

**Review Article**
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## Ramsey's 1923 "Induction: *Keynes and Wittgenstein*", Paralyzed the Study of Keynes's Theory of Logical Probability for Over 100 Years

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### ABSTRACT

Ramsey's severe confusions, based on his ruminations and musings about the logical foundations for Keynes's relational, propositional logic, led him to come to the bizarre conclusion that Keynes's premises and conclusions, contained in Keynes's Boolean, relational, propositional logic were somehow tied together with Plato's metaphysical relations based on Plato's theory of forms. How Ramsey came to this conclusion was based on his creation in his mind of a false analogy between Moore's discussions of the Good, which were tied to Plato, with Keynes's discussions of probability, which have nothing to do with Plato. This is easily discerned because there is no mention made by Keynes of Plato, Platonic forms, Platonic entities, Platonic relations, Platonism, or Neo Platonism anywhere in the text of the *A Treatise on Probability*, bibliography or index. Ramsey's false analogy is presented in his 1923 paper, "Induction: Keynes and Wittgenstein".

Anyone, who had actually read Keynes's book, would have to have concluded that Keynes's relational, propositional logic is based only on G. Boole's earlier relational, propositional logic as put forth in 1854. Plato's theory of forms has no developed logic of propositions.

The great mystery then, that has to be confronted in academia in the year 2024, is how was it possible for academicians for over 100 years to have accepted Ramsey's claims, made without a shred of evidence based on any citations to Keynes's *A Treatise on Probability*? Apparently, for over 100 years, academicians have been accepting Ramsey's assessments of Keynes's *A Treatise on Probability* without any citations to any pages of Keynes's book to back up Ramsey's claims.

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### Introduction

The paper will be developed in the following fashion. Section Two will briefly cover Ramsey's erroneous 1922 claims, made in the January issue of the *Cambridge Magazine*. The errors contained in this contribution are identical to the errors made in Ramsey's November, 1921 *Apostles* paper criticizing Russell's use of propositions. Consider Ramsey's assessment:

"Ramsey claimed that there simply are no such 'mysterious entities' as propositions in Russell's sense, 'so unlike anything else in the world'. (Notice the similarity to his objection to Keynes's mysterious objective probability relations.) Russell's idea that propositions are objects introduces more problems than it solves. In his multiple relation analysis, even 'the simplest case is so complicated' and some cases, such as general propositions (for instance, 'All men are mortal'), are 'infinitely complex' because there is an infinite number of objects (an infinite number of human beings stretching back in time and forward to the future) to be related. Ramsey thought it 'self-evident' that 'no proposition entertainable by us can be infinitely complex' [1].

A similar, erroneous account by Misak of Ramsey's distorted claims about Russell and the use of propositions occurred in 2016:

"In 1921 the first year undergraduate Ramsey read a confident paper the Moral Sciences Club titled "The Nature of Propositions." It is a rejection of Russell's view of propositions, facts and truth. He argues that Russell is wrong to think that a belief is a dual relation between something mental and a proposition [2]. There are no such "mysterious entities" as propositions in Russell's sense — "so unlike anything else in the world" (1921, 111, 112). Russellian analysis even in "the simplest case is so complicated" and for some cases, such as general propositions, it is "infinitely complex" (1921, 109)" [3].

The reader should note that Russell's propositional logic, based on Boole's work, is, like Keynes's work, not mysterious. Thus, "... Keynes's mysterious, objective probability relations". are not mysterious at all [1]. They are only mysterious to someone, like Misak, who is completely ignorant of Boole's relational, propositional logic used by Boole as the foundation for his logical theory of probability. Given the very severe errors made by Ramsey, it should be clear that Ramsey never had the slightest inkling that

all of the 1st and 2nd order (predicate) logics, created by Frege, Peano, Pierce, Russell, Whitehead, Johnson, etc., were based on Boole's original, relational, propositional logic, as contained in chapters I to XV of the *Laws of Thought* and then used by Boole to construct the world's first technically advanced logical theory of probability in chapters XVI to XXI. Section Three will cover the repercussions resulting from the substitution of Platonic relations for Boolean relations in Ramsey's 1923 paper based on the false analogy between Moore and Keynes. While Moore's 1903 book, *Principia Ethica*, was the most important book for Keynes in his life, regarding ethical concerns, Boole's *The Laws of Thought*, was the most important book for Keynes as regards the writing of the *A Treatise on Probability and General Theory*. Section Four concludes the paper.

### **Ramsey's Erroneous 1922 Claims in the Cambridge Magazine Consider the Following Analysis of Ramsey:**

"Mr. Keynes takes probabilities or probability relations as indefinable, and says that if  $q$  has top the probability relation of degree  $a$ , then knowledge of  $p$  justifies rational belief of degree  $a$  in  $q$ ...

First, he thinks that between any two non-self-contradictory propositions there holds a probability relation (Axiom I), for example between 'My carpet is blue' and 'Napoleon was a great general'; it is easily seen that it leads to contradictions to assign the probability  $1/2$  to such cases, and Mr. Keynes would conclude that the probability is not numerical. But it would seem that in such cases there is no probability; that, for a logical relation, other than a truth function, to hold between two propositions, there must be some connection between them. If this be so, there is no such probability as the probability that 'my carpet is blue' given only that 'Napoleon was a great general', and there is therefore no question of assigning a numerical value." [4].

First of all, there is no such Axiom I in Keynes's *A Treatise on Probability* which states that "... between any two propositions there is a probability relation." Any logician automatically would realize the absurdity of Ramsey's claim, since the propositions contained in a Boolean relational, propositional analysis must be related to each other. There is no role at all for sets (nor Ramsey's restriction to two propositions only) of propositions which are not related or irrelevant. See Keynes's clear discussion of this point on pp.55 of the TP and Russell's demonstration in Russell (1922, p.120, ft.\*)

### **Second, Ramsey appears oblivious and ignorant of what $p$ and $q$ consist of in his opening sentence:**

"Mr. Keynes takes probabilities or probability relations as indefinable, and says that if  $q$  has top the probability relation of degree  $a$ , then knowledge of  $p$  justifies rational belief of degree  $a$  in  $q$ ..." [4].

We can rewrite Ramsey's version of Keynes's  $P(a/h)=\alpha$  as  $(q/p)=a$ . What is missing from Ramsey's very deficient specification is that there exists a logical relation,  $P$ , between proposition  $h$  (Ramsey's  $p$ ), which must contain the relevant evidence/knowledge that serves as the premises of our (Keynes's italics, pp.4-6) argument, and proposition  $a$  (Ramsey's  $q$ ), which must be the conclusion of the argument based on the  $h$  propositions that can be written as  $P(a/h)=\alpha$ , where  $\alpha$  is between 0 and 1,  $0\leq\alpha\leq 1$ . The conclusion must be based on evidence. It can't be some Platonic intuition of some entity floating around in the universe, which a decision maker contemplates.

Neither of Ramsey's two propositions contain any relevant evidence or knowledge that would support ANY conditional

probability assessment. In other words, in Keynes's theory, if there is no evidentiary support or knowledge, then  $h$  (Ramsey's  $p$ ) equals zero. If there is no evidence, then there can be no argument form and there is NO probability. Keynes would not conclude that, "...the probability is not numerical."

Keynes would conclude that there is no such probability relation between the premises and conclusion.

Finally, Ramsey's bizarre conclusion

"...But it would seem that in such cases there is no probability; that, for a logical relation, other than a truth function, to hold between two propositions, there must be some connection between them. If this be so, there is no such probability as the probability that 'my carpet is blue' given only that 'Napoleon was a great general', and there is therefore no question of assigning a numerical value."

is the exact conclusion that an application of Keynes's logical theory of probability that a reader of Keynes's *A Treatise on Probability* would have arrived at. The only conclusion possible is that Ramsey did NOT read Keynes's book but read into Keynes's work his own ideas about what he thought Keynes was doing.

How this intellectual mess was created and led to the nonsense conclusion that Ramsey had demolished, devastated, and destroyed Keynes's theory is completely unclear. It is obvious that Ramsey's paper was not reviewed or refereed. The only conclusion possible is that Ramsey's argument is simply nonsense coming from an 18-year-old teenager who doesn't understand what Keynes was talking about.

### **Ramsey in 1923: The Same Problems Occurred as in Ramsey's Cambridge Magazine Article of 1922**

#### **Consider the following statement by Ramsey:**

"There seems to me to be some analogy between this question and that of objective or intrinsic good; in the latter we consider the justification of our actions, and are at once presented with the simple solution that this lies in their tendency to promote intrinsic value, a mysterious entity not easy to identify; if now we turn to the justification of our thoughts we have the equally simple solution that this lies in their following certain logical probability relations, equally mysterious and difficult to identify...I think that both these simple solutions are wrong, and the true answers are in terms not of ethics or logic, but of psychology..." [5].

Ramsey's queer ideas are very confused and confusing in this paper. Since there is, in fact, a metaphysical aspect in the field of ethics that does not exist in the field of probability, there is no analogy here between Moore's "the Good" and Keynes's "the Probable".

Ramsey's analogy, that "...we have the equally simple solution that this lies in their following certain logical probability relations, equally mysterious and difficult to identify ..." fails because Keynes's logical probability relations are (a) not mysterious at all to anyone who read chapters I and II, or Part II, of Keynes's *A Treatise of Probability*, and (b) are not difficult to identify if the decision maker is considering propositions which are related to each other [5]. A problem would exist if the propositions were not related to each other, which is exactly the assumption made by Ramsey. This assumption was never challenged by any member of the Apostles. If it had been, then Keynes and/or Russell would have been able to interject a mild rebuke of Ramsey which would have been sufficient to derail Ramsey's continuous attacks on

logical probability, but not severe enough to have ended his career or Braithwaite's career.

What Ramsey has done is to consider only the set of propositions which are NOT related to each other, and assert that Keynes's logical theory of probability, as presented in the *A Treatise on Probability*, deals with sets of unrelated propositions which can NEVER have any probability relation between them. Ramsey purports that this type of study is what is involved in Keynes's logical theory of probability.

This view of Keynes's book can only be described as ludicrous, preposterous, absurd, incomprehensible gobbledygook.

Thus, the claim made by Sahlin, that Ramsey was "...the greatest ..." of all of the logicians and philosophers of the 20th century, can't be supported, given the series of very grave errors made by Ramsey not only about the foundation of Keynes's logical Theory of Probability in his *A Treatise on Probability*, but also of Russell's approach, which is also based on Boole.

### Conclusion

How Ramsey's horribly flawed logic continually escaped attention from the other students of Keynes and from The Apostles, is the subject of another paper. However, we note here that neither Keynes or Russell can bring and the issue of the erroneous nature of Ramsey's work without also endangering the reputation of the Apostles as containing the greatest minds in England. We can imagine what would have occurred if either Keynes or Russell had stood up and stated the following at a meeting of the Apostles:

"The logical, objective, probability relations in Mr. Keynes's theory are identical to those in Boole's *The Laws of Thought*."

or

"There is no such Axiom I in Mr. Keynes's book as stated by Mr. Frank Ramsey in the January, 1922 issue of the *Cambridge Magazine*."

The problem in 1922 and 1923 exists to and far greater extent in 2023, as demonstrated by the 2023 journal articles of B. Gerrard and the 2023 book of P. Clarke, which rely completely on the belief that Keynes's logical relations are Platonic, as opposed to being actually based on Boole. The failures of Clarke and Gerrard, however, pale into insignificance when compared to the completely and totally failed centenaries on Keynes and Knight, published in 2021 by the *Cambridge Journal of Economics*, the *Journal of the History of Economic Thought*, *History of Economic Ideas*, *Review of Political Economy*, and the *Alan Turing Institute* (See also Feduzi, Gillies, Runde and Rowbottom for similar kinds of appeals to Plato to explain Keynes's Boolean approach) [6,19,26,46,43,52].

I do not believe that there is any current approach to the philosophy of science that can deal with this episode, except by simply denying that economics and philosophy are scientific.

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