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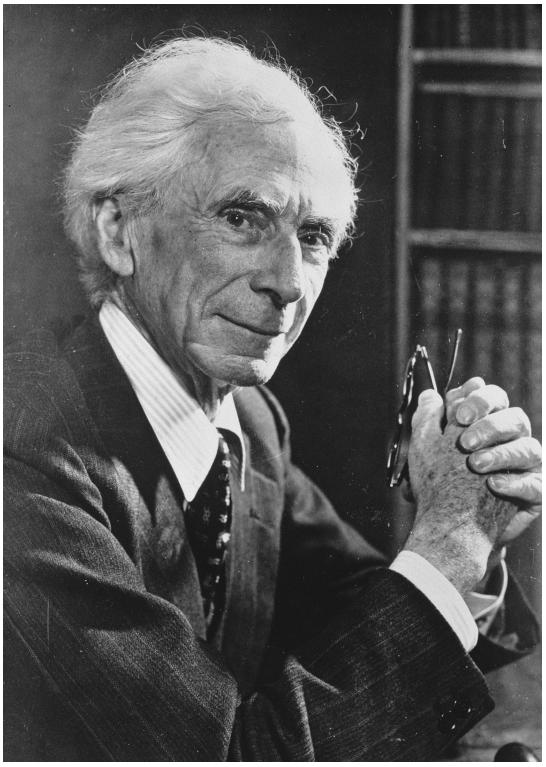
In this issue



28 November 1957, Source: *Wikimedia Commons*

2021 BRS Annual Award goes to Dr. Anthony Fauci

BY JOHN LENZ

Dr. Anthony Fauci received the 2021 Annual Award of the BRS "for his courageous and knowledge-driven advocacy of science for the public good." There is no worthier recipient.

Since 1984, Dr. Fauci has served as Director of the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH). Dr. Fauci has been the public face of the scientific response to the COVID-19 pandemic. Courageous, tirelessly working to inform and educate the public on TV and other media, both about science and ethical public policy, he is simply one of the most famous, and most in-demand, persons in the country today – and beyond, since he knows this is not only a national, but a worldwide challenge. Among his many other achievements, Dr. Fauci was previously an important HIV/AIDS researcher. (See Dr. Fauci's biography page at the NIAID.)

For the BRS, I communicated with his office. I knew Dr. Fauci was a Classics major – my field – in college, and I sent the list of previous winners with some words about Russell's advocacy of science and other public causes. I didn't know, and still don't, what he knew of Russell. He said he was happy to accept the BRS Award, and his office scheduled him, a month in advance, in his supremely busy schedule, to tape a video acceptance statement for us, which he did, and sent, on June 15. In the meantime, a U.S. Government ethics official conscientiously questioned me to confirm that this public servant was receiving no monetary remuneration. (It would be impressive if the government did that for all public figures and politicians.) He will receive a handsome plaque, and huge appreciation.

We are extremely grateful both that he accepted the award, and that he took the time to prepare a thoughtful, generous reflection on his life in science. In his statement, he explains that his study of Greek and Latin led him to an interest in philosophy, and he praises his humanistic education for making him sensitive to ethical issues in his scientific work, particularly a "moral obligation" to address health inequities both here and around the world. His humanity shines through. He took the time to thank the BRS for our work and for our values as expressed in the Society's motto. He forthrightly displays that he shares our values, and Russell's ideals. We are most grateful, and proud of him.

PS: If you listen to the wonderful video statement, it appears that the reason the good doctor stumbles over Russell's first name is that his office misspelled the name, as I know from my correspondence with them.

Dr. Anthony Fauci's BRS Award Remarks

BY ANTHONY FAUCI

Warm greetings to you all.

I am truly humbled to be put into the company of the notable individuals who have received this honor before me and, with deep appreciation, I accept and thank you for the 2021 Bertrand Russell Society Award. The simple but wise quote of Bertrand Russell that is your society's motto, "The good life is one inspired by love and guided by knowledge," is a philosophy that I truly embrace.

A loving family has always been central to my life, beginning with both sets of my grandparents who came to New York City from Italy. Like many Italian-American immigrants, they were imbued with a spirit of gratitude, a love for their new country, and the de-

sire to give back. This spirit was passed on from grandparents to parents to children and I was no exception. I chose to pay back by pursuing a career in public service at the National Institutes of Health where I not only see patients and conduct medical research, but as director of the institute, I have had the privilege to help shape our country's response to numerous public health emergencies—including the current Covid 19 pandemic.

My immediate family settled in Brooklyn, New York, and I had the good fortune to attend Regis High School in Manhattan, where I enthusiastically immersed myself in the rigor of a Jesuit education—including studying Greek and Latin which stirred my interest in philosophy. At the Jesuit College of The Holy Cross, I extended my interest in the Humanities and graduated as a classics major with a pre-med concentration. I subsequently received my medical training at Cornell University College of Medicine, became of physician, and in 1968 came to work at the NIH.

My training in the humanities enabled me to appreciate situations through a broader lens than if I had solely focused on science and medicine. As I have repeatedly said throughout the Covid pandemic, we need to follow the science and be guided by the facts and the data in our public health response to Covid 19.

However, my training in the Humanities also triggered my intense interest in global health and my sensitivity to health disparities, which made clear to me our moral obligation to address these contextual problems as well.

Overcoming health inequities among poor and rich countries or among racial and ethnic groups in our own country, requires different skills than developing and employing effective vaccines. Yet global recovery from the Covid 19 pandemic and human progress depend on our doing both.

And so, a sincere thank you again to the Bertrand Russell Society for this distinguished honor. Please keep up your important work, and I wish you all the best.

Photo credit: *NAID*

Prisons in *Problems*: A Short Dialogue

BY GÜLBERK KOÇ MACLEAN AND GREGORY LANDINI [INDICATED AS GKM AND GL BELOW]

Scene: Having read Russell's book on the value and nature of philosophy, The Problems of Philosophy*, two philosophers meet in a virtual café animated by the notion of "prisons" discussed in the work and their understanding of the role of logic in breaking out of these prisons.*

GL: Russell wanted Logic to be the essence of philosophy even in *Problems*. It was not a new view that he adopted after the work, when he wrote *Our Knowledge of the External World*. The distinctive value of philosophy lies in its ability to use the new logic of *Principia Mathematica* to destroy dogmatisms about necessity—dogmatisms that fetter the mind. It is tied to the notion of Prisons as discussed in Problems which is one of the wonderfully colorful ideas that emerged from Russell's affair with Ottoline Morrell. The two had planned, for a time, to write a book called "Prisons." Admittedly, there may be a bit of a dark side to that affair towards its end, though they remained close friends ever after. I worry that Russell, more than Ottoline, and certainly more than Dora Black, found it difficult to practice what he preaches when it comes to liberation from the prisons produced by the societal norms surrounding marriage—norms that were founded upon essentialisms about *male* and *female*. But let's put this aside. Affection for Ottoline seems to have catalyzed Russell to write more prosaically about the "religion" of an atheist—and the results were a significant enhancement of "A Free Man's Worship" towards articulating the uniquely spiritual feeling associated with the freedom from intellectual prison that is advocated in "The Essence of Religion." We find such flowery prose as: "By thus making a barrier between the subject and object, such personal and private things become a prison to the intellect. The free intellect will see as God might see, without a here and now, without hopes and fears, without the trammels of customary beliefs and traditional prejudices, calmly, dispassionately, in the sole and exclusive desire for knowledge..."

GKM: That's fascinating: The "religion" of the scientific atheist. But conceiving of an ideal human being as free from the prison of the dogmas of their social-cultural environment, and at the same time, subscribing them to an 'ism' or a religion is incoherent. When you adopt a religious attitude towards something, be it god or godlessness, you adhere to a particular set of beliefs unconditionally – hence, the Latin root of the word '*ligare*', which means to bind. Russell's desperate attempt to convince Ottoline Morrell to leave Philip Morrell and be with himself instead seems to have caused him to be untrue to his own logical principles.

GL: Yes, I agree. The free mind cannot properly be described as having a "religion" or a "worship" in the formal or even usual senses of these words. Russell seems to have been responding to Ottoline Morrell's important concern that the free mind is not cold and affectless but should be said to have its own unique spiritual feeling of amazement and humility before the wonders of the world. But readers of *Problems* should notice that the causes of *prisons* involve more than understanding the wisdom of Russell's famous quip: "There is no law to the effect that what is taught in school must be true." The source of the prisons is not restricted to the politics of power. It runs deeper. It infests speculative metaphysical schools advocating special abstract particulars (sets, propositions, souls, numbers, geometric points, meanings, logical atoms, etc.) to confront philosophical problems. It is failure to know *Principia*'s logic of relations and the deficiency of the subject-predicate logical form that is behind such schools as Leibniz, Spinoza, Hegel, Bradley, etc. and that is why Russell remarked: "I hold that logic is what is fundamental in philosophy, and that schools should be character-

ized rather by their logic than by their metaphysic."

GKM: The philosophical aim of the scientific method in philosophy of *Our Knowledge of the External World*, as you argue, may be to denounce all necessities except for logical necessities. But to say that this was also the main source for the explanation of the value of philosophy in *Problems* suggests that what's wrong with dogmatism is the sheer necessity of the claims they make. The scope of their claims is not the only problem. The problem also lies in the fact that those claims to necessity or universality are not supported by proper evidence. The role and value of philosophical and logical thought is that it gives us the tools to recognize the unsubstantiated status of these metaphysical claims.

GL: The eloquence of *Problems* on the issue of the value of philosophy is unparalleled. It has the ability to open the mind to a kind of healthy skepticism. Such healthy skepticism (not global unhealthy skepticism or "blank doubt") is what can challenge metaphysical dogmas lurking behind social and political institutions – dogmas which, from a look at history, lent themselves to metaphysical arguments attempting to legitimate social-political systems, including slavery and the subjugation of women.

GKM: Exactly. When intellectuals, religious or political leaders, made claims about women or bipocs, such as "Women have no place in the work force" or "BIPOCs are only good for hard labor; not for any intellectual pursuit", they implied that these claims expressed metaphysical or biological necessities, when in fact they are unsubstantiated and false generalizations.

GL: There are quite a few gems in that part of the book. But I want to focus especially on its notion of what it is that is distinctive about the value of philosophy that enables it to free the mind from prisons. The value of philosophy is quite unique and involves more than merely the use of the kind of critical reasoning important to other fields such as law and empirical science. Philosophical criticism is very special according to *Problems*. The key question is: What is special about it? The answer I think, lies in that Philosophy (properly understood) is the study of necessity (pro or con) and that *Principia*'s new logic destroys all notions of "necessity" or subsumes them (as in the case of arithmetic and geometry) into logical necessity.

GKM: I would have thought understanding the necessary or possible status of a claim also belongs under the study of reasoning or critical thinking. What do you mean, in the context of the examples we discussed above concerning women or bipocs, that all necessity is logical necessity? Do you mean that every metaphysical and biological (physical) claim that is held as a necessary truth is false? I agree that physical or biological claims are only probable. But I think we need to keep necessity in the case of metaphysics; the very goal of the metaphysical enterprise is to discover metaphysically necessary features of reality. Though, you may rightfully argue that philosophers have consistently failed in that regard.

GL: The trouble is that any evidence articulated for or against a metaphysical necessity is very often ineffectual. The necessity claim characterizes a research program (to borrow a phrase from Kuhn) and empirical observations are then often theory-laden. If you think it biologically necessary that members of a race are lazy by genetic disposition, you may find wonderful exceptions of members overcoming their disposition, but you'll never regard any evidence as counter evidence to the essentialism. If you think celestial motions are necessarily circular, you'll never take yourself to see a comet inside the sphere of the moon. Kepler found it worthless to look into a telescope.

GKM: I would agree that metaphysics has been manipulated to serve the interests of religious and/or political leaders, but that does not mean that there may not be some metaphysically necessary truths about reality after all. As I said earlier, I think the fault lies in the non-philosophical, non-critical practices of peo-

ple who merely accepted any metaphysical necessity that's put forth to them, without asking for evidence to back up those claims. Hence, whether what they believed in was couched in terms of necessity or possibility, this is the explanation of the dogmatic nature of some people's beliefs back then, or even today.

GL: I believe that Bertie and Ottoline are extolling *Principia*'s logic and not just critical thinking, as alone the means of escape from the dogmatisms that fetter the mind. That is because, quite importantly, some of the prisons are "fly bottles" (to borrow a phrase from Wittgenstein) produced by belief in synthetic *a priori* non-logical necessities. The fly bottle eliminates the very articulation of any rival view. The moving earth is absurd– *Eppur si muove*. The fly bottles happen in many ways: some (as with Leibniz and Newton) arise by attempting to solve difficult mathematical problems concerning continuity, motion and change; but in other cases metaphysicians are contracted by the powerful to find legitimation for religious and political dogmas to keep a social order that preserves their dominant status. Either way, the enterprise is to invent "irrefutable" synthetic *a priori* necessities in an effort to legitimate social political systems. Even Hobbes, a self-described *materialist*, began his metaphysical justification of the Sovereign from a dogmatism that humans (at least males) are naturally self-interested and that a state of nature is characterized by the "war of every man against every man." That is as untoward as the Aristotelian "nature abhors a vacuum." It seems odd to the modern mind that Galileo was put to the Inquisition for holding that the earth moves. But it happened because Aristotelian teleological necessity was used by the Holy See to provide metaphysical legitimacy for the dogmatism that God teleologically ordered the world and tailored it human salvation (through Jesus). Even in pure physics, Einstein had to free himself of metaphysical dogmas about allegedly Euclidean geometric necessities and eventually he rid himself of the long held Newtonian view that necessarily inertia is rectilinear. *Principia*'s logicism offered a paradigm of the way forward: Logical necessity is the *only* necessity. The rest is confusion and muddled thinking (as Russell put it in *The History of Western Philosophy*). There is no longer an incontestable (because an alleged *a priori* necessity) "nature" in women to be emotional and nurturing, and there is no cold rational aggressive promiscuousness that is "natural" to men. No behavioral dispositions (greed, intellect, laziness, etc.) are unique to specific nations (races), and so on. Social political dogmas can no longer be buttressed by metaphysicians serving social-political ends by inventing allegedly incontestable "natural" necessities (in physics, biology, psychology, etc.). It's liberating!

GKM: And what about Ethics? *Problems* is explicit that Ethics is an *a priori* field of philosophy and outside of logic. Thus, ethical necessity (e.g. pain is intrinsically bad) is *not* a logical necessity. And thus, after all, in *Problems* logic is not the essence of philosophy.

GL: Yes. You are right. Russell was in trouble over the status of ethics. In the sequel to *Problems*, namely, *Scientific Method in Philosophy* (aka: *Our Knowledge of the External World: as a Field for Scientific Method in Philosophy*) the focus is to destroy non-logical necessities. It takes up arguments against causal necessity, deterministic necessity (in the free will debate), and Zeno's claims about motion and change. In this work, Russell explicitly says that "logic is the essence of philosophy," and Ethics, unfortunately, is then regarded as outside of philosophy!

GKM: One person's *modus ponens* is another's *modus tollens*. Surely, Russell went in the wrong direction. Ethics should be kept in philosophy.

GL: I quite agree. So, for Russell to keep the *Prisons* idea, he has to find a way to subsume Ethical necessity into logical necessity. He couldn't, and so abandoned Ethics. But I think there is a way to do it without going off the deep

end with Wittgenstein's *showing* idea. It is often said that Wittgenstein "detested" Russell's paper "The Essence of Religion" for engaging in moralizing and sentimentality. On Wittgenstein's Tractarian view, Ethics is *shown* in one's attitude of silence. Like logic and arithmetic, no ethic can be made into a body of truths open to empirical scientific methods of discovery.

GKM: But accepting for the sake of argument that the *Prisons* idea is tied to the thesis that logical necessity (as given in *Principia*'s logic) is the only necessity, you have a dilemma for Russell in *Problems* concerning the metaphysical status of Ethics. How do you propose to solve it? It is intractable.

GL: I want to salvage Ethical necessity as logical necessity! That is my solution to Russell's dilemma in *Problems*. Russell's account maintains that physical discoveries such as "all humans are mortal" are not part of logic because the relation between the universals 'human' and 'mortal' is not structural. In the case of "all multiples of even (natural) numbers are even (natural) numbers" there is a structural relation between the universal 'being a multiple of an even number' and the universal 'being an even number'. In both cases, we may be acquainted with the universals and the relation between them in question is perceived. But our acquaintance in the case of the universal 'mortality,' does not give any foundation for an *a priori* discovery. Because the relation (if indeed there is such) between 'human' and 'mortal' is an accident of the biology of the organic compounds. In the latter case, of even numbers, the relation lies in the nature of the universals themselves. In both cases the universals in question need not be exemplified. The biological relation may hold between the biological universals even if the universals are not exemplified.

GKM: That is a lot to digest (no pun intended). But supposing it is correct, what is the relevance to Ethics? The case of a would-be ethical necessity like 'pain is intrinsically bad,' seems to be metaphysically more like the case of 'all humans are mortal' and quite unlike the case of 'all multiples of even numbers are even'. That is because there doesn't seem to be a structural relation between the universal 'pain' and the universal 'intrinsic badness'. How then can the case of Ethics be properly a case of a logical (structural) necessity?

GL: Well I do understand that concern. But perhaps, on behalf of Russell, one can say that the universals in ethics are special. For example, the universal 'pain' is such that to understand it (and certainly to be acquainted with it) one has to feel it. That means that there is no way to study ethics the way one can study empirical relationships between biological universals involved with cellular metabolism, replication of DNA and the like that are involved in the fact that all humans are mortal. This special status of ethical universals is also very different from logical/mathematical universals in the algebraic laws of *multiplication* and *addition* that are involved in the fact that the product of even numbers is arithmetically even. Ethical universals that are involved in the fact that pain is intrinsically bad (assuming of course that there is such a fact) can only stand in the acquaintance relation to a subject if they are exemplified by the subject of that very acquaintance. This is why our logical intuition is inadequate to recognize the fully structural (logical) nature of the relations ethical universals have to one another.

GKM: That sounds as mysterious as Wittgenstein's Tractarian doctrine of 'showing' itself.

GL: Wittgenstein's attraction to a Schopenhauer-pessimistic interpretation of the Spinozistic *Sub Specie Aternitatis* view unintentionally suggests that the "happy" person is one whose silent attitude is that of reconciliation to the futility of trying to reshape world events to one's always parochial conception of what is just and good. There is no need for the pessimism that one's hopes must be guided by parochial self-interest. And silent detachment out of fear of being parochial seems immoral in the extreme— though I

doubt Wittgenstein would disagree. My approach to saving Ethics within Russell's scientific philosophy is to accept ethics as a genuine body of truths fallibly discoverable subjectively through universals with which one can only be acquainted when they are exemplified in oneself. The status of ethical necessity as logical necessity is hidden by that very limitation on our acquaintance with them.

GKM: You hope that we have Moorean ethical intuitions then!

The Origins of Analytic Philosophy[1]

BY NICHOLAS GRIFFIN

1 Single-event Creation Myths

There are some who maintain that, like the universe, analytic philosophy originated in a single event and also those who, like theological cosmogonists, hold that it was the work of a single thinker. Perhaps the most notorious of these is Michael Dummett, who in his book *Origins of Analytical Philosophy*[2] (hereafter cited as *OAP*) claimed that it began, not just with a single thinker, Frege, but with a single paragraph in one of his books: §62 of the *Grundlagen der Arithmetik* (1884). There Frege writes:

> How, then, are numbers to be given to us, if we cannot have any ideas or intuitions of them? Since it is only in the context of a proposition [*Satz*] that words have meaning, our problem becomes this: To define the sense of a proposition in which a number word occurs.[3]

In this passage Frege takes what (following Gustav Bergmann) we may call a 'linguistic turn': he turns a question about the nature of numbers into a question about the sense of sentences in which number-words occur. According to Dummett, in taking the linguistic turn Frege becomes an analytic philosopher because analytic philosophy is essentially linguistic. More precisely, according to Dummett, analytic philosophy is to be defined by its adherence to the following two theses:

> that a philosophical account of thought can be attained through a philosophical account of language; and ... that a comprehensive account can only be so attained. (*OAP*, p. 4)[4]

Now this is a very strange definition, for it rules out many philosophers who might be taken to be paradigm examples of analytic philosophers. Dummett himself cites Gareth Evans and Christopher Peacocke as examples (*OAP*, p. 4), but he is not at all inclined to modify his definition to include them. Instead he draws a distinction between analytic philosophy, as defined, and the analytic tradition in philosophy. Dummett's definition, however, has worse consequences than the exclusion of Evans and Peacocke. A cursory look at the history of analytic philosophy reveals many, many philosophers who fit the definition no better than they. Indeed, it excludes those who have typically been taken to be the founding fathers of analytic philosophy: Russell and Moore.[5] Dummett, of course, was self-consciously aiming to challenge such accounts; but it is one thing to deny that Russell and Moore created analytic philosophy and quite another to produce an account which would deny that they were analytic philosophers at all. Moreover, consider even Frege himself. The evidence that Frege subscribes to Dummett's two defining doctrines is hardly unequivocal.

There is much evidence that Frege found language more often an obstacle to be overcome in attempting an account of thought, than the only way such an account could be provided. Thus he says the task of the logician is 'to free himself from language'[6], and, elsewhere, that much of the philosopher's work 'consists ... in a struggle against language'.[7] Nor is it correct to imply, as Dummett does, that this view emerges only in the later, post-logicist phase of Frege's work. As early as the *Begriffsschrift* Frege writes that 'one of the tasks of philosophy [is] to break the domination of the word', to which end it lays bare 'the misconceptions that ... arise concerning the relations between concepts' as a result of 'the use of language'.[8] And even in the *Grundlagen*, Frege hardly makes much of the linguistic turn he takes: he does not argue for its general use, nor hail it as a breakthrough, nor, in fact, make much explicit use of it in the rest of the book.

Dummett did admit that Frege was 'not

fully conscious' (*OAP*, p. 6) of the direction his thought had taken and that, later on, he may have had 'ambivalent feelings' (*OAP*, p. 7) about it. (One thinks that perhaps these feelings arose when he was fully conscious of it.) Dummett thought, however, that to ignore Frege's linguistic turn was to ignore 'deep currents' in his philosophy' (*OAP*, p. 6) that Frege himself did not read wholly aright, but that his own practice belied his explicit scepticism about language. But it is surely odd to identify an author's philosophy by means of a doctrine he wasn't fully conscious of holding, and had reservations about as soon as he was. However, Dummett did at least concede that Frege should not be thought of as an analytic philosopher, so much as the grandfather of analytic philosophy.

In fact, if one takes Dummett's definition of analytic philosophy *au pied de la lettre*, it becomes rather doubtful whether any major philosopher in the analytic tradition fits it exactly – except, perhaps, Dummett himself. The exceptions are so numerous that they can hardly be accommodated by a distinction between analytic philosophy and the analytic tradition, for it would be worse than odd if the analytic tradition turned out to be composed almost entirely of non-analytic philosophers. On the other hand, if we construe Dummett's definition more loosely, we are in danger of admitting philosophers whom Dummett would blush to call analytic: a good case could be made for Derrida, for example. Indeed, Husserl himself seems to have taken a linguistic turn late in his career. In the essay on the 'Origin of Geometry' (1936) language is taken to be constitutive of the objectivity of the sciences: 'it belongs to their objective being that they be linguistically expressed ... they have their objectivity, their existence-for-everyone, only ... as the meaning of speech'.[9]

It makes sense to look for the sort of precise beginning of analytic philosophy such as Dummett proposes only if one provides a definition of 'analytic philosophy' in terms of doctrines, as Dummett does. One can then look for when the doctrines were first advanced or, more typically, when the first steps towards them were made (at which point, controversy usually follows). But with which doctrines should we identify analytic philosophy, if not with those Dummett proposes? Here I have nothing to offer. Despite much effort, I confess I have been completely unable to identify any set of doctrines (not even methodological doctrines) which have been held commonly and exclusively by all those normally counted as analytic philosophers. It seems to me that 'analytic philosophy' is a term which describes a certain style of philosophy within a particular historical period and one which can and did evolve quite drastically within that period. In this it resembles the term 'pop music' rather than (say) 'ordinary language philosophy' or 'existentialism'. And just as very little insight into the nature of pop music is to be gained by trying to identify the very first pop song, though fans of different performers get much pleasure from arguing about it, it is similarly unrewarding to try to identify the very first work of analytic philosophy, though again the fans enjoy making their case. Nonetheless, certain moves can be identified as of special importance in the creation of analytic philosophy and in the next section I want to draw attention to one of Russell's. It can be identified quite precisely in two short pieces of writing from 1898-9 and I think it clear that Russell regarded it as a revolutionary change in his thinking and the beginning of his work in what would subsequently be called 'analytic philosophy'. Unlike Frege, he had no misgivings or second thoughts about it. Nonetheless, I shall avoid the impulse to fandom and refrain from claiming that it marked the beginning of analytic philosophy. To understand its importance some background is needed.

2 Russell's Original Contribution in 1898

It's well-known that Russell began his philosophical career as a neo-Hegelian. His main philosophical endeavour at that time was to

construct an encyclopedia of the sciences, starting with the more abstract of the special sciences and moving, via a series of dialectical supersessions, to an all-encompassing metaphysical science of the Absolute. Each special science, Russell held, attempted to create as complete a picture of the world as possible from the limited set of concepts in its repertoire. But this attempt, he thought, ended inevitably in contradictions which could only be removed by adding concepts to those which constituted the original science, thereby transiting to a new science less abstract than the one which preceded it. The task of the philosopher was to establish the basic concepts and principles involved in each science, identify the contradictions to which it gave rise, and to show how they could be eliminated by the addition of new concepts which resulted in the next science in the dialectic.

The contradictions which Russell found in the special sciences were of various types, but one proved to be both especially prevalent and especially troubling. In 1898 he called it the 'contradiction of relativity' ('An Analysis of Mathematical Reasoning', *Papers 2*, p. 166, henceforth cited as *AMR*). It had first appeared in *An Essay on the Foundations of Geometry* (1897) as the 'antinomy of the point': namely that, while each point is distinct from every other, all are exactly alike (*Essay*, p. 188). By the following year the contradiction had turned up in kinematics, dynamics, and 'almost, if not quite, universally' in pure mathematics (*ÀMR*, p. 166). In all forms it arose, where, as Russell put it in 1897 with a nice Hegelian flourish, we have 'a conception of difference without a difference of conception'.[10] What he means is that we conceive of there being different points or other types of mathematical entities, such as quantities, (i.e., we have a conception of their being different), though as abstract entities all of them fall under exactly the same concepts (there is no difference of conception to individuate them), since all individual differences between them have been abstracted out in order to create the abstract science in question. In so far as pure mathematics deals with quantity, it is with abstract quantity, not with this or that concrete quantity.

As a neo-Hegelian, Russell took the contradiction of relativity to show the perils of abstraction, rather than the failings of the dialectic. The solution for each version of the contradiction was to build a new science on the basis of the old by adding new concepts which would enable the diverse but indiscernible elements of the original science to be distinguished in the new. The procedure was always to provide the missing difference of conception by means of a dialectical supersession to a new, less abstract science. Thus geometry was to be superseded by a Boscovichian kinematics in which different spatial points were to be distinguished by the material point-atoms which occupied them. But kinematic point-atoms merely reproduced the problems of geometrical points: each, in itself, was exactly like all the others, a bare centre of converging or diverging motion. Accordingly, in the next step of concretization, Russell endowed them with forces, thereby transiting to dynamics. But this also was no more than a stop-gap, for force itself was a relative concept, identifiable only by the relative motion of matter, and thus its addition had still not produced the ultimate differences of conception that Russell's system required. As a neo-Hegelian, of course, Russell was an idealist and thus did not expect that a purely material world would pass muster metaphysically. The final stage of the dialectic was to be a transition to psychology, in which dynamical point-atoms, were to be replaced by monads. This left him with what would seem to be the considerable difficulty of deriving the laws of physics from the psychology of monads. Of how this was to be accomplished Russell left few clues, since he abandoned the dialectic before the transition to psychology was seriously attempted.

There is one other point to be made before we have the dialectic in the form in which Russell finally abandoned it, and it is of crucial importance. His analysis of the mathematical sciences had convinced him that the concept of or-

der was central to all of them and that order depended upon a certain type of relation, namely those such that, if one term has the relation to a second and the second to a third, then the first has the relation to the third, but, if one term has the relation to a second, the second does not have the relation to the first. These are now known as transitive, asymmetrical relations, but Russell, as yet, did not see them in quite the modern way. The chief examples relevant to the dialectic of the sciences were: part and whole, cause and effect, and ordering relations like greater and less and before and after. In *AMR* (pp. 225–6) Russell gave a general argument to show that the contradiction of relativity would appear wherever such relations were involved. I shall call this the 'hinge argument' since the dialectic of the sciences turns upon it. Since Russell held that such relations 'pervade almost the whole of mathematics', he concluded, that the 'fundamental importance of this contradiction to Mathematics is thus at once proved and accounted for' (*AMR*, p. 226).

Except, we might protest, that it is not clear why a conception of difference without a difference of conception is a contradiction at all, for surely two items may be exactly alike as far as their intrinsic properties are concerned and yet be easily distinguished by their differing relations. Russell, however, was precluded from taking this line by his hitherto unquestioned neo-Hegelian view that all relations were internal, that is, they were all in some way grounded in the intrinsic properties of their terms. The doctrine of internal relations makes it clear why it was asymmetrical relations that gave rise to the contradiction of relativity. If all relations are grounded in the intrinsic properties of their terms and R is an asymmetrical relation holding between a and b, then a and b must have different intrinsic properties. For whatever it is about the nature of a that grounds its relation R to b, b must have a different nature for b neither has the relation R to a nor to itself. According to the doctrine of internal relations, asymmetrical relations are impossible for objects which do not differ in intrinsic properties. And yet for the mathematical sciences, as Russell had increasingly been discovering, they are essential. It is the doctrine of internal relations which makes the contradiction of relativity a genuine contradiction.

In *AMR*, even though he had the beginnings of a modern, four-fold classification of relations in terms of whether or not they were transitive and/or symmetrical, Russell was still thinking of relations primarily in terms of a different classification based on their relation to their associated intrinsic properties; that is, in terms imposed by the doctrine of internal relations. This also gave rise to a four-fold classification depending on whether the relation was inferred from the intrinsic properties or *vice-versa*[11] and whether the intrinsic properties were the same for both terms or different. Cases where the relation can be inferred from the properties are not problematic: if a and b are both red we can infer that they have the same colour; if one is red and the other blue we can infer that they have different colours. Nor are some cases where the property can be inferred from the relation, in particular, when the relation is transitive and symmetrical. For example, we might not know the weight of any of a set of objects, but by placing them pairwise on a balance we can identify those that have the same weight and infer that each of these has the same intrinsic property (a particular weight).[12] The problems arise with the fourth type of relation where the properties have to be inferred from the relation and each term must have a different property. Russell runs through some examples and then presents the hinge argument to show that all such relations give rise to the contradiction of relativity:

> We have seen already that the relations of causality and of inequality involve this contradiction; it remains to prove that the contradiction belongs to all the relations of the type we are considering. We are supposed here to have two terms A and B, with a relation R which transforms them into $A\beta$ and $B\alpha$. β is an

> adjective[13] which has a reference to *B*, and α similarly has a reference to *A*. Neither can be expressed without this reference, and α and β differ in content. But *A* and *B*, considered without reference to the relation *R*, have no differences of conception corresponding to the differences α, β. Either α or β alone may, however, be considered as expressing a difference between *A* and *B*: β, in fact, gives to *A* the adjective of differing from *B* in a certain manner, and α expresses the same difference with *B* as starting-point. We have thus a difference between *A* and *B*, namely that expressed by either α or β, but we have no corresponding point of difference. We cannot use the difference between α and β to supply the point of difference, for both α and β state a difference, and therefore *presuppose* a point of difference. We must, in fact, have a difference between *A* and *B*, without there being any corresponding point in *A* by which it differs from *B*, and *vice versa*. Thus we have a difference without a point of difference, or, in the old formula, a conception of difference without a difference of conception. This contradiction belongs, therefore, to all relations of our fourth type; and relations of this type pervade almost the whole of Mathematics, since they are involved in number, in order, in quantity, and in space and time. The fundamental importance of this contradiction to Mathematics is thus at once proved and accounted for. (*AMR*, pp. 225-6)

The relations in the fourth group, which give rise to the contradiction, are those which order their field, i.e. transitive, asymmetrical relations, and I used to think[14] that Russell was already thinking of them in this modern way. Having already stated the transitivity and symmetry conditions (*Papers 2*, pp. 121, 223), how could he have missed it? But in fact Russell was thinking primarily in neo-Hegelian terms, classifying relations, not by their formal properties, but by their relation to the supposed intrinsic properties of their terms.[15] Nonetheless, once the hinge argument was formulated, the writing was on the wall for the doctrine of internal relations, though it was still a little while before Russell read it.[16] For the next few months Russell continued to fret about the elusive intrinsic properties which ground transitive, asymmetrical relations; for example, in the outline for a book to be called 'An Inquiry into the Mathematical Categories' (*Papers 2*, p. 26). The outline was written in October 1898, the penultimate entry in a series called 'Various Notes on Mathematical Philosophy' which he had been keeping since 1896. But then, in the next (and, significantly, the final) note in that series – another outline of a work never written, 'The *a priori* Concepts of Mathematics' (*Papers 2*, pp. 27-8) – the penny seems to have dropped. The note has just two numbered points (there were surely going to be more), the second is on relations. Here, for the first time, Russell stated the modern formal classification of relations in full (though he did not use modern terminology).[17] He then went on to make the by now familiar point that only transitive, symmetrical relations 'can be regarded as resulting from adjectives of both terms'. Then, after a sentence worrying about the adjectives required for a symmetrical, intransitive relation, he reversed himself on the first point: even for transitive, symmetrical relations, he now said, 'the analysis is not valid'. He went on to explain the problem, using 'equality' as his example, and then the notes end with the following sentence: 'Relations must be regarded as concepts which, if the relation be an ultimate one, are as simple and as unanalysable as their terms' (*Papers 2*, 28), with which the whole 'Various Notes' sequence comes to an end. If, *pace* Dummett, we want to identify the precise moment at which analytic philosophy began, then a case could be

made for saying it was when Russell wrote this sentence, sometime between October and the end of 1898. Certainly, this was the moment at which it can be said that Russell ceased to be a neo-Hegelian.

Once this step had been taken, the way was clear for Russell to turn the hinge argument through 180 degrees, changing it from a *modus ponens* argument from the doctrine of internal relations to the conclusion that the contradiction of relativity pervades mathematics to a *modus tollens* argument that the doctrine of internal relations must be false because it entails to the contradiction of relativity. We don't know when Russell actually rewrote the argument, but sometime between writing the 'Notes on "The *a priori* Concepts of Mathematics"' and writing the 1899-1900 draft of *The Principles of Mathematics* (quite a bit later than I had previously supposed). The hinge argument comes from the typescript of the 'Analysis of Mathematical Reasoning' and it survives only because it was incorporated into the 1899-1900 draft of *The Principles of Mathematics*, making up most of what survives of Part IV Chapter III of the 1899-1900 draft, on 'Asymmetrical Relations'. It is, of course, surprising to find it there since Russell's thinking had now taken a markedly anti-Hegelian turn. Moreover, it is included with only minor textual revisions. Instead Russell prefaced the old material with a new folio outlining what he intended to do in the chapter:

> In the present chapter, it will be my aim to prove, by a *reductio ad absurdum*, the impossibility of reducing to the subject-predicate form propositions of the kind presupposed by order, *i.e*. propositions asserting asymmetrical [in modern terminology: asymmetrical transitive] relations between pairs of terms. ... Now if all relations are reducible to adjectives ... it follows that the related terms must, where the relation is asymmetrical, have different adjectives. ... But such adjectives ... cannot be obtained. Throughout the following discussion, I shall accept the traditional theory of relations, and shall deduce a certain contradiction, which may be called the contradiction of relativity. ... I shall then proceed to show how, by a different logic, this ceases to be a contradiction. (*Papers 3*, pp. 89-90)

He ended the chapter with the hinge argument exactly as it had been stated in *AMR*, with the exception of the final sentence of the original which had asserted the importance of the contradiction for mathematics and which he now deleted.[18] In its place he wrote: 'We cannot hope, therefore, so long as we adhere to the view that no relation can be "purely external", to obtain anything like a satisfactory philosophy of mathematics' (*Papers 3*, 93).[19]

3 But Was Our Man Really the First Out of the Gate?

Flipping the hinge argument certainly marks the beginning of Russell's career as an analytic philosopher, but does it mark the beginning of analytic philosophy? I think not. I think Frege has a very good claim to priority, but not particularly for his linguistic move in §62 of the *Grundlagen*. Taking the *Grundlagen* as a whole, it is hard now not to think of it as a work of analytic philosophy. And even before that, in the *Begriffsschrift* (1879), which gave us in one fell-swoop classical propositional logic and quantification theory, Frege founded modern logic and recommended its use for understanding the relations between concepts. But it might be argued that, though both works herald analytic philosophy, they do not constitute its beginning. Frege was a mathematician working on the foundations of arithmetic, unlike Russell, he was not espousing a general philosophical position.

An important priority claim, however, can be made for G.E. Moore. Russell's effusive acknowledgements to Moore in *The Principles of*

Mathematics have often seemed puzzling, because on almost all the points on which Russell gave priority to Moore, we seem to have evidence of Russell developing the idea more emphatically, more elaborately, and earlier than Moore. This is certainly true of the treatment of relations, where Russell seems to have been first in recognizing the importance of relations, in attempting to classify different types of relation, and in explicitly rejecting the doctrine of internal relations. Nothing Moore ever wrote approached the degree of sophistication with which Russell was treating these topics in 1898. In contrast to the reams Russell wrote on relations in 1898, Moore wrote basically this: 'A proposition is constituted by any number of concepts, together with a specific relation between them'.[20] In a letter to Russell on 11 September 1898, he added that he thought there would be 'several kinds of ultimate relation between concepts'. And that was more or less it. Nonetheless, Russell repeatedly asserted his indebtedness to Moore on matters pertaining to relations (*The Principles of Mathematics*, pp. xviii, 24, 446). I think the explanation is that, as much progress as Russell was making throughout 1898 in understanding relations and their importance, he continued to think of them in neo-Hegelian terms, as internal to the terms they related, until he came to sketch the outline of 'The *a priori* Concepts of Mathematics'. I think this note was written very soon after Russell read Moore's second Fellowship dissertation in November. Its final paragraph picks up Moore's terminology : 'concepts' rather than 'terms' and 'ultimate' relations rather than 'irreducible' ones. Moore had never been as deeply enmeshed in neo-Hegelianism as Russell and it would, I think, have been easier for him simply to ignore the great weight of the Hegelian logical tradition that weighed on Russell. Though we have no record of it, I suspect that it was under Moore's influence that Russell was finally persuaded to abandon the quest for intrinsic properties and turn the hinge argument the right way round.

Notes

[1]The first section of this essay is adapted from a longer paper, 'Dummett and the Origins of Analytic Philosophy' in *Philosophy and Progress* (Dhaka: 1998), 24-25: pp. 1-22.

[2]Michael Dummett, *Origins of Analytical Philosophy*, Cambridge, Mass.: Harvard University Press, 1993.

[3]Gottlob Frege (trans. J.L. Austin), *The Foundations of Arithmetic*, Oxford: Blackwell, 1959 (2nd edition), p. 73e.

[4]This was not a new theme of Dummett's. Essentially the same definition occurs in 'Can Analytical Philosophy be Systematic and Ought it to be?' (1975), in *Truth and Other Enigmas* (London: Duckworth, 1978), pp. 441-2; and in *The Interpretation of Frege's Philosophy*, (London: Duckworth, 1981), p. 39.

[5]Russell's fit with Dummett's definition is dealt with well in Ray Monk's 'Was Russell an Analytic Philosopher?' in H.J. Glock (ed.), *The Rise of Analytic Philsophy* (Oxford: Blackwell, 1997), pp. 35-50.

[6]Letter to Husserl, 30 October – 1 November 1906, in *Philosophical and Mathematical Correspondence*, trans. H. Kaal, ed. B.F. McGuinness (Oxford: Blackwell, 1980), p. 68.

[7]'Sources of Knowledge of Mathematics and the Mathematical Natural Sciences' (1924/5), *Posthumous Writings*, trans. P. Long and R. White (Oxford: Blackwell, 1979), p. 270. Both passages are cited by Dummett (*OAP*, p. 6).

[8]*Begriffsschrift* (1879), trans. S. Bauer-Mengelberg in J. van Heijenoort (ed.) *From Frege to Gòdel*, (Cambridge: Harvard University Press, 1967), p. 7.

[9]J. Derrida, *Edmund Husserl's 'Origin of Geometry': An Introduction*, trans. J.P. Leary (Lincoln: Nebraska University Press, 1989), p. 160. Indeed, in his notorious introduction to the 'Origin of Geometry' Derrida claims that most of the essay's 'motifs' are to be found in Husserl's early work, including the idea that the 'ideal formations' of the sciences 'are rooted in language' (ibid., p. 25). So if both Derrida and Dummett are correct, Husserl always was an analytic philosopher. Much more likely, they are both reading their own philosophical concerns back into their favourite great dead philosopher.

[10]'On the Relations of Number and Quantity', *Papers 2*, p. 81.

[11]I don't want to suggest that this distinction is at all clear. Russell obviously intended a logical distinction, but it looks as if he may have got an epistemological one where, in some circumstances, the relation can be inferred from the properties, while, in others involving the same relation, the properties can be inferred from the relation. Evidently Russell did explicitly state this four-fold classification in *AMR* (he refers to it on a number of occasions) but, alas, the sheet on which he did so is lost and with it, perhaps, some better account of what he meant by the distinctions on which it is based.

[12]In effect what Russell has given here is what we now know as a definition by abstraction: we can use an equivalence relation to define a property that all members of its field, the equivalence class, have in common. Equivalence relations are those which are symmetrical, transitive and reflexive, but Russell already had a neat argument to show that if *R* is symmetrical and transitive and if *aRb* holds then so does *aRa*. For, by symmetry, if *aRb* holds, so does *bRa*; and if *aRb* and *bRa* hold, then by transitivity so does *aRa* (*Papers 2*, p. 121).

[13]'Adjective' here is not a grammatical category, it is a synonym for 'property'. Russell's usage follows F.H. Bradley's.

[14]Cf. 'What Did Russell Learn from Leibniz?', *Journal for the History of Analytical Philosophy*, 2 (2012), pp. 1-11.

[15]As it happens, all transitive, asymmetrical relations fall into the fourth neo-Hegelian class, where different intrinsic properties for each term can be inferred from the relation. For asymmetrical relations, as we've seen, the intrinsic properties of each term have to be different; and in the case of transitive relations, where we can infer *ArC* from *ArB* and *BrC*, whatever property *C* has by virtue of its relation to *A* must be inferable from *ArB* and *BrC*.

[16]In 'What Did Russell Learn from Leibniz?' I thought that he did so soon after he finished *AMR* in July 1898, as soon as he started to read Leibniz in preparation for the lectures on Leibniz he was to give in 1899. For Leibniz stated the doctrine of internal relations explicitly and repeatedly in works Russell read in August. Leibniz also noted problems with the doctrine which had an uncanny resemblance to the contradiction of relativity, but proposed solutions to them which Russell would have been quite unable to accept.

[17]It is stated (not without some problems) in almost the same terms in January 1899 in 'The Classification of Relations' (*Papers 2*, pp. 138-9).

[18]The only other change he makes is in the penultimate sentence where he replaces the word 'number' by 'ratio': he had in the interim come up with a new account of cardinal number which did not depend upon asymmetrical relations.

[19]When Russell came to publish *The Principles of Mathematics* he wrote a totally new chapter on asymmetrical relations (Part IV, ch. xxvi) to replace the one in the 1899-1900 draft. This is hardly surprising: the neo-Hegelian theory was by then far behind him and he no doubt thought that it was pointless to expound the theory in such detail only to refute it, though there is a reference to 'the contradictions which the Critical Philosophy has found in mathematics' (*POM*, p. 218) and to 'On the Relations of Number and Quantity' where he had first stated the contradiction of relativity in its general form (*POM*, p. 223n).

[20]'The Nature of Judgment', *Mind*, (1899), n.s. 8:180. The paper was taken from the second chapter of Moore's second Fellowship dissertation, written in the summer of 1898. Russell called it the first publication of the new philosophy.

Russell and Couturat and Their Changing Views on Kant

BY RUSSELL WAHL

Over the years 1897–1907 Russell had a large correspondence with the French philosopher, Louis Couturat (1868–1914). The correspondence, which was published with a commentary by Anne-Françoise Schmid in 2001, covers many topics, including Russell and Couturat's views on the Boer war, internationalism, and Russell's developing the new views on mathematics and logic which he would publish in *The Principles of Mathematics* and further in *Principia Mathematica*.

The correspondence with Louis Couturat began when Russell wrote a review of Couturat's 1896 *De l'infini mathématique*. Couturat wrote him a kind letter, praising his analysis and even his criticisms. He also praised Russell's 1897 *An Essay on the Foundation of Geometry* (hereafter, *EFG*), albeit with a question concerning Russell's claim that the question of whether or not Euclid's axioms apply to the actual world was an empirical matter. Russell's critique of Couturat's *De l'infini mathématique* relied on arguments stemming from his own work on continuous quantity and on arguments concerning contradictions involved in an actual infinity.[1] Couturat, at least with respect to Kant's Antinomies, was less a Kantian than Russell. In fact, at the beginning of this period Russell was quite sympathetic to Kant, although he never endorsed all of Kant's views. As Nicholas Griffin pointed out thirty years ago, Russell's early papers include some sympathetic readings of Kant and a defense of some of his theses against the James Ward's criticisms.[2] Russell's *EFG* is Kantian in many respects, although Russell rejected Kant's view that Euclidian geometry was known *a priori* and necessarily true of experienced space. He did think, however, something like this was true of projective geometry. He argued that we are aware of what he called a "form of externality" and that we can regard our knowledge of the properties of this form as *a priori*. "The ground for this is transcendental, i.e. it is to be found in the conditions required for the possibility of experience." (*EFG* §181, p. 178) He further stated that, "a form of externality. . . must be, not a mere conception, but an actually experienced intuition." "Some form in sense-perception, then, whose conception is included under our form of externality, is *a priori* necessary to experience of diversity in relation, and without experience of this we should, as modern logic shows, have no experience at all." (*EFG*, p. 179) Russell disagreed with Kant not only rejecting Kant's claims for Euclidian geometry, but also the claim that space was subjective: "The ground of necessity, we may say, arises from the mind; but it by no means follows that the truth of what is necessary depends only on the constitution of the mind." (Ibid.). In his "Are Euclid's axioms empirical?" after stating that he did not think we could one day discover a fourth dimension, he contrasted his rejection of subjectivism with Couturat, suggesting that Couturat in this respect was more of a Kantian than he was:

> I hold the opinion, which M. Couturat seems to regard as absurd, that true propositions about space are true independently of the human mind, and that space, in so far as it is real, has a reality external to ourselves. That geometry may be only a well-developed branch of Psychology is an opinion I cannot accept. (*Papers 2*, 336)

Kant argued in the *Critique* that our representation (idea) of space was not a concept, but an intuition. One of the things he meant by that was that it was a representation of a particular, and so was not a general concept. He argued that space was the form of outer intuition. This is why, on Kant's view, all of our experience conforms to geometry, and so geometry is known *a priori*. It is synthetic because (a) the truths of geometry cannot be derived from the law of contradiction (one account Kant gives of the an-

alytic) and (b) the various geometric (and arithmetic) truths are not such that their predicates are contained within their subjects (another account Kant gives of the analytic). Kant argued that the only way synthetic *a priori* knowledge could be possible is if the mind supplied the form of intuition to the empirical intuitions of outer experience. Spatial properties are empirically real but transcendentally ideal. To the extent that they are empirically real, they are not subjective, but to the extent that they are transcendentally ideal, they are put there by the subject, so in that sense they are subjective. It is this second claim that had Russell and others saying that Kant's view of space was "psychological."

Russell's philosophical views were undergoing a transition during the years 1897-1900 and some of the changes are reflected in the correspondence with Couturat. An interesting feature of the correspondence is that much of it from 1898 to 1900 is taken up with a discussion of the translation of *EFG*. The translation didn't appear until 1901, by which time Russell had changed many of his views. Despite the departure from Kant's philosophy of space in *EFG*, we have Russell saying, concerning his 1898 draft, *An Analysis of Mathematical Reasoning*, that while he has changed many of his opinions since *EFG*, he was supporting his new opinions by using results which "are found in Kant," and which he came to by asking himself the question of the *Prolegomena*, "How is pure Mathematics possible?" (R 03.06.98, p. 59).[3] He then said his results would be "purely Kantian for the most part."

One year later he asked to change the wording in a translation of a paper he was writing against Poincaré. Couturat had translated "propositions" as "nos jugements" and Russell said that it was better not to translate it this way as "I am no longer Kantian and I regard the proposition as something objective and independent of all knowledge" (R 21.10.99, p. 143). Nonetheless, Couturat characterized Russell as a "neo Kantian, more or less orthodox," for the French edition of *EFG*. (C 06.07.00, p. 192). And Russell seems to have suggested this language (R 03.07.00, p. 191).

Kant came up briefly in Couturat and Russell's disagreements on the Boer War. On the 6th of April, 1900: "I remain faithful to my principles of international law, which are those of Kant, not those of Bismarck nor of Napoleon and which conform to the most noble and generous traditions of the French spirit." (C 06.04.00, p. 164) He characterized these as including that all nationalities have the right to existence and independence and that the suppression of a nation is a crime analogous to murder. In response Russell said, "In theoretical ethics I am in no way Kantian, but a Platonist (as in logic) rather than whatever is modern. But I think it is impossible to apply theoretical ethics in politics or even private life, because the circumstances are so complicated that one can't make the necessary reasonings." (R 05.05.00, p. 171). Couturat's response to this shows his steadfast adherence to Kantian moral thought over utilitarianism:

> As for what you say of the Platonist moral philosophy as opposed to that of Kant, this is correct; all "material" utilitarian and naturalistic morality is almost inapplicable to the practical because of the inexhaustible complications in the case of particulars; but doesn't that condemn this sort of morality, for finally, a morality is made to be applied and practical or is worth nothing. Do not be surprised, then, that I remain faithful to Kantian morality, a rigid and austere guide, but infallible and always clear. (C 13.05.00, p. 179)

Russell later came to Couturat's opinion concerning the British engagement in the Transvaal, though not to his Kantianism in ethics.

While there is no further discussion of Kant's ethics in the correspondence, Russell's parenthetical remark that he was now a Platonist "in logic" was something that developed far

more. Having embraced Moore's "The Nature of Judgement" and developed a logic of relations with the help of Peano's work, Russell was in a position to reject most of Kant's philosophy of mathematics. Couturat, very much taken with Russell's view of mathematics, was as well.

In 1901, while working on *The Principles of Mathematics* (hereafter, *POM*) Russell wrote a blustery article for the *International Monthly* entitled "Recent Work on the Principles of Mathematics." (The article was later reprinted as "the Mathematician and the Metaphysician.") Here Russell was a cheerleader for a revolution in mathematics, focusing especially on recent work in infinity. In this paper he suggested that all the contradictions involving infinity rested on the "axiom" that the whole has more terms than the parts, but because of Cantor's work we reject that axiom, with the result that all the problems are solved. Russell suggested that the acceptance of this axiom involved intuition, but the modern logic banishes this, and replaces the intuition of quantity with the notion of order. (*Papers 3*, 376). He ended the paper with this:

> The proof that all pure mathematics, including Geometry, is nothing but formal logic, is a fatal blow to the Kantian philosophy. Kant, rightly perceiving that Euclid's propositions could not be deduced from Euclid's axioms without the help of figures, invented a theory of knowledge to account for this fact; and it accounted so successfully that, when the fact is shown to be a mere defect in Euclid, and not a result of the nature of geometrical reasoning, Kant's theory also has to be abandoned. The whole doctrine of *a priori* intuitions, by which Kant explained the possibility of pure mathematics, is wholly inapplicable to mathematics in its present form. (*Papers 3*, 379)

Couturat read Russell's work, including this one, and was quite taken with Russell's view. He was primarily critical of the Kantian view that mathematics was a synthetic *a priori* discipline grounded by intuition. Couturat accepted the Kantian view that synthetic *a priori* judgments were grounded by some sort of intuition. For Couturat, the attack on intuition was an attack on the synthetic *a priori* nature of mathematical propositions. What is tricky here is to determine just what is meant by an "intuition." Kant held that intuitions were representations of particulars, and that all synthetic judgments required some awareness of a particular to ground them. In the case of empirical judgments, the intuitions were sensible intuitions, that is, representations of items sensed. In the case of *a priori* synthetic judgments, Kant held that the intuition that grounded them was the *a priori* intuition of the forms of space and time.

Now "intuition" is also used to mark propositions that are not the result of a deduction, and these senses can easily be confused. Not surprisingly, Russell also used "intuition" in the two senses. Having been formerly a sympathetic reader of Kant, Russell was well aware of Kant's use of the term "intuition" as a representation of a particular. Russell's argument in *POM* against Kant is an argument that we do not need any other reasoning besides logical reasoning to do geometry and in particular, we do not need to appeal to *a priori* intuitions. On p. 458 (§434) of *POM* Russell argued that he has shown that the reasoning of Geometry is purely formal, whereas "Kant thought the actual reasoning of mathematics was different from that of logic." (Ibid.) He said the Kantians could still claim that an *a priori* intuition is required to assure that "the definition of three-dimensional Euclidean space, alone among the definitions of possible spaces, is the definition of an existent. . . " (Ibid.) However, he said he wouldn't go into this, though he had earlier argued that this claim is an empirical, not an *a priori*, claim. Here he understood "intuition" in the Kantian sense. But he also used "intuition" in the sense of a proposition which was not deduced from another proposition, and this resulted in a confusion in the exchanges between Russell and Poincaré later on, when Poincaré,

reading Russell through the lens of Couturat's discussion, thought that Russell held that mathematics was analytic and involved no intuition at all.

For all the orthodox Kantians, synthetic propositions and intuitions go together. If one claims that a proposition is synthetic, then it must also involve an intuition. Analytic propositions are true by concepts alone, and are explained in terms of concept containment. Formal logic was considered analytic, and therefore "empty" in Kant's terms. Poincaré very much adopted this part of the framework, and so saw Russell, like Frege, taking mathematics to be analytic in their espousal of what we now call logicism. Russell's attack on intuitions in *POM* seemed to confirm this. However, as it is now quite well known, Russell also thought that mathematics is synthetic *a priori*. It is just that he also thought that logic is as well. Russell thought the analytic/synthetic distinction was connected with the doctrine that all propositions are of the subject predicate form. His most detailed discussion of analytic propositions occurred in his *Philosophy of Leibniz* (hereafter *POL*), and is unfortunately marred by his identification of Leibniz's contingent propositions with synthetic propositions and Leibniz's necessary propositions with analytic ones. From this identification he argued that only such propositions as A is A should count as analytic (and even these he thought were not really propositions at all) as any other proposition AB is A would first have to involve the compossibility of AB and that determination would be synthetic. Not long after he wrote this Couturat convinced him that if we understand an analytic proposition to be one where the predicate is contained in the subject, then on Leibniz's view every true proposition is analytic, even those which assert existence and are, therefore, contingent.[4] Russell's argument in *POL* appears more as part of a *reductio* on the Leibnizian view of propositions and from this time on when he used the term 'analytic' he would say that only propositions expressing identities were analytic and that not only mathematical propositions, but logical ones were synthetic (see *POL* §11 and *POM* p.457). Even as late as the first edition of *Principia Mathematica* Russell held this view. In Russell's review of Couturat and his earlier letter to Couturat, Russell took Leibniz's claim that all propositions are analytic, coupled with the view that all analytic propositions are a consequence of the principle the law of contradiction, to again form a reductio—this time arguing that the principle of sufficient reason itself did not follow from the law of contradiction, and so was, according to the claim that all true propositions are analytic, false. (See R 23.03.02, p. 272 and *Papers 4*, p. 544.) Couturat replied to this saying that Russell was correct in saying that the "principle of reason is not a consequence of the principle of contradiction" and also that the principle of reason is synthetic, but he wanted to emphasize that "we should call *analytic* ... that which can be deduced from the principles of formal logic, of which the principle of contradiction is just *one*; so that a truth could be analytic without, however, being deducible from just the principle of contradiction." (C 27.03.02, p. 277.)

Couturat asked Russell to write on Kant's mathematical philosophy for the issue of *Revue de Métaphysique et de Morale*, honoring the centenary of Kant's death. Russell declined, saying,

> For Kant, I hardly think myself learned enough in his philosophy to write an article on him. There is such a mass of literature on the interpretation of his obscurities, that I always thought it was better to avoid all detailed critique. Especially in an issue devoted to him, one must know him thoroughly. It has been years since I've read him, and I've never learned to judge among all the various opinions on what he means. For this reason, I would require lots of time to write the article you mention. (R 20.10.03, p. 313)

Couturat instead wrote the piece along with a series of articles expounding Russell's logicism.

Couturat opened his article on Kant's philosophy of mathematics with a long critique of Kant's account of the analytic/ synthetic distinction. He especially criticized Kant's argument that $7 + 5 = 12$ is not analytic, and rejected Kant's view that all analytic judgments follow from the law of non-contradiction. He argued that other logical principles are needed for Kant's claims (*PMK* , p.329) and that Kant confounds the principle of identity and the principle of contradiction.[5] Concluding this section Couturat repeated what he had earlier said in a letter to Russell, that the most favorable way to interpret Kant would be to substitute for his "principle of contradiction," "the principles of logic." (*PMK*, p. 330) And then we would say that "analytic judgments are those which rest on the principles of logic". However, he pointed out, this isn't enough and we must include real definitions in this account, so that we would say that a judgment is analytic if it can be deduced from the definitions and the principles of logic." (Ibid.)

In December 1903 Couturat said that he believes he found why Kant holds that $7 + 5 = 12$ is a synthetic judgment. It is that arithmetical addition "is not a logical addition (or multiplication?) of the two concepts 7 and 5: it assumes the logical addition of two collections having respectively the numbers 7 and 5." (C 07.12.03, p. 344) And these collections he thinks can be found only in an intuition (empirical or *a priori*). Three days later Russell responded by "What you said about $7 + 5 = 12$ seems to me correct." (R 10.12.03, p. 346). In March 1904, Couturat asked Russell, "What do you think of Kant's opinion that existence is not a predicate?" (C 11.03.04, p. 367) Russell responded three days later: "I am not of Kant's opinion that existence is not a predicate. That is to say, I find the two concepts: "100 thalers" and "existing 100 thalers" are different. The second contains existence in an analytic manner. But it does not in any way follow (as the ontological argument claims) that the existing 100 thalers exists. What is lacking is the assertion, which Frege represents by '$\vdash$'." (R 14.03.04, p. 372) Russell here was under the influence of his more Meinongian view to be abandoned the next year.

That same March, Couturat asked Russell, "What is the role of intuition in Geometry? Is it an *a priori* intuition or an empirical intuition which grounds the postulates of the actual Geometry?" (C 27.03.04) Russell responded, "As for intuition and the geometry of actual space, I am of the opinion, as you know, that there is no *a priori* intuition which affirms existence. For this reason, I think that the nature of actual space is an empirical question, and that we don't have, and can't have any certainty that actual space is strictly Euclidian." (R 04.04.04, p. 376)

Couturat's question was about a Kantian intuition which grounds a postulate. Russell appears to be blending this with the notion of an intuition as a certain kind of judgment when he talked about the intuition "affirming existence" and tying the question to issues of certainty. Couturat and Russell both agreed that *a priori* intuitions in the first sense had no place in mathematical reasoning. Russell, though, would later accept the notion of an intuition in the second sense in his foundations of mathematics. This was connected with his view that both logic and mathematics were synthetic *a priori*, a position not shared by Couturat.

Couturat had over the course of the last few years of the correspondence become more hostile to Kant's philosophy of mathematics, and this hostility now extended to Kant's larger ethical and religious views. In summarizing his article in the centenary issue of the *Revue de Métaphysique et de Morale*, Couturat wrote Russell: "I found a mass of contradictions and variations on his theory, and I showed that for nearly all the points the theory was refuted by modern mathematics or logic. This will scandalize all the Kantians, used to repeating obediently the doctrine of the master as the word of the Gospel...I reproach Kant for having wanted to subordinate *knowledge* to *faith*, and for having lacked confidence in reason. For a long time I have been of this opinion, and it has

been strengthened since I've seen the detestable abuse that modern mystics have made of the postulates of practical reason, of freedom, of belief, of contingency, and other nonsense." (C 05.05.04, pp.387-8) Russell responded "I am entirely of your opinion on the subject of knowledge and faith. We have in this country the disciples of William James, who claim that the will is the source of some axioms." (R 17.05.04, p. 392)

Russell still differed with Couturat over the question of whether we should just define "analytic propositions" as those which follow from the laws of logic. In a letter written to the French historian Élie Halévy in November 1904, Russell said,

> Couturat has a new meaning for "analytic", which makes all mathematics analytic. For my part, I think the term useless, as it seems to me to embody a false view of the nature of propositions and the function of the Law of Contradiction. So I do not see any gain in giving a new meaning to it. But I agree with what Couturat *means*, tho' I think his language is calculated to arouse irrelevant logomachy. (Letter in the Russell archives, 22 November 1904)

Russell was not as definite in his later letter to Couturat, the next January, where he said,

> The analytic-synthetic distinction seems to me to be correct in philosophy, but without importance in mathematics... $p \,.\, q \supset p$ is an analytic inference. Let p be "$2 + 2 = 4$". We have $2 + 2 = 4 \equiv 3 + 1 = 4$. Thus $2 + 2 = 4 \,.\, q \supset 3 + 1 = 4$. This is a synthetic inference. Synthetic – analytic has to do with the meaning of propositions; in substituting a true prop for another true prop, or a false for a false, in just one part of a formula, we change the character from this point of view, but not from the point of view of the logic of implication. Most mathematical inferences are synthetic; for example $\vdash :: u \in 1 \,.\, \supset :. x \in u \,.\, \supset_x \,.\, \phi`x : \equiv \,.\, \phi`\imath`u$. (R 01.01.05, 462)

Later in 1905 Russell read a paper to the Oxford Philosophical Society, "Necessity and Possibility," where he discussed modality in a way absent from much of his other work. At one point he remarked on Couturat's proposal that we treat as analytic the propositions which are deducible from the laws of logic. (*Papers 4*, 516) But at the end of the paper, when he summed up what might be contained in the "muddled feeling of necessity," he included (*Papers 4*, 520):

1. The feeling that a proposition can be known without an appeal to perception;
2. The feeling that a proposition can be proved;
3. The feeling that a proposition can be deduced from the laws of logic;
4. The feeling that a proposition holds not only of its actual subject, but of all subjects more or less resembling its actual subject, or as an extreme case, of all subjects absolutely.

Couturat's proposal is captured by point (3), but Russell was not tempted to adopt this or any other account of necessity, concluding that "the subject of modality ought to be banished from logic, since propositions are simply true or false, and there is no such comparative and superlative of truth as is implied by the notions of contingency and necessity." (Ibid.) Russell actually was most sympathetic with (4) above, and would then say that "necessary" properly applied not to propositions, but to propositional functions.

In the end, it is probably Couturat who is more critical of Kant in the correspondence, but Russell had moved away from his earlier identification with Kantian themes. Russell's rejection of intuitions in Kant's sense also brought him

under criticism from Poincaré, who had read Couturat's essays on *The Principles of Mathematics* and also the one on Kant's philosophy of mathematics in the 1904 issues of *Revue de Métaphysique et de Morale*. Poincaré thought that Russell, too, held that mathematics was analytic. But the story of Russell's interaction with Poincaré will have to wait for another day.[6]

Notes

[1]For a discussion of Russell's criticisms of Couturat's book, see Nicholas Griffin, *Russell's Idealist Apprenticeship* (Oxford, 1991), Chapter 6, especially pp. 239-241 for Russell's views on Cantor and pp. 255-257 on the issues involving Russell's view of continuous quantity.

[2]*Op. cit.*, especially §4.2, pp. 109-117.

[3]All references to the correspondence are from the edition by Anne-Françoise Schmid (Paris, 2001). R indicates a letter from Russell, followed by the date and the page number from this edition.

[4]See Russell's "Recent Work on the Philosophy of Leibniz" in *Mind* 12, April 1903. Reprinted in *Papers 4*, pp. 537-561. See p. 538. Russell wrote the review a year earlier as he said in a letter to Couturat, in which he admitted Couturat was correct about Leibniz's view. See R 23.03.02, pp. 271-2.

[5]Couturat, "La Philosophie des mathématiques de Kant" (*Revue de Métaphysique et de Morale*, 12, No. 3, Mai 1904, pp. 321–383). (hereafter, *PMK*) The discussion of analytic judgments is on pp. 323-330.

[6]An earlier version of this paper was read in June 2021 at the annual meeting of the Bertrand Russell Society.

Two Limerick Contests

BY LANDON D. C. ELKIND AND GREGORY LANDINI

We are happy to invite limerick submissions for a fun artistic, but still Russellian, exercise. As Ken Blackwell has noted, Russell enjoyed a good limerick. Ronald Knox wrote the following well-known limerick (see *The Complete Book of Limericks* – thanks to Ken for the reference!):

There was a young man who said "God
Must find it exceedingly odd
To think that the tree
Should continue to be
When there's no one about in the quad."

It is perhaps true that Bertrand Russell wrote the following limerick in answer:

"Dear Sir: Your astonishment's odd:
I am always about in the quad
And that's why the tree
Will continue to be
Since observed by, Yours Faithfully, God."

We propose a contest: write a rejoinder to this second (possibly Russell's) limerick. Gregory Landini offers his response below.

Furthermore, Tim Madigan recently proposed on our email list a limerick contest: see if you can write a good limerick beginning with "There was a fellow named Rusesll" – we will pick the winner(s) in the next issue! There have already been some entries made, and we will, pending author permission, print all of them here alongside the winning entry or entries. Alas, as judges ourselves, we must remove our own entries from contention. One of our entries is given below - just to get you warmed up.

A Response to the Knox Limerick

BY GREGORY LANDINI

Oh Lord! Please forgive my complaining
Tho' his perception is ever sustaining
An idea of a tree
Ne'er a tree can it be
My astonishment's therefore remaining.

My First Limerick

BY LANDON D. C. ELKIND

There once was this fellow Bertrand Russell
With sophists and rulers he did tussle.
Between logic and fine writing,
World peace and world reconstructing,
With 'doxes and 'doxies he did puzzle!