## 'Ross Contra Dillard' by Matthew Su

Introduction

James Ross's argument from determinacy to the immateriality of some aspects of thought, is an oft-neglected member of the family of arguments which draw immaterialist conclusions about the nature of the mind. Rather than seeking an immaterialist account of 'qualia' (i.e., the non-quantitative aspects of the world), or of intentionality (the capacity of thought to be "about" something else), Ross's argument focuses on the 'determinacy' of thought- its capacity to think about and carry out particular formal functions. His argument that thought is determinate where no physical system can be has roots in classical Platonist and Aristotelian accounts of the intellect, but Ross motivates his argument by reference to modern sceptical puzzles.[1] This paper will set out the argument and affirm Ross's conclusion. Two main objections by Peter Dillard to Ross's argument will be considered: first, that Ross does not show formal thinking to be necessarily determinate, because alternatives are possible; second, that Ross has not shown thought, even if it is 'indeterminate,' to be genuinely sui generis and thus Ross does not demonstrate that thought is immaterial. I argue that each of these arguments fails.

Ross's argument on the immaterial aspects of thought.

Ross's argument aspects follows the following general structure:

1) Some thought is determinate
2) Nothing which is wholly material can be determinate
c) Therefore, some thought is not wholly material (i.e., is immaterial).

Each premise bears examination.

 The First Premise: Some thought is determinate

Ross claims that some thought is "determinate." By "determinate," Ross means to say that some thought-functions are performed in a manner that is *unambiguous* between incompossible functions.[2] "Determinateness" is especially obvious when we consider 'formal' functions like logical and mathematical operations, which allow us to infer conclusions non-fortuitously from any given set of premises.

Consider the following argument-form:

1) If A, then B
2) A
c) Therefore B.

This argument-form is valid, as long as we perform the logical operation that the ordinary use of the letters and numbers in English indicate. Letters and numbers, of course, are what Ross would call *indeterminate* with respect to the operations they purport to describe: there is nothing about the sequence of letters and words themselves which specifically denotes the valid function *modus ponens,* as distinguished from all other possible functions (e.g., from some program designed to *simulate* the outputs of modus ponens for a limited set of inputs).

This may not at first seem a novel concern. Words are not intrinsically meaningful, and might therefore be thought by their very nature to be indeterminate in the functions they indicate. Unlike

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[1] Edward Feser, 'Kripke, Ross and the Immaterial Aspects of Thought' in *Neo-Scholastic Essays* (St Augustine's Press 2015) 218.
[2] James Ross, 'Immaterial Aspects of Thought,' (1992) 89(3) *The Journal of Philosophy* 136, 137.

letters and numbers on a page, however, it seems that at least our thought is determinate in its function when we carry out logical operations. When we carry out modus ponens, for example, it appears that we are not merely generating our conclusion mechanically, nor performing some near-enough function, but executing a logical function which in every instance is truth-preserving for all possible premises. In the very act of understanding the difference between addition and the infinite forms of quaddition, our thought seems to have an intrinsic determinacy which mere words do not have.

Indeed, not only is determinacy introspectively obvious, it is also indispensable to logical inference, since being truth-preserving for all possible premises is constitutive of logical validity. Because such scope is the very means by which the modus ponens function entails its conclusion, if ever we reason validly using modus ponens (and the same goes for other valid modes of inference), we *must* be reasoning determinately. If we were using some other function for which the conclusion did not necessarily follow from the premises, then even if we happen to be correct on the case, it would not be in virtue of the function that the conclusion could be logically inferred. Logical inference, then, depends upon the determinacy of our logical processes. Even to deny that thought is determinate, we would have to presume the determinacy of thought to justify the denial. We therefore have very strong reasons for believing that our thought is determinate.

The Second Premise: nothing material can be determinate

Determinacy, however, is a very strange feature of thought, when we consider it in light of certain sceptical puzzles raised in modern analytic philosophy.

Consider, for instance, the function 'quus,'[3] which given inputs below an arbitrarily high value, acts like addition: X quus Y yields the sum of X and Y, for instance, just as X plus Y yields the sum of X and Y, with the difference that "quus" yields 1 for X or Y values above 50.

If one had never calculated sums for quantities greater than 50, one might reasonably wonder (even if this would be psychologically bizarre) whether there is any fact of the matter as to whether one has hitherto been performing "plus" functions, or mere "quus" functions. This ambiguity is more than just epistemic: if human beings had never calculated sums involving values greater than 50, it might seem that there is nothing in the actual operations one has performed which can distinguish between addition, involving the 'plus' operation, and 'quaddition,' involving the 'quus,' operation.

One might set the relevant value at an arbitrarily high value, such that all human addition hitherto is ambiguous between 'plus' and 'quus,' (or some other 'quus-like' function). If it is ambiguous, then there would be no fact about us which distinguishes the function we perform as addition, as opposed to 'quaddition.'

Now clearly it is extremely implausible for reasons discussed above that the function which we carry out when we add *actually is* indeterminate. On reflection, however, that in virtue of which the functions are determinate *cannot be physical*, as the following makes clear.

That which makes a function determinate cannot simply be a given output-history, since there are always further incompossible functions with respect to which that output-history is ambiguous. Indeed, even a physical process with an output history extending infinitely into the past and future could not successfully distinguish between addition and some quaddition-like function, for quaddition-like functions which involve counterfactual considerations (e.g., a function which acts like addition unless Abraham Lincoln was *not* assassinated) can always be raised as alternatives with

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[3] Saul Kripke, *Wittgenstein on Rules and Private Language* (1998) 7-9*.*

respect to which a given function cannot be physically distinguished. The capacity for determinate, formal thought is, at least in the case of logical and mathematical operations, an *infinitely selective* one. In order for the operations of a physical mechanism to be fully determinate (and thus capable of constituting our formal thought-operations), Ross argues that it would have to be able not only to perform every action it ever will, but also perform every action it *might have* performed, under every condition which might have eventuated, even incompossible ones. Clearly, such a task is physically impossible.

The reason for this impossibility is best stated as follows: whatever else they are, physical objects, however far extended in time and space, are concrete particulars, situated in a particular time and place. This very particularity and concreteness, by contrast to the abstract mode in which formal functions are carried out, limits the physical structure's ability to determinately perform formal functions. This concrete particularity is the mark of the physical, since it is what distinguishes actual instantiations of the patterns we conceive from the conceptions themselves. Whatever is to some degree free of this particularity, then, as whatever it is that carries out determinate functions would have to be, is to that degree not material.

The conclusion: Some thought is, in some respects, immaterial

With his two premises established, Ross can derive his conclusion: that formal thought is not material. It is important here to note that the mode of immateriality here need not be a kind of sui generis fundamental phenomenon like Cartesian 'mind.' For Ross, the immaterial component of thought just is the 'idealised,' purely formal aspect of thought, [4] something which is realised to *some* degree (though not perfectly) even within the indeterminate phenomena which we grasp through formal processes. Formality (and thus, the non-physical component of things) is thus not without precedent in nature, though it is 'purified' in the human intellect to an unprecedented degree. Conversely, determinate thought being something incompatible with the particularity of concrete physical things prevents purely formal thinking from being successfully reduced to the physical.

The problem of determinacy generalised

The problem that Ross raises could be generalised to any grasp we have of formal concepts- that is, to any universal ideas applicable to diverse particulars, which pick out one kind among the infinite others there may be. Take the example of Goodman's 'grueness'- a thing is 'grue' if it is green before 2017, and blue thereafter.[5] The conditions, as with quaddition earlier, under which a 'grue' thing differs from green, can be set with the same arbitrary counterfactual conditions which render it impossible to physically ground the distinction between the thought of greenness and that of 'grueness.' Distinguishing between greenness and 'grueness,' after all, is to pick out a property that applies universally to a potentially infinite number of never-realised cases under an infinite number of incompossible counterfactual conditions, which is an impossible feat to physically perform. If our conceptual apparatus is physical, it would be impossible to define greenness with the determinateness necessary to understand the difference between greenness and the diverse

'gruenesses'; the conceptual content of "green" would be indeterminate in itself, mutatis mutandis for all conceptual content whatever, to the detriment of formal inferences from such content. If there is no determinate fact of the matter as to what we assert, hope for, or inquire about, then thought itself seems to become impossible.

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[4] Ross, above n 2, 144.
[5] Nelson Goodman, '*Fact, Fiction and Forecast*' (Harvard University Press 1983) 73.

For Ross, then, the price of denying the immateriality of the intellect includes not only logical validity in individual acts of reason, but any abstract thought. This would serve to make any materialist account of such features of thought self-refuting, unless they can meet the challenge of articulating logical validity and conceptual content in ways that do not presuppose determinacy.

<u>Objection: There are reasonable alternative accounts of meaning and rational thinking which do not require determinacy.</u>

Dillard's response to Ross attempts to meet Ross's challenge head on in two ways:

In the first place, Dillard objects that there is no incoherence in motivating deflationary views of content, which are sceptical of the existence of any such thing as a determinate content that can be attached to thought. Dillard thus objects that Ross makes out his first premise: that formal thinking is determinate, on the basis of the incoherence of the alternative. The argument he is trying to undermine runs as follows:

Even in order to propose sceptical puzzles of the 'plus-quus' sort, we require that we truly understand the difference between the genuine article (addition) and the counterfeit (mere

'quaddition'). Thus, any argument for the sceptical conclusion, or even the raising of the question, must presuppose the falsehood of the sceptical conclusion, and arguments for the sceptical conclusion are therefore self-undermining. The argument is meant as a sort of 'tie-breaker' between the response which affirms determinate thinking, and the sceptical response to the Kripkean sceptical puzzle; even if the two are equally well-motivated, one view inconsistent with the puzzle motivating it, and so is self-undermining.

Dillard says that the notion of 'understanding' in such an argument is not necessarily of a determinate sort: An account of 'understanding' which appeals to 'not giving bizarreness reactions,' for instance, suffices to float the sceptical puzzle without incoherence: there need be no determinate fact as to 'that-to-which-one-is-not-giving-bizarreness-reactions,' in order to raise the question of whether there is such a fact of the matter.[6]

I think Dillard's move here fails to dodge the force of the objection. If it is indeterminate what "giving bizarreness reactions" means, and the function performed when giving such an alternative is indeterminate between "defining" and any near-enough function, then it seems that the definition given in terms of bizarreness reactions cannot in fact act as a definition. Because of its indeterminate content, rational inferences on the basis of its identity cannot be justified, which is the essential function of a definition in logical argument.

Indeed, it seems that *any* move that seeks to fully replace formal definition will similarly undermine our ability to draw inferences on the basis of such definitions, because the formal derivability of the inference from the definition relies on the fact that the inference follows in every case to which the definition may apply. Without the determinateness necessary to perform formal acts of definition, any inferences we do draw will be conjoined not by formal rules but by fortuitous accident, which in turn undermines all formal thinking whatever, including that necessary to set forth a definition of thought as constituting 'bizarreness reactions.'

Secondly, Dillard claims that it is perfectly possible to give a definition of validity which can apply to sentences uttered without regard to the determinacy of thought, and that therefore facts about the

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[6] Peter Dillard, 'Ross Revisited: a Reply to Feser,' (2014) 20(10) *American Catholic Philosophical Quarterly.*

determinacy of human thought are irrelevant to the validity of arguments.[7] Dillard's definition of validity turns on the ability of an utterance to be rewritten as a sentence in a formal language, *L*, which is capable of modelling diverse content. For Dillard, 'validity' is simply any sequence of utterances which, when rewritten in L, is true in every model. Even if it is indeterminate what the individual does when they reason, then, the objective reasonable*ness* of what they are saying is extrinsic to their thought, and therefore facts about the determinacy of their thought are irrelevant as to whether what they say is reasonable.

This second attempt to meet the challenge fails as well, because the problem which Ross points out is just that if it is indeterminate what is being said when someone utters a sentence, then it is impossible to treat any sentence uttered as a sentence in *L*. If it is indeterminate what they are saying, then there is no fact of the matter as to whether they are uttering a valid sentence in *any* formal language, and consequently, no fact of the matter as to the validity of what is said. Dillard's move here does not allow him to rescue the validity of any actual speech-act, and so Ross's self-refutation problem remains unaddressed.

Objection: Thought is not sui generis

A critic of Ross's argument might further comment that the indeterminacy of underlying physical facts is simply a symptom of *irreducibility* rather than immateriality. Dillard makes the point that even if the physical facts as such were underdetermined as to their conceptual content or rational operation, this might simply imply that there is a 'level' of properties of matter which is irreducible to the physical ones.[8]

The key problem with Dillard's objection here is that the kind of determinacy that Ross requires is incompatible with the mode of existence of a wholly material thing. Ross's argument for the immateriality of some aspects of thought, is not merely that the underlying physical phenomena of formal thinking are indeterminate with respect to the higher-level irreducible properties, in the way that mitosis is irreducible to facts about chemistry. Rather, Ross is more interested in the mode in which those properties are instantiated. If higher-level irreducible properties are instantiated as concrete particulars, that very particularity will prevent determinacy. The reasons for this are shown above: the concrete particular cannot ground the distinction between pure functions involving different counterfactual conditionals. While there certainly is no shortage of controversy as to what it means to call things physical, it seems that whatever else physical things are, they must be concrete particulars rather than abstract universals. Thus for Ross it is not merely the case that the determinate is irreducible to the indeterminate, but that it entirely lacks one of the preconditions of materiality.

This reply raises an interesting worry, however: if physical reality is indeterminate with respect to pure forms, it would seem, then, one might conclude that no particular process ever occurs in nature: if what happens in cells cannot be distinguished as 'mitosis' from 'schmitosis,' in the way

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[7] Dillard's definition is as follows: *"Let L be a formal language including sentences constructed from statement letters (p, q, etc.), truth-functional connectives, n-adic predicate letters, and first-order quantifiers. All the sentences of natural science and mathematics can be rewritten as sentences of L. Let a model of a sentence in L be an assignment of a set U as the universe of discourse to any quantifiers the sentence contains, subsets of U as extensions to any predicate letters the sentence contains, members of U to any free variables the sentence contains, and truth-values to any statement letters the sentence contains. An L-sentence is logically valid just in case it is true under every model, and an L-sentence is a logical consequence of other L-sentences just in case any model under which the latter sentences are true is also a model under which the former sentence is true."*
[8] Dillard, above n 6.

that addition cannot be physically distinguished from quaddition, does that mean that no such physical process occurs at all?

For Ross, this is no great puzzle. He would quite agree that concrete physical instances of mitosis cannot be distinguished from 'schmitosis,' where each has some formal definition. What it is to be a concrete physical instance of mitosis, however, is not to be some formal act of definition, but to be a concrete physical structure with certain formalis*able,* idealisable aspects, which are nonetheless not idealised as they exist concretely. Thus Ross would say that all that this objection amounts to is the observation that physical instances of mitosis will not be exhausted by our abstract idealisations, but will, as acts of mitosis, involve further facts about structure and composition. The denial that concrete physical structures are determinate between mitosis and 'schmitosis,' then, would not be denying that the structures exist, nor that there are real differences and commonalities among them, and so this objection does not give rise to any real problem.

Conclusion

Ross's argument for the immaterial aspects of thought seizes upon a new way of articulating an ancient problem: how to ground metaphysically a mode of reasoning which deals with conceptual content as abstract universal rather than concrete particular. As Ross makes clear, the problem of realising determinate formal functions in a world of concrete particulars turns out to be real and acute with no plausible materialist solution. Attempts to avoid the problem by posing models of cognition that can dispense with determinacy are still doomed to self-refutation.