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ἐπει δὲ ταύτην ἐπιστήμην ζητοῦμεν

Deductive analogy defended
En defensa de la analogía deductiva

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ABSTRACT

In (2015) André Juthe proposed a novel sui generis model of analogical reasoning and argued that where deductivist accounts failed, his account succeeded. In (2018) I argued that most of Juthe's arguments against deductivism failed; identifying five criteria, I argued that Juthe's account did no better than deductivist accounts with regard to four of them. Replying in (2019), Juthe argues that my objections miss their mark, that his own account does meet the criteria and that deductivist accounts fail to meet them, and that this does provide his own account with strong, albeit inconclusive, evidence in its favour. In this paper I will defend my case against these new arguments.

KEYWORDS: Arguments by analogy; deductivism; sui generis; pluralism.

RESUMEN

En (2015), André Juthe propuso un novedoso modelo sui generis de razonamiento analógico y sostuvo que este superaba las deficiencias de las versions deductivistas. En (2018), defendí la inoperancia de los argumentos de Juthe contra el deductivismo. Mediante la identificación de cinco criterios de corrección, sostuve que el modelo de Juthe no superaba a los modelos deductivistas en lo referente a cuatro de ellos. En replica a mi crítica, Juthe (2019) alegó que mis objeciones no eran pertinentes, que su modelo sí cumplía con tales criterios mientras que los deductivistas no lo hacían, y que ello suponía una fuente de evidencia fuerte, aunque no fuera definitiva, a favor de su planteamiento. En el presente artículo vuelvo a defender mi postura teniendo en cuenta los nuevos argumentos de Juthe.

PALABRAS CLAVE: Argumento por analogía; deductivismo; sui generis; pluralismo.

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1. INTRODUCTION

It is very much the rage within argumentation theory to argue that reasoning R or argument A is a sui generis form of reasoning/argument with its own distinctive set of norms of assessment, i.e, reasoning that is not reducible to deductive or inductive reasoning, and not correctly assessed by their respective norms.

It has always seemed to me that such theorists take the sui generis option with an undignified haste and not for theoretically well-motivated reasons, almost as if it were the more traditional views that have the burden of proof. In contrast, while I do not foreclose on the possibility of forms of reasoning that are not deductive or inductive, I think that the burden of proof is very much on the sui generis side. It is only if the sui generis view can be shown to be demonstrably better than either of these options that we should adopt it, or more weakly, that the deductivist or inductivist should abandon their own view of the matter and replace it with the sui generis account (which, if the competing accounts are tied, they need not).

One form of argument that has recently attracted much debate is argument from analogy. At (2018, p.107) I gave five criteria for judging the relative adequacy of different accounts of analogical argumentation:

(I) Does the argument ineliminably refer to the analogue/source/comparison?

(II) Does the argument seem good even without reference to a universal claim?[1]

(III) Is the inference defeasible?

(IV) Is the inference a priori?

(V) Is the inference one that can vary in strength in the appropriate ways?

If an account answers "Yes" to all these questions then that is at least some (albeit inconclusive) reason to think that it is correct. Given the methodological preferences just given, the question becomes: by which of these criteria, if any, does the sui generis account perform better than the deductive and inductive accounts? Comparing deductive, inductive, and sui generis accounts, I came to the conclusion that all types of account meet criteria (I), (III) and (IV). Deductivism fails to meet (II), but so also does the sui generis account, so the sui generis account is not to be preferred on that account;

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[1] I have changed this from "Does the argument ineliminably refer to a universal claim?" whose desired answer is "No", in order to make the question one for which the desired answer is "Yes".

only my confirmation-theoretic account really meets (II). Deductivism also fails to meet (V), while inductive accounts and sui generis accounts alike do meet (V). Hence, the methodological preference should be for inductivism, specifically the confirmation-theoretic account I set out in (2012), even if we set (II) aside.

In his response to my (2018) paper, Juthe (2019, p.3) endorses the five criteria and argues that his sui generis account does perform better than deductivism by criteria (I-III): his account meets all of these criteria, and deductivist accounts do not meet these criteria at all. He gives his argumentation as Reconstruction B (2019, p.20).[2] With regard to each criterion Juthe gives first a reason why his sui generis account meets the criterion, and second a reason why the deductivist account does not meet the criterion:

(I) Does the argument ineliminably refer to the analogue/source/comparison?

1. Analogy, rather than formal validity, is the inferential principle that plays the crucial inferential role in analogy argumentation.

1.1a Analogy plays the inferential role in the non-deductive formulation of analogy argumentation.

(1.1a′ That analogy plays the inferential role in the non-deductive formulation is a sign that it is the real active inferential principle in the inference of analogy argumentation).

1.1c A deductive reformulation of analogy argumentation must still ineliminably refer to the analogy.

(1.1c′ That deductive reformulation must make ineliminable reference to the element which has the inferential role in the non-deductive formulation is a (further) sign that it is the real operating inferential principle).

(II) Does the argument seem good even without reference to a universal claim?

1.1f Analogy argumentation does not ineliminably use a universal claim as the

linking premise.

(1.1f′ A genuinely deductive argument would ineliminably use a universal claim as the linking premise.

1.1b The universal premise necessary to make an analogy argumentation into a deductive argument cannot be supplied (and if it is supplied it makes the argumentation much worse as an argument and does no justice to the intuitions of the argumentation pre-reconstruction).

(1.1b′ That it is impossible to supply the universal premise necessary to reformulate an analogy argumentation into a formally valid deductive argument is a sign that such a reformulation is false.)

(III) Is the inference defeasible?

1.1d Analogy argumentation is defeasible proper (by contrast to formally valid arguments).

(1.1d′ Being defeasible proper is a sign that the inference does not operate via formal validity).

1.1e The deductive reformulation of analogy argumentation makes it non-defeasible.

(1.1e′ That a reformulation of a defeasible argument scheme makes it non-defeasible is a sign that the reformulation changes something constitutional of the original scheme).

In this paper I will focus on Juthe's claim that deductivism does not meet criteria (I-III), that is to say, mostly on the second argument in each pair.[3]

2. CRITERION (I): DOES THE ARGUMENT INELIMINABLY REFER TO THE ANALOGUE

Everybody, I think, agrees that sometimes the analogue performs the purely heuristic function of bringing to mind a general rule that will subsume both the analogue and the target, from which the target can then be attributed with what Juthe calls the "assigned predicate" by deduction from the rule alone with no further help from the analogue. The analogy is a part of the causal psychological story – it is part of the context of discovery – but is irrelevant to the classification and assessment of the argument, and it makes no real difference to this story if the way the rule is "brought to mind" is by mere

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[3] I have omitted Juthe's final reason 1.1g (that only inference by analogy employs same-level reasoning) because it does not match any of the criteria. Criterion (V), which Juthe and I both identify as a mark against deductivism, is discussed later at Juthe (2019, p.38ff.). I am not going to discuss that here.

psychological association or by something inferential like an inference to the best explanation. I called these deductivist accounts "eliminativist". If this were always the case, there would be no "arguments by analogy" as such, but just deductive arguments by instantiation from the general rule (suggested by the analogy) to the specific instance subsumed under it.

I then claimed that not all deductivist accounts are eliminativist on the grounds that in Waller's scheme, despite its being deductivist, there is still ineliminable mention of the analogue; it cannot be dispensed with as soon as the rule under which it is subsumed becomes apparent to whoever is contemplating the analogy. In Waller's scheme (2001, p.201) "deductive arguments by analogy" have the following form:

W1. We both agree with case *a*.

W2. The most plausible reason for believing *a* is the acceptance of principle *C*.

W3. *C* implies *b* (*b* is a case that fits under principle *C*).

W4. Therefore, consistency requires the acceptance of *b*.

I call this kind of account where there is ineliminable mention of the analogue and where the analogue is not mentioned for purely heuristic purposes "reductionist".

Misunderstanding persists over what this argument is claiming. Juthe (2019, p.19) takes this to be equivalent to:

J1. *a*

J2. *a*→*C* [if you accept a then you should accept that it is *C* that makes *a* credible]

J3. *C*→*b* [If *C* then *b*]

J4. *b*

This is more or less the same as Shecaira's (2013, p.429) reconstruction:[4]

S1. It is true that *a*.

S2. The most plausible (i.e., the best) reason for believing *a* is the principle C.

S3. Therefore, it is true that C.

S4. C implies *b*.

S5. Therefore, it is true that *b*.

All reference to agreement and to what consistency requires in Waller's schema has been shuffled out of the argument as if they made no difference, leaving something in which the analogue *a* seems only to provide a reason for believing C. But this is not

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[4] At (2018, p.113) I parenthetically and off-handedly refer to Shecaira's reconstruction as "mistaken" without going into any details, though I do stress that the conclusion is specifically about what consistency requires and not simply that *b* is true. Juthe appears to have missed this, or else he would not have given J1 to J4 as his reconstruction.

Waller's argument; if it were, it *would* be an eliminativist account, as reference to the analogue *could* be eliminated from these reconstructions. Waller's argument is an *a fortiori* argument that if we agree about *a* then you are inconsistent if you fail to accept *b* when your reasons for accepting *a* (viz. acceptance of C) apply equally to *b*.[5] It is a performative inconsistency, working on the general rule that like cases should be treated alike, at least once we have agreed to treat a certain case in a certain way.[6] Both J1 to J4 and S1 to S5 misrepresent W1 to W4.

Juthe describes the argument J1 to J4 as eliminativist after all:[7] *b* follows from {C, C implies *b*} alone without any help from *a*—*a* is only the psychological prod for the acceptance of C. But note that Juthe does *not* want to say that the reference to *a* is eliminable or that the account is eliminativist in this sense for then he comes perilously close to denying (1.1c) and undercutting his own reasoning in (1.1c′). Recall that these say that deductive reformulation *must* make ineliminable reference to the element which has the inferential role in the non-deductive formulation, and the fact that it must do this can be taken as evidence that the comparison of *a* and *b* is the real operating inferential principle. Now, if *a* really is eliminable then so is J1, and since J2 can simply be changed to say that C (as in S3), then according to (1.1c′) this would *ipso facto* eliminate any sign

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[5] A reviewer asks whether we are justified in treating C as the most plausible explanation. Reading W2 as an inference to the best explanation, they ask whether we should not consider alternative explanations. I think this is because they accept the view that sees Waller's scheme as consisting of two (or even more inferences) which is discussed and debunked in my original paper (2012). There is only one inference. Although W2 might state the *result* of an inference to the best explanation (though not, I think, an inference from W1, which merely states an agreement about *a*), it is not itself an inference, either to the best explanation or of any other kind, but simply a premise claiming that C *is* the most plausible explanation, so if C is not the most plausible explanation, the premise is simply false. In taking it to be true we do not, then, need to consider alternative explanations. W4 is inferred from W1, W2, and W3 together and by a single inference. W4 states a claim about consistency, though, not about whether *b* is true or plausible. It is simply a fact that accepting *a* and not accepting *b* is inconsistent for a person whose reason for accepting *a* applies also to *b* (though we do not need to suppose that the person is culpable for being inconsistent).Note also that C is advanced as the explanation of why *a* should be believed rather than why *a* is true or likely to be true. Suppose that *a* is "God exists" and the most plausible reason for believing that God exists is that one was taught that God exists from a very young age. Suppose that *b* also is something that one was taught from a very young age, let's say "Whites are the superior race". C – "being taught from a very young age" – is as much a reason for believing *b* as it is for *a*, so someone who believed *a* because C would be inconsistent if he did not also believe *b* because C. C is a *ratio cognoscendi* or doxastic reason: it explains why something is believed and not why it is true.

[6] One might wonder how necessary it is that we agree about *a*. Could W1 be dropped? I think that the point would be that without W1 I might cease to accept *a* rather than accept *b*. I would still be consistent in what I accept, but inconsistent with respect to my prior agreement: I have agreed to accept *a* but do not accept *a*.

[7] «Botting's very example of an allegedly 'reductive' reference to analogy in deductive inference is *de facto* an example where analogy *is* eliminated completely» says Juthe (2019, p.18), on the grounds that it depends on C rather than on any comparison between *a* and *b*.

that the analogy is the real operating inferential principle. It seems that Juthe is trying to tread a fine line here: what Juthe is trying to argue is that, because even in deductive reconstruction the analogue *is* still referred to, this is a clue that it is this that is doing the inferential work, and that in reconstructing the argument in this deductivist way, the deductivist is only obscuring and even distorting what is playing this inferential role. If in deductive reconstruction the analogue is *not* still referred to then there is no reason to think that it is doing the inferential work or that what is doing the inferential work is being distorted. So, Juthe does not want to argue that the analogue can be eliminated, or that his own reconstruction of the argument is eliminativist in my sense, as doing so would undermine his own case. Instead, he wants to say that although the analogue is ineliminably *referred to*, it is not *used* in the inference; that is to say, reference to *a* can be eliminated from the inferential principle in Waller's scheme.

Unfortunately, Juthe's reconstruction *does* seem to be eliminativist in my sense, but is a misrepresentation of Waller's schema anyway. But let's even suppose that Waller's schema is eliminativist. The situation then is simply that the *sui generis* theorist has an account where the analogy plays the role of operating inferential principle, while the eliminativist has an account where it does not and in which the analogy has only an heuristic, psychological role. It is question-begging at this point of the debate to say what the operating inferential principle is. In (1.1a′) Juthe seems to take the fact that in his account it is the analogy that plays this role as itself a clue that the *sui generis* account is the correct one. But this is circular, as it is only if the *sui generis* account is correct that we would expect the analogy to play this role. Juthe might justifiably think that I am equally committed to this claim, as at (2018, p.107) I also say that that the analogy plays an inferential role. But I do not mean by this that in reductionist accounts the analogy is the operating inferential principle, but only that the analogy cannot be eliminated from the argument without changing what is actually being inferred.

Summarizing, Juthe criticizes reductionism in general when he complains that although reductionist accounts make ineliminable reference to the analogies, the analogy is not the "operating inferential principle" of the argument, which he takes to be a straightforward contradiction of my claim that in reductionist accounts the analogy plays an "inferential role". But for me it is consistent to play an inferential role in the argument without being its "operating inferential principle", and it begs the question to just state that the analogy ought to be the operating inferential principle, and circular to state that the fact of its being the operating inferential principle in the non-deductive reconstruction is evidence that the non-deductive reconstruction is correct, as he does in (1.1a′).

Juthe then sets himself the task of showing that in Waller's schema the analogousness of *a* and *b* does not play a role in the inference: even though the comparison between *a* and *b* may be implicit in Waller's scheme (as I say), this is so only in the same trivial sense that all deductive arguments will have implications concerning the material aspects of the argument. The argument will have ineliminable reference to these material aspects, but this does not mark out a special class of deductive arguments from analogy. He gives two examples.

The Socrates Example:

1. Socrates and Plato are human
2. All humans are mortal
3. Therefore, Socrates and Plato are both mortal

He comments (2019, p.17-18) that this argument entails that Socrates and Plato are comparable with respect to humanity and mortality, but does that mean that this is an analogical inference? If two cases, *a* and *b*, *can* both be subsumed under a general principle then it follows that they are comparable with respect to this principle. Such a trivial fact does not, however, make the comparison an *operating agent* of the inference; it is not the inferential principle enabling the inference. In Waller's scheme it is the acceptance of the general principle *C* that enables the inference—you only need judging that falls under *C*, and this can be done *without* comparing *a* and *b.*

The Banana Example:

1. This fruit is a banana.
2. If a fruit is a banana then it is healthy.
3. This fruit is healthy.

He comments (2019, p.18): «The argument makes an ineliminable reference to *bananas* – you cannot take away *bananas* and still reach the conclusion – but no one would therefore suggest that it is an "argument by bananas" and assert that it is a special kind of argumentation ..».

These points are valid enough, but to what degree are they applicable to Waller's schema? Juthe thinks that they are applicable because he thinks that the logical form of Waller's schema is given by J1 to J4. In J1 to J4 it is the acceptance of the general principle *C* that enables the inference, but I have already explained how J1 to J4 misinterprets Waller's schema. It is perfectly true nonetheless that in Waller's schema the comparison is implicated and not used as the inferential principle, but this undermines Juthe's reasoning in (1.1c′), since if it follows trivially for many *deductive* arguments that they implicate a comparison then it is as true for these arguments as for

arguments by analogy that the compared terms are ineliminable, yet it would be absurd to suppose that this is evidence that the inferential principle in the *Socrates Example* is non-deductive! Hence, the ineliminability of the compared terms in the deductive argument by analogy can hardly be any kind of clue that the operating inferential principle is non-deductive in arguments by analogy, and the *Socrates Example* proves more than Juthe wants.

More importantly, Juthe begs the question against reductionism. The reductionist will be quite prepared to accept that the analogy is not the "operating inferential principle", but it is question-begging at this point to demand that the analogy be such a principle, as the whole point of deductivism is to provide a formal principle. Reductionism has the aim of putting the analogical argument into a form such that the inference is valid in virtue of that form, and not in virtue of some non-deductive inference. If you demand that the analogy is the "operating inferential principle" you are going to rule out from the start all other accounts than the *sui generis* account.

What marks out deductive arguments by analogy as a class is that they make a claim about consistency, and such a claim rests on the similarity between the two cases. What enables the inference to this conclusion is the rule that like cases should be treated alike, and not the acceptance of the general principle C. Perhaps you may not even know what makes them alike. Waller's schema does not actually require that you do; it only requires that whatever reason you have for accepting *a* would also be equally a reason for accepting *b*. If it is, then the conclusion follows. So, I think that the conclusion does rest ineliminably on the comparison, on the likeness between the two cases, even though the comparison/analogy is not the "operating inferential principle". Is it true to say, as I did, that the role played by the analogue is "inferential" in these circumstances? Perhaps misled by this, Juthe (2019, p.19) says: «Botting […] is supposed to show that analogy is ineliminative as an inferential principle but he shows only that certain material content is ineliminative in a deductive inference regardless of what function that material content may serve in the inference». I deny that I am committed to showing this. Juthe is right that analogy is not shown to be ineliminative as an inferential principle, but this presupposes that the analogy *is* the inferential principle. It is also true that the analogy is just material content, but that does not reduce what I have shown to triviality; the way that the material content appears in the inference, namely as embedded in a claim about consistency, is distinctive, distinctive enough to motivate having a classification of "deductive arguments by analogy" while not having a classification of "deductive arguments by banana". More to the point, this claim about consistency follows *deductively* from W1 to W3.

3. CRITERION (II): DOES THE ARGUMENT SEEM GOOD EVEN WITHOUT REFERENCE TO A UNIVERSAL CLAIM?

On the face of it, Juthe does better with criterion (II). Waller's schema does not meet criterion (II), since although the universal claim C does not appear as a premise, C is explicitly referred to in W2 and W3, while Juthe's *sui generis* schema makes no such explicit reference and seems no weaker for this fact, and so, on the face of it, it does meet criterion (II) while reductionism does not. If so, criterion (II) does give us reason to prefer the *sui generis* account.

My counter-attack is briefly this: although the *sui generis* account does not explicitly refer to a universal claim, it does appeal to relevant similarity, and hence presupposes that whoever is performing the analogical inference distinguishes those similarities that are relevant from those that are not, and such a distinction cannot be made without relying implicitly on a universal claim. Thus, the *sui generis* view does not meet criterion (II) either. Criterion (II) will not settle the matter between deductivist and *sui generis* views or give us reason to prefer the *sui generis* account: both will answer "No" to the question "Does the argument seem good even without reference to a universal claim?".

Juthe responds by once more appealing to the fact (in 1.1f′) that in a deductivist reconstruction it is the universal claim that is being *used* as the operating inferential principle/linking premise while in the *sui generis* reconstruction it is the comparison claim that is being used, and this creates problems for the reductionist that Juthe does not face. Both of us agree that there can be uncertainty over the correct universal claim, and for Juthe this favours the *sui generis* approach because it is one thing to say that an inference can be justified while being uncertain of a universal claim that is being *used* and taken *as a linking premise* (as I say), from saying that it can be justified without knowing a universal claim that is *not* being used, even if that universal claim must be true (which Juthe denies anyway—I will come back to this). The inability to provide a universal claim, plus the fact that providing a universal claim appears to the arguer to make their argument less good (as claimed in 1.1b), provides a problem when that universal claim is the linking premise, which is to say, a problem for the reductionist, that Juthe, since he does not take it as the linking premise (as claimed in 1.1f), does not have.

To this end Juthe (2019, p.28) gives the following dialogue:

A: Socrates is mortal.

B: I doubt that.

A: Yes he is, he is a human.

B: So all humans are mortal?

A: I didn't say that, I have no clue why the fact that Socrates is human is a reason for believing that he is mortal […] but I am positive that there exists a universal claim that in conjunction with this fact will comprise a formally valid reason for believing that he is mortal.

Juthe's verdict is that "No reasonable agent would accept A's final response as satisfactory". Indeed, no reasonable agent would. A's inability to provide the universal claim makes his argument weaker than it would be if A did provide the universal claim.

But consider this dialogue:

A: Socrates is strolling.

B: I doubt that.

A: Yes he is, he is strolling briskly.

B: So all who stroll briskly are strolling?

A: I didn't say that, I have no clue why the fact that Socrates is strolling briskly is a reason for believing that he is strolling […] but I am positive that there exists a universal claim that in conjunction with this fact will comprise a formally valid reason for believing that he is strolling.

I don't think this is unreasonable, or that the inference is stronger when we provide the universal claim; we thought the inference was strong, and deductively valid, all along, and the universal claim helps us to understand why it is strong. We thought the inference from Socrates' strolling briskly to Socrates' strolling was a deductively valid inference long before we could explain why this instantiated a form that made the inference a deductive entailment, or could formulate the universal claim that for all sentences with this logical form this inference would be a deductively valid one.[8] We can grasp in concrete cases deductive inferences whose validity we would struggle to justify in the abstract, just as Juthe (2019, p.27) says that we can grasp similarities in concrete cases that we would struggle to justify in the abstract, and we can be more certain of the deductive validity of these inferences than we are certain of the universal claim by which we propose to establish their validity.

The point is not limited to cases where the universal claim is a logical truth but also explains why, when we encounter inferences that a deductivist would reconstruct

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[8] Note that I am not here denying that A could formulate the universal claim "All those who stroll briskly are strolling", nor that A thinks (rightly) that this is a logical truth. What I deny is that A can say *why* it is a logical truth – *why* strolling is deductively entailed (as it is) from strolling briskly – and that A's argument is any weaker because of this.

as an enthymeme, we often do not find ourselves entertaining a universal claim; this psychological fact does not imply that there is no such claim, or that the argument is not really an enthymematic deductive argument, or that the inference is not really a deductive one, since this psychological fact is precisely what we should expect even in the case of many ordinary deductive inferences. So, the fact that we do not find ourselves consciously entertaining a universal claim in arguments by analogy is, just as it was with enthymemes, weak evidence at best that the inference is not deductive, and the inability to provide a universal claim that is a linking premise is in some cases as true of enthymematic deductive arguments as Juthe is saying it is for analogical arguments. Moreover, we may be mistaken over the universal claim and, knowing that we may be mistaken, we may find the argument with the universal claim added to be less good than an argument without it. There is nothing mysterious in this, and it certainly does not provide any kind of evidence that the inference is really non-deductive, or that there is no universal claim that acts as the linking premise, or that by treating the inference's validity as deductive validity we have distorted the original reasoning and should instead attribute a different kind of validity. We thought all along that the inference was deductively valid, and eventually discovered why we were justified in thinking this. This is the point of my (2018, p.125-27) particularist meta-epistemology of logic.[9]

Juthe (2019, p.25-26) then claims that the universal claim that I attribute to the arguer is one that the arguer need not think is universally or even generally true; at best, it offers a *pro tanto* reason, and such reasons may be defeated, and would even always be defeated more often than not if the circumstances for its defeat generally hold.

This is an interesting point, but I don't think that it really affects the matter. The fact is that a universal claim *could* be generally false and yet an arguer would still be generally justified in drawing the inference. If an arguer thinks that the *sui generis* inference in the particular, concrete case is a good one, and that he is justified in drawing it, then I don't see how he can avoid thinking that in all cases in which the relevant similarities of this case are present, and relevant dissimilarities are absent, the deductive inference would be an equally justified inference to draw, even if he knows that in some cases something false will have been inferred. If the arguer does not think this – if he thinks that the universal claim justifies drawing the inference for too few instances to make drawing the inference justified in general – then I fail to see how he can reasonably take drawing the *sui generis* inference to be justified in the particular case either. This interesting point about the truth of universal claims affects both deductive and analogical

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[9] These meta-epistemological claims are strangely overlooked in Juthe's response.

accounts equally; were this universal claim to fail to justify my deductive inference, my *sui generis* inferences would be weakened just as much as my deductive inferences would be.[10]

Does it really matter that for the defender of the *sui generis* view the universal claim is not a linking premise, whereas it is for the deductivist? I don't see how. And we cannot, without begging the question, adjudicate on whether the universal claim ought to be the linking premise or not. Anyway, going back to Waller's schema, the universal claim C is *not* the linking premise: the (implicit) linking premise is the universal claim that consistency requires like cases to be treated alike, and this is something that the reductionist *can* supply. As a result, I don't think that the way the universal claim in question figures in the reductionist schema is all that different from the way it figures in the *sui generis* schema, even if the latter does not refer to it explicitly: both figure as supporting the judgment that the cases are alike.

As a result, I think that the reductionist account and the *sui generis* account equally fail to meet criterion (II). Thus, criterion (II) fails to motivate a preference for the *sui generis* account.

4. CRITERION (III): IS THE INFERENCE DEFEASIBLE?

I now want to look at criterion (III). It is worth observing that whereas criteria (I) and (II) are criteria for analogical arguments generally, (III) and (IV) are criteria specifically for *a priori* analogies. Also, I do not endorse them without reservation but advance them because they are raised by Freeman as objections to deductivist accounts. According to Freeman (2013), criteria (III) and (IV) rule out deductivist reconstruction of *a priori* analogical inferences. I objected that it is not the analogical inference which is defeasible and *a priori* but a different inference, and so Freeman's objection is not a valid objection to deductivism.

In Juthe's schema the inference is in the first place from the determining relation between element *e* and the assigned predicate *AP* in the source, plus the one-to-one correspondence between element *e* in the source and element *e** in the target, to the same determining relation as obtains between *e* and *AP* in the source to obtain also between *e** and *AP** in the target. Juthe calls this the "horizontal" inference. Once that determining relation is held to obtain, it is trivially justified to infer that the target has the

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[10] Recall again that a universal claim's being strictly false does not rule out its justifying an inference, or playing the role of the linking premise, for in a deductive argument the conclusion will always be as plausible as the premises. (This will become clearer in the next section).

attribute *AP**. This second, "vertical" inference may be defeasible, because the determining relation may be defeasible—it may not be that in all cases where *e* is present *AP* is likewise present, and likewise for *e** and *AP**, but the inference is justified nonetheless.[11] But this is not a problem for the deductivist, and I claimed that in any case this determining relation can be represented as a material conditional.

I argued that if Juthe thinks that his schema is defeasible only because he thinks that this vertical inference is defeasible, then the deductivist has nothing to worry about. And I claim (2018, p.118) that Juthe does think this, taking Juthe's statement at (2005, p.10) that "[t]here is no uncertainty due to degree in strength of the analogical relation"[12] to be saying that although there is uncertainty in the vertical inference, there is no uncertainty in the horizontal inference. But Juthe (2019, p.30 n.37) seems to suggest that the horizontal inference is defeasible both when the vertical inference is conclusive and when it is not. Juthe's statement must then be understood as something like "The analogical relation is defeasible, but this defeasibility does not affect the degree to which *AP** should be held to obtain in the target, *if* it is held to obtain. This depends only on the determining relation itself, which may establish either conclusively or non-conclusively that *AP** obtains in the target".

What does seem to be clear beyond doubt is that Juthe does take the horizontal inference to be defeasible. So, my first argument fails, although it does succeed at narrowing the issue down to the defeasibility of the horizontal inference.

I gave a second argument, though, and that is that deductive inferences are in any case defeasible in the same sense as Juthe's horizontal inference. It is on this that Juthe's response focusses. He puts the difference between defeasible and non-defeasible arguments this way (Juthe 2019, p.31-2):

> A defeasible argumentation is an argumentation whose argument scheme *allows* it to be defeated by an undermining defeater. That is, a defeasible inference is an inference that leaves room for any additional premises to change the support for the conclusion *without* attacking the original premises. For instance, consider a single argumentation that employs the symptomatic argument scheme (which is a defeasible scheme):
>
> 1. The truck is red
>
> 1.1 The truck looks red
>
> 1.1´ Objects that look red typically are red [symptomatic scheme]
>
> This provides a *prima facie* reason for believing that the truck in question is red. However, let's say we receive information that another truck is shining its red lights

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[11] The fact that it is only in tandem that the horizontal and vertical relations constitute the relation of relevant similarity (Juthe 2019, p.24) does not alter the fact that there are two inferences.

[12] I had two other textual reasons which we must omit here.

on the truck in question, and we know that red light can make objects look red when they are not. This additional information *defeats* the *prima facie* reason, but it does not *override* it by directly attacking the standpoint; it is not a reason for thinking that the truck is *not* red, since red objects look red in red light too. […] Such information would provide a counterargument that *defeats* the argumentation by *undermining its inference*, by *neither* challenging its premises *nor* its conclusion, *nor yet* its scheme. […] Only argument schemes that *permit* additional information can be defeated by an *undermining* defeater, which makes it a defeasible scheme proper. Deductive arguments […] leave no room for additional premises to change the justification for the conclusion without attacking a premise.

My view, in contrast, is that any defeasible scheme can be put into a deductive form, and that doing so will not make the defeasibility disappear; whatever the defeasibility was, it will still be there. Hence (Botting 2018, p.128):

> The apparent difference is due to the fact that the logical minimum is part of the argument and thus one of the things that you must have reasons for and that confer reason to the standpoint. If you believe the premises are true but find that they confer on the standpoint less reason than there is for those premises, this is because there is less reason for this conditional and this conditional is among the premises which together confer reason for the standpoint; if the conditional is only true 9 times out of 10, then when the other premises are certain the premises together make it probable 9 times out of 10 that the conclusion will also be true, thereby conferring all their combined reason to the standpoint.

What does this mean? How should I treat Juthe's example? I would reconstruct the example deductively as:

> The truck looks red
>
> If the truck looks red, then it is red
>
> The truck is red

Juthe's defeasible generalisation has been replaced by a material conditional regarding this particular truck. This is the "logical minimum" referred to. Now, you are not certain that this conditional is true; after all, it is the representation of a defeasible generalization. It will be plausible to some extent, and if we are certain that the truck looks red, then the conclusion will be plausible to the same extent. As Juthe himself notes (2019, p.31 n.38): "The plausibility of the conclusion of a formally valid argument will be of the exact same degree as the plausibility of the premises since the conclusion follows by necessity if the premises are true". More to the point, this is the exact same degree of plausibility as is conferred on "This truck is red" by Juthe's own premises "The truck looks red and objects that look red typically are red". Of course, if we learn that the truck is not red then the material conditional is false in this case and we should reject it, whereas the defeasible generalisation is not false and we do not have to reject it; that there is this distinction between defeasible and non-defeasible argumentation schemes cannot be denied, but it is a distinction without a difference—what we have is just two alternative, equally adequate ways of dealing with defeat, and which kind of argumentation scheme we

choose is just a matter of personal preference and does not mark some kind of fundamental difference in kind between argumentation schemes.

Is a difference to be found between them with regards to how each would respond to the new premise "The truck is illuminated by a red light"? Just as learning that the truck is not red gave us reason to reject the material conditional, so also will learning that the truck is illuminated in red light. We have no reason to think that this conditional is true (remember that the conditional regards specifically the truck in question, and not trucks generally). Since the argument is deductive, it follows that this gives us reason also to reject the conclusion. But perhaps Juthe will argue that doing so is wrong, on the grounds that we have not been given reason to think that the conclusion is false. But rejecting a conclusion need not imply that the conclusion is false, and Juthe errs in taking only "a reason for thinking that the truck is *not* red" to be "attacking the standpoint"; a reason for not thinking that the truck is red (that is to say, for suspending belief that the truck is red) also attacks the standpoint that the truck is red. Even in this case, the conclusion is as plausible as the premises.

It seems as if Juthe's defeasible inference can be put into a deductive form that preserves the inference's defeasibility, just as any defeasible inference can. But it might be argued that I have actually wandered off-topic. We were comparing Juthe's schema with Waller's schema, rather than with a deductive reconstruction of Juthe's horizontal inference. So we should really be asking whether and how Waller's schema is defeasible. Without adding any logical minimum, is there any new information that would undercut the inference from {W1, W2, W3} to W4?

You might, of course, have independent reasons against accepting *b*, but that does not alter the fact that treating *a* and *b* differently is inconsistent, but just provides you with a reason to *be* inconsistent (remember that this is a *performative* inconsistency and not a logical inconsistency—we are not being given a reason to have contradictory beliefs). The conclusion does not actually require *b* or *a* to be true, nor does the argument require this, since neither occur as premises.

Nor, I think, does it require the reasoner to be aware that C is his most plausible reason for accepting *a* or that it implies *b*. One wonders whether this is an omission, whether W3 should be "You believe that C implies *b*". But this changes the argument substantively; it is not to be presupposed that you have even considered whether *b*, let alone whether it is implied by C. Waller's schema is meant to be a kind of *a fortiori* reasoning: if your reasons for accepting *a as a matter of fact* (and whether you know this or not) apply equally to *b*, then you have reason for accepting *b*, and it would be

inconsistent to accept *a* and not to accept *b* (although, again, one may not know that one is being inconsistent).

Much seems to depend here on what is meant by "C implies *b*". If it is something deductive like subsumption then it is difficult to see what new information could make this false. As I said, you could gain information that *b* is false, and this in turn would be reason to think that C is false and hence that you were wrong to accept *a* in the first place, but this doesn't alter the fact that, having agreed on *a*, I cannot treat *a* and *b* differently without being either inconsistent or going back on my agreement (which I am assuming is ruled out). I do not see how the inference can be undercut, or how the conditional can be false (since it amounts to the *true* conditional "false implies false") if "implies" means this. I think that Waller does take "implies" to mean this.

But let's suppose that we do not follow him and take "implies" as some kind of defeasible relation, i.e., the implication may be valid (which is to say that the conditional may be true) even if C is true and *b* is false. Suppose next that I have independent reason to believe that *b* is false. Here I think that the inference *is* undercut: my accepting *a* because C does not give me a reason to accept *b* on the basis of the reason that C defeasibly implies *b*, even though *ex hypothesi* it is true that C and that it implies *b*.[13] Consistency does *not* require that I accept *b* in these circumstances. Yet, as it stands there does not seem to be a premise whose plausibility can be reduced, as the defeasible conditionals are true. The solution, as usual, is to treat the defeasible conditional as a material conditional (if C then *b*) with a plausibility of less than 1.0.

Evidence that *b* is false is then evidence that (if C then *b*) is false, and reduces its plausibility.[14]

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[13] I think that Juthe takes "implies" as something like this when, applying Waller's schema to an example at (2019, p.34) he says that C provides a *pro tanto* reason for accepting *a*. He argues then that because it is only *pro tanto*, the additional premise that this reason is not overridden must be added as a premise; without it, the argument is not deductive. But this is a mistake, and by adding this premise Juthe destroys the defeasibility that I have just argued Waller's schema has, just as, as Juthe astutely points out at (2019, p.39 n.47), adding premises to the effect that there are no disanalogies between the source and target into Juthe's own schema would destroy that schema's defeasibility.

[14] Once this is done, I think that a perfectly adequate reconstruction of Juthe's example at (2019, p.34) using Waller's schema can be given. Juthe (2019, p.35) rejects the reconstruction on the grounds that: i) it requires an additional premise (that the *pro tanto* reason not be overridden) to make it deductive; ii) it reconstructs the inference as an inference from the *pro tanto* qualification, which distorts the original argument, in which the inference was to the *pro tanto* qualification, and; iii) it does not use the comparison in drawing the inference. As for (i), I have argued that this is because Juthe allows "C implies *b*" to be defeasible, whereas I doubt that this ever occurs to Waller; however, this can be dealt with deductively by representing "C implies *b*" as "if C then *b*" and this, in combination with the other premises, is a deductively valid argument, even without an additional premise saying that "C implies *b*" is not overridden. As for (ii), I am not at all sure that I

Waller's schema of W1 to W4 is defeasible, then, and for comparable reasons as in Juthe's schema, namely that the reason provided for accepting a particular case is defeasible and may be defeated when transferred to the analogous case, and one would not be justified in drawing this inference when one has evidence that it would be defeated. I was wrong when at (2019, p.113) I claimed that Waller's schema is not defeasible, but right insofar as the falsity of *b* (or of *a*) is not a rebutting defeater of the conclusion—if Juthe thinks otherwise it is because of misinterpreting Waller's schema as J1 to J4. The falsity (or possible falsity, e.g., the red truck illuminated by red light) of *b* would be an undercutting defeater if the "implies" of W3 is a defeasible relation, which I have assumed it might be.

In result, I think that both Waller's reductionist account and Juthe's *sui generis* account meet criterion (III), and meet it in the same way. But I deny in any case that defeasibility can *ever* be an adequate criterion for distinguishing between deductive arguments and those of other kinds, because defeasible arguments are not a normatively distinct kind of argument in the first place, but just a different way of dealing with defeat. By adding the logical minimum we can turn a defeasible argument into a deductive argument without making its defeasibility magically disappear. We simply have to make different adjustments to the premises when we actually encounter defeat; whether this defeat is of the rebutting or undercutting kind, we must always adjust the premises so that the conclusion is as plausible as the premises. If we think that the conclusion has a certain plausibility, whether this is because we think that it is false or just because we are suspending belief, we have to adjust the plausibility of the premises to accommodate.

5. CONCLUSION

In summary, Juthe claims in Reconstruction B that the *sui generis* account meets criteria (I), (II) and (III) and that reductionist accounts do not, and that this motivates adopting his own *sui generis* account. I have counter-argued that *sui generis* and reductionist accounts alike meet criteria (I) and (III) and that neither meets criterion (II). Hence, the methodological preference, relative to these criteria, is for deductivism. My final verdict

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understand Juthe's point. My best guess is that Juthe is saying that the reasoner comes up with C from contemplating the similarity between *a* and *b*, whereas in Waller's schema the similarity of *b* to *a* is the *result* of C's being the reason for accepting *a*. But in fact, as I have argued, Waller's schema does not require the reasoner to contemplate *b* at all! The premises of Waller's schema are not be construed as the thoughts going around in the head of whoever agrees to a in W1: they are the conditions that must be true for the inference to be good. Of course, it may well be part of the psychological story that someone does strike upon C as the result of noting similarities between *a* and *b*, but that is beside the point. I sense that (iii) is motivated by much the same idea.

on deductivism that "[t]he problem with the deductivist approach would then be not so much that it is wrong but that it does not tell you what you actually wanted to know, which is whether two cases that are similar in some ways are likely also to be similar in others" (Botting 2019, p.138-39) seems appropriate. Similarly, as I said there, Waller's schema is not wrong, but it does not reconstruct the more interesting cases of analogical argumentation, cases that would vary in degrees of strength, as meeting criterion (V) would require. These cases can only be dealt with inductively.

As a parting shot, I should say that I find it rather mysterious what actually licenses the analogical inference in several of Juthe's examples. Consider this (Juthe 2019, p.11):

> For instance, a Porsche and a Chevrolet can be similar with respect to speed, even though what makes the Porsche fast is its aerodynamic shape, while the high speed of the Chevrolet is primarily due to a strong engine. In this case, then, the element "strong engine" would correspond one-to-one with the element "aerodynamic shape". The elements are different, yet because they still map onto each other in a one-to-one correspondence, the assigned-predicate "reach high speed" can still be transferred from the Chevrolet and assigned to the Porsche.

Consider my gob smacked. I completely fail to see from what group of premises extractable from this it is that one is supposed to infer that the Porsche can reach high speed. I am told of the determining relation in the source: the Chevrolet's strong engine determines that it has the predicate "reaches high speed". But why should I infer from this that the Porsche's aerodynamic shape determines that *it* has the predicate "reaches high speed"? If I didn't already know this about aerodynamic shape generally (the very kind of universal claim that Juthe wants to avoid), I do not see any way in which I might come to this conclusion on the basis of the offered analogy. Juthe is relying on the fact that aerodynamic shape and a strong engine are in a one-to-one correspondence. But what makes this a one-to-one correspondence? Apparently only the fact that each determines the same assigned predicate in their respective cases. But this is precisely what we wanted to know! Note the direction of the inference: one infers the fact that there is a one-to-one correspondence between the Porsche's aerodynamic shape and the Chevrolet's strong engine from the fact that the Porsche's aerodynamic shape makes the Porsche fast (and analogously for the Chevrolet's strong engine), and not that the Porsche's aerodynamic shape makes the Porsche fast from the fact that there is a one-to-one correspondence between the Porsche's aerodynamic shape and the Chevrolet's strong engine. I fail to see how we would identify any such correspondence if we did not know already what the analogical inference was supposed to help us infer, namely the determining relation in the target. If this is an inference, it seems to me to be a bad one.

The one-to-one correspondence appears as a *virtus dormitiva* of what it means for two elements to be relevantly similar. What makes two elements relevantly similar? The fact that the elements of the two cases correspond to each other in such a way that a predicate can be transferred from one case to the other on the basis of the elements' similarity to each other, that is to say, by a good analogical inference. What makes the analogical inference good? The fact that there is a one-to-one correspondence between the elements that makes it good. As a conceptual analysis of relevant similarity, perhaps this is okay, but as an account of analogical inference it is hopeless. We are supposed to be in a position where we do not know whether the analogical inference is a good one and are looking for a license to draw it: if the only reason we have to think that there is a one-to-one correspondence is if we have reason to think that the analogical inference is a good one, then the one-to-one correspondence is no help at all in licensing us to draw the inference. And if we take the analogical inference to be good because the similarities in question are relevant, it does us no good at all to be told that the relevant similarities are those which license good analogical inferences. No doubt all these things are true, but as an account of inference it gets everything backwards.

As far as I can tell, Juthe (2019, Section 3.2.2) marks the debut of Juthe's claim that what he is offering is an analysis of the concept of relevant similarity, and I wonder how much he has really thought this through.[15] "The relation of one-to-one correspondence and the determining relation is *ex hypothesi* an *analysis of* relevant similarity," he says. As far as it goes, this is fine. But an inference is not just a relation, and a conceptual analysis of a relation is not an account of inference.

As an inference, I think that Juthe would say something like this: from the one-to-one correspondence between e and e^*, we infer that there is a determining relation between e^* and AP^* like that between e and AP. It is precisely the fact that this is a good inference – that the determining relation between e^* and AP^* obtains – that makes e and e^* correspond one-to-one. Then we can infer that the source and target are relevantly similar with regard to AP, because the relation of relevant similarity is constituted by the one-to-one correspondence and the determining relation. The problem, from the inferential point of view, is in knowing that there is a one-to-one correspondence in the first place. To say that the correspondence is one-to-one when the determining relation can actually be transferred, or when the source and target actually are relevantly similar,

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[15] Juthe's reason for introducing it here seems to be largely in order to rebut my separation of the analogical inference into a horizontal inference followed by a vertical inference for the purposes of arguing that it is only the vertical and not the horizontal inference that is defeasible (and *a priori*). This point is no longer important since it has been conceded that Juthe takes the horizontal inference to be defeasible.

states conceptual truths but inferential solecisms. And how are we to assess whether the analogical inference is good? Only from the fact that the correspondence is one-to-one, in which case it is good by definition, in which case saying that the analogical inference is good is just another way of saying that the correspondence is one-to-one. The one-to-one correspondence is not a license to draw the inference, or an explanation of why the inference is good, but just a disguised statement of the merely imputed fact that the inference *is* good. But surely we cannot just presuppose that the analogical inference we draw will be a good one.

The general problem here is that Juthe has built so much into his concept of one-to-one correspondence that it functions as a *virtus dormitiva*, as *that correspondence that makes the analogical inference good and the assigned predicate belong to the target*. What we lack is an independent test of two things being in a one-to-one correspondence. Not all of Juthe's examples are as counter-intuitive as the Porsche example, and this disguises the problem; we do not feel the lack of an independent test because we intuitively see there to be a similarity, and gloss over "one-to-one correspondence" as a term of art. But not all similarities are relevant. Juthe wants to provide an answer to what makes a similarity relevant without appealing to a universal claim, but all he ends up saying is that the relevant similarities are the ones for which the assigned predicate and determining relation do actually obtain in the target, that is to say, the ones for which the corresponding analogical inferences are good. And this is hopeless.

REFERENCIAS

Botting, D., 2018, "The cumulative force of analogies", *Logic and Logical Philosophy* 17, 3: 105–141. DOI: 10.12775/LLP.2017.011

Botting, D., 2012, "The paradox of analogy", *Informal Logic* 32, 1: 98–115. DOI: 10.22329/il.v32i1.3143

Freeman, J., 2013, "Govier's distinguishing *a priori* from inductive arguments by analogy: implications for a general theory of ground adequacy", *Informal Logic 33*, 2: 175-194

Juthe, A., 2019, "A defense of analogy inference as *sui generis*", *Logic and Logical Philosophy* [Online]. DOI: 10.12775/LLP.2019.025

Juthe, A., 2015, "Analogical argument schemes and complex argumentation", *Informal Logic* 35, 3: 378–445. DOI: 10.22329/il.v35i3.4211

Shecaira, F.P., 2013, "Analogical arguments in ethics and law: A defence of deductivism analysis", *Informal Logic* 33, 3: 406–437. DOI: 10.22329/il.v33i3.3778

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