The abstract states that “conceptual arguments” will be used to establish Laplaceanism. But I wasn’t sure what the author had in mind. Perhaps the author meant the “conceptual problems” with type-A Booleanism (see p. 4). But these problems motivated type-B Booleanism over type-A Booleanism, not Laplaceanism over Booleanism. Alternatively: the author mentions that Laplaceanism is “conceptually tidy” (p. 10) and that there is something “odd with the Boolean conceptual approach” (p. 28). But these are offhand remarks; they did not figure prominently in the paper.
4. Section 6 attempts to establish that instates cannot perform both the tasks Booleans set out for them (see p. 33). The paper implies that this argument is related to the arguments of the previous section. But this connection is not clear. Section 5 only mentions the double task twice (p. 24 and p. 31), and these are just signposts for section 6.
5. The examples of section 6 are supposed to show that instates cannot perform the double-task. But with example 12, the author responds to certain worries with Laplaceanism (p. 35ff). Example 13 raises a problem for Booleans, but it isn’t linked back to the double task.

6. Further summary of the significance of examples 11-13 and their relation to the earlier parts of the paper would be useful. The transitions from example to example, and from example 13 to the conclusion, were fairly abrupt.

III. Possible parts of the paper to be shortened or removed (in order to give the author more space to develop the novel parts of the paper)

1. pp. 7-10 present constraints and desiderata for a generalized Shannon measure. All of this material could be removed; the author only needs to say that Joyce's minimum information requirement is imprecise and therefore lacks persuasive force.
2. pp. 12-13. The author lists (A)-(C) as motivations for Booleanism. The author doesn't address (C) and discusses (B) very quickly. So I would recommend cutting the brief discussion of (B) (see 36ff) and then confining (B) and (C) to a footnote.
3. p. 25: Joyce's example 8 does not figure in the author's main argument and could be put in a footnote or removed..
4. pp. 26-29: The discussion of why retention and repetition do not require AC1 could be shortened significantly, since the author is citing arguments made by Joyce. (However, it was helpful for the author to note that Joyce himself implies that AC1 *is* what goes awry for repetition (see p. 28).)
5. As described in (II5), it is not clear how example 12 is relevant to the Boolean's alleged inability to perform the double task.

IV. Relocating parts of the paper.

1. pp. 12-13: It might improve the flow of the paper to include the skittles case along with the other alleged problem cases for the Laplaceans up front. Similar remarks apply to (B) and (C) on p.11- they could be moved to the front (although I recommend footnoting them anyway). This would avoid a somewhat abrupt transition on pp. 10-11.
2. pp. 12-16: The author discusses how type-B Booleans still relapse into type-A Boolean arguments when critiquing Laplaceans. But to this point, the author hasn't explained the distinction between type-A and type-B Booleans; that starts on p. 17.
3. pp. 30-31: The author considers an objection; to respond, the author mentions the double-task problem which will be discussed later in section 6. It might improve the paper's organization to relocate this material to the beginning of section 6.
4. See also the comments under (II) above.

COMMENTS ON CONTENT:

1. p. 3: The author first appeals to the distinction between doxastic and credal states. Since this comes in the middle of an exposition of the Boolean view, it somewhat misleadingly implies that this distinction is something that all Booleans endorse.
2. pp. 5-6: The author will ultimately argue that the Laplacean can respond to examples 1 and 2 by distinguishing doxastic states from credal states. But arguably, the Laplacean can distinguish these cases with just credal states, supposing that credences are assigned to propositions like 'The objective chance of coin landing heads is r_1 ', 'The objective chance of coin landing heads is r_2 ', etc. This complicates the dialectic the author sets out in the paper.
2. p. 7: The author argues that, to compare instates and sharp credences informationally, we need a generalized Shannon measure. But it is not clear that Joyce's intuitive argument requires us

to specify a generalized Shannon measure to have force. In fact, the author seems to concede the intuitive force of Joyce's position on p. 9.

3. p. 10, also pp. 36-37: I found the connection to Williamson's theory of vagueness unconvincing. This seems like it could be a nice analogy for the Laplacean, but what are the reasons for thinking that credences are relevantly similar to concepts? In addition, the author might note that Williamson's theory itself is very controversial.
4. p. 13: The author implies that all Laplaceans draw a distinction between doxastic states and credal states, but this is not the case. (Again, this complicates the dialectic the author sets out in the paper.)
5. p. 14: Is there a word missing here? This is an "unsatisfactory" argument...?
6. p. 14-15: The author claims that Laplaceans will respond to various problem cases (such as example 4) by distinguishing doxastic states from credal states; the latter must make reference to the evidence about objective chances operating in the background (see p. 33). But this information may *already* be reflected in a subject's credal state, supposing that credences are assigned to propositions like 'The objective chance of getting lung cancer is r_1 ', etc.
7. p. 22: A bit more explanation of example 7 would be helpful.
8. pp. 30-31: The author considers an objection: even if instates do not fully represent an agent's doxastic state, might they not still be more successful in reflecting doxastic states than sharp credences? This is a crucial step of the argument, but the author's response to the objection is too brief to be helpful. If the author were to cut some of the material listed under (III), he/she could expand this section. In particular, the author should focus on the "double-task" problem for instates, which is the author's novel contribution in this paper.
9. pp. 31-32: The discussion of AC2 is one area where the paper needs a bit *more* exposition.
10. p. 35-36: I found the discussion on these pages somewhat disjointed.
11. In general, I think that section 6—the author's main contribution—needs to be developed with greater depth and clarity.

Minor comments.

1. There were several places in the paper where more citations were needed. (I list a few cases below.).
2. (AC1) and (AC2) are attributed to Augustin, so they need citations.
3. p. 33: Citation for "Joyce denies the CGT, giving us AC2"..
4. p. 26 Capitalization of "example 8".
5. p. 26: reference to Lewis should include a citation.
6. p. 27: "of a sharp credence, such as in the following example"
7. p. 33: "Blake has no information whether it will rain": missing "about"?