Bournemouth U3A – Great Thinkers
Bertrand Russell 1872-1970

Introduction

The paper is based mainly on Melvyn Bragg's In Our Time on Radio 4, broadcast on 6 December 2012. His guest presenters were eminent philosopher A C Grayling, Mike Beaney, professor of Philosophy, University of York and Hilary Greaves, lecturer in Philosophy and Fellow of Somerville College, Oxford.

Certain parts are amplified to give greater context and to clarify the content with the aim of offering further insights into Russell's thinking. What emerges, or rather who, is a renowned and highly respected philosopher. He is recognised for his contribution to the analytic school of philosophy, considered by many to be the most dominant branch of contemporary philosophy in English-speaking society. Bertrand Russell is also thought to have influenced British social thinking and policy.

Many feel they know Bertrand Russell in contexts other than philosophy whether for campaigning against nuclear weapons, his four marriages and/or for being dismissed from Trinity College Cambridge and City College New York also. Controversial and outspoken at times Bertrand Russell, together with Kurt Gödel, is credited as one of the most important logicians of the twentieth century.

To the wider public with an interest in philosophy, Russell may be better known for his important publication, The Principles of Mathematics that attempted to reduce mathematics to logic. On writing to a friend he described the analytical compilation as an intellectual honeymoon, an experience he had not felt before or since. We may conjecture why.   Its revolutionary ideas include Russell's Paradox, a problem that inspired Ludwig Wittgenstein to pursue philosophy. For many philosophers Russell's most significant and famous idea his Theory of Descriptions has had a profound and lasting impact.

Early Life

Bertrand Russell was born in 1872 into an aristocratic family and the grandson of Lord John Russell, famed for introducing the 1832 Reform Bill. Known best as a renowned philosopher Bertrand Russell was a social and political activist too. This may be of no great surprise given the family pedigree. After the death of his parents when Russell was relatively young he was brought up mainly by his puritanical grandmother. That too may prompt some discussion as Russell seems to fit the mould of a free thinker.

Older brother Frank, later the 2nd Earl Russell, was pivotal in introducing Bertrand to mathematics. His was a lonely life in the company of adults, enjoying the delights of Richmond Park but devoid of much contact with other children until his later teens when he went to a crammer. That he was intellectual, quiet and not particularly sporty may have influenced the decision not to send him to school but instead to

educate him at home. Apart from family involvement in his education, as well as upbringing, the impression is that Bertrand was very much an autodidact, possessing a curious mind and with a love of learning. Now where we have we seen this before in our pantheon of great thinkers!

At the age of 11 Russell was introduced to Euclidean geometry by Frank. Bertrand was puzzled why he had to blithely accept various axioms as 'givens' without proof. He questioned Frank whose view was we accept these and move on. It was not an issue to Frank but it was to Bertrand. Is it to us we may ask? When confronted by the fifth proposition, regarded as especially difficult, Russell appeared to understand it without too much effort. Reflecting much later he concluded perhaps after all he did have some intelligence, now satisfied he had a foundation for his assertion.

From Idealism to Monism

At Cambridge, Russell studied mathematics for some three years before turning to a world of philosophy, inspired and nettled in equal measure by topical theories of the day, none more so than British Idealism. Russell was open to influences, including G E Moore who led the way, shining the torch in open rebellion. British Idealism was characterised by a belief in an absolute, an all encompassing reality both inclusive and coherent based on reason.

The origins of British Idealism owed much to the German Idealism of Kant and Hegel and a rejection of empiricism, in favour of mental constructs including the mind and spirit too. G E Moore in particular disliked the sceptical implications of a world mediated by our ideas, how we perceive things in our minds and our seeing things differently. This posed questions such as how do we know what exists and especially what may (actually) exist independent of our own thoughts and perceptions.

Russell was unconvinced of Idealism from a logic standpoint, pouring scorn on those espousing such theories. Attributed to Russell is the quote, "An Idealist is one, who on noticing that a rose smells better than a cabbage, concludes that it makes a better soup." His was the world of mathematics, logic, science and nature and he spent most of his life attempting to refute Idealism. From a pure mathematical perspective the notion of Idealism raised many issues, not just to do with states of reality but the givens and assumptions we often make in using the basic tools and building blocks.

These 'givens' continued to irritate Russell who felt provoked into responding to the topical debate on British Idealism. What Russell sought were principles upon which we are able to build not just foundations but whatever edifices we choose, accepting there has to be an initial basis. If that premise cannot be satisfied the entire edifice may collapse such as an algorithm that begins with a construct upon which everything else hinges. If unsound, a fault line then results, producing a domino effect.

There is here a tenuous thread to Monism that some accounts say Russell completely rejected whilst others say that there was some form of affinity from a mathematical standpoint. At the heart of Monism is the notion that the variety of 'things' existing

in the universe are reducible to one, of the universe being simply one entity and that everything within it inter-connects. There is in short a base starting position. From one extreme to another Russell examined this form of realism and a notion of a world consisting of one type of originating substance only.

Monist thinking may be attributed to pre-Socratic philosophers such as Anaximander, Heraclitus and Parmenides and much later Stoics and more recently Spinoza. W D Quine later defined Monism as an ontological slum, represented by a world crammed full of objects that may not fully exist but which subsist. The fashionable idea of one ultimate reality was associated with an Oxford philosopher, F H Bradley, who thought everything was inter-related into one whole and if we try to separate out something what we actually do is to distort it.

Russell argued strongly against this notion, adopting a form of pluralism. He felt that in asymmetrical relationships, for example, you cannot reduce them in the way Bradley conjectured. Relationships exist in entities. When we talk about X being larger than Y both are independent as is the relationship between them. It appears to follow that they are independent variables, thus inducing the notion of pluralism.

Logic of Mathematics

Russell found many contradictions and inconsistencies exist in mathematics including geometry. His Principles of Mathematics was published in 1903 and a decade later Euclidean Mathematics.   Russell returned to axioms and the unquestioned wisdom of lacking any proof of these. He understood that if you accept them to be true the rest of geometry follows but how do you know the axioms are true in the first place, such as with any two points of space two lines connect these points. He wanted proof and certainty but conventional geometry and indeed arithmetic could not in themselves provide the evidence he was seeking. He sought not axioms but logical tenets that would stand scrutiny. Even 1 plus 1 was questioned despite the answer appearing obvious. If you define what you mean by 1 and then define the logic of plus 1 you get the answer 2. This becomes a little more complicated if you multiply 1 x 1 instead.

You do not need numbers to do this, contended Russell. You define these as classes or what we know more commonly as sets. The idea of classes was ground-breaking and evoked much discussion as mathematicians tended to dispute each other's work. No formal system of evaluation and acceptance existed nor peer review commonly used today. Russell sought a more rigorous 'tribunal' for analysing and determining acceptable proof. There had to be a better way.

A New Form of Logic

The most important catalyst for Russell was his meeting Giuseppe Peano, an Italian mathematician in logic, when attending a congress in Rome in 1900. Peano taught him the new logic that for Russell was to be the highest point of his intellectual life. Russell realised this nouveau form of logic was more powerful than anything up to

then. It gave him the tools and resources to help solve some of the contradictions in Idealism and from that point he started to use this form of logic to try and solve these problems. He was not alone as Gottlieb Frege was working along similar lines.

Classes are something modern mathematicians represent by the word sets. For any collection of objects there will be a set whose members are precisely those objects. In this theory, sets themselves count as objects so we can now consider higher level sets that have sets as members including the possibility a set has only one member. Russell's idea was to identify numbers as 0, 1, 2 etc with particular classes that maybe will allow us to execute logical progressions that we may call programs.

In the case of the number 3 for instance he defined this as a particular set containing numbers that in themselves are sets containing exactly three members. For example, one member of the number 3 is the set containing say A, B and C and nothing else. Another member of number 3 would be the set containing A and nothing else, B and nothing else and C that contains A and B. The number 3 has several sets and every member is a set of three members. If you can define numbers in this way then say the number 3 can be identified accordingly and give you a corresponding definition of the number 2 and the operation plus (+). We will then know where we arrive at and most important how we have got there. You can use these definitions as the rules of logic to prove for example 2 + 3 =5 which mathematicians usually have to take for granted as with all integers.

The key idea here is to make use of logical concepts such as not identical with itself that in logic is referred to as the null set defined in these terms. Now we are able to define number 1 and 2 objects as 0 and 1 etc in binary code or as a variant. Hardly surprising this raises the question of why use these at all. Intuitively, a set of objects is much clearer than merely a number. Ask a person what is the number 3 and what does it signify necessitates a complicated explanation. The notion is then used as a part of a definition of number that does not have reference to numbers. Arithmetic concepts are not used at all but logical concepts instead.

Russell's Paradox

Using the notion of a class or set Russell came across the difficulty that some classes are members of themselves. A class is a member of the class of classes, whilst some classes may exist that are not members of themselves. Take for example a class of horses. A horse is not a class so you create a distinction between kinds and types of classes. Russell came across a puzzle, if not conundrum, that we know as Russell's paradox. What would you say of a class which was not a member of itself? If it was not and you had a class of all those classes not members of themselves would that class be a member of itself? That was the puzzle.

We can think of classes being defined as occupying different levels. You may think a level 2 class is only allowed to have that class as its members and cannot therefore be a member of itself. An illustration of being a member of itself is a class of classes.

The paradox is similar to the notion of a barber in a mountain village who shaves only men who do not shave themselves. If a man in that village does not shave himself he is (therefore) shaved by the barber. Now the puzzle is does the barber shave himself or not? If he does not, then he does and if he does shave himself then he does not. The paradox is that if he shaves all those men unable to shave themselves he both does and does not shave himself. The question then is what happens if you have a class of classes that are not members of themselves? If it is not a member of itself by definition it is and if it is by definition it is not.

The paradox relates to the work of Gottleib Frege, a logician who arrived on the scene twenty years before Russell. His specialism was arithmetic, rather than geometry, and like Russell thought you could refer to numbers as concepts entailing the use of classes or sets. For Frege the new logical thinking of Russell was a problem. Russell wrote to Frege in 1902 just as Frege was publishing the second volume of his great work on the basic laws of arithmetic, intended to show how this could be reduced to logic.

Frege immediately realised that Russell's work was devastating in exposing limitations in his work. Writing back he said the foundations of his project and much of his life's work were shattered. Frege in effect gave up on his hitherto inspiring project, instead pursuing philosophical ideas. He left Russell to resolve the paradox. We may wonder if the paradox, whilst interesting, has any practical relevance and application.

Russell's Principles of Mathematics was his serious first attempt at logicism but this was bedeviled by the paradox for the same or similar reasons that Frege's studies suffered. Russell's response was more robust then Frege, saying that there was a profound issue with this logic at the very foundations. The root itself was questioned and a fresh start might be required to construct the model in a more careful manner as the edifice was unsound. This occupied Russell for most of the next ten years.

Did he succeed? Well, yes and also no! Russell developed what he called type theory where the aim is to analyse why the paradox occurred and what actually caused it? Russell thought the reason why we have this paradox is because in the 'naieve set theory' used so far a certain form of self-reference has been permitted.

At issue was the notion of the class of all classes not being members of themselves. This pre-supposes all classes are there already, neatly laid out. The notion is then used to define another class viz the class of all classes that is not a member of itself. This inevitably ends up being a member of the collection, suggesting an uncorrectable fault in the loop. What Russell thought necessary was to write a foundational theory forbidding that kind of self reference. If that can be done it is possible to rebuild or reconstruct arithmetic based on these new foundations.

Theory of Types

Frege thought one could talk very naively about all objects that can include classes as well as everyday objects whereas the theory of types suggested we need a hierarchy of objects so there are ground-level objects. There are classes of those objects and classes and classes of those objects and that you cannot treat classes of those higher up as members of those classes that are lower down. Instinctively we think the world of objects is more complex and is structured differently from ways we thought. There appears no simple domain of all objects as we have to try and sort out what kinds of objects these are and what their relationships may be.

Theory of Descriptions

This came from Russell's notion that the meaning of the word is the object it denotes. This was Russell's attempt to solve a difficulty of the over-rich universe of things if every meaningful expression must have something to which it denotes. What Russell did was to say most of the words we think of as denoting or naming objects in the world are not really denoting expressions; they are instead disguised descriptions of these things and that there are only two. This is not strictly the case as there are four if we include plurals but leave that aside.

Words that directly denote what these represent are the demonstrative pronouns this and that. By definition of this type of pronoun what you are pointing at or out are the very things you are speaking about. All the other nouns and names disappear when you look at the underlying logical structure of the sentence in question.

The example Russell used was the present king of France is bald. You may think if there is no present king of France that sentence must be false but in what way is it false? Our language and logic, Russell felt, should only have the two truth values of either true or false. The question here is how to show, explain and demonstrate the statement is false as there is a need to unravel the implications and not just state it is so. What Russell did was to say this sentence comprises actually three elements:

- there is a king of France; either there is or is not, assuming France is a 'given!'
- that any property attaching relates to the king of France and is attributed to him.
- the definite article implies uniqueness viz the king, referring to a specific person.

The subject is a description that in the example may be broken down further as may the predicate, such as use of the defining word is – so no equivocation!

Important to Russell in philosophy was the contrast opening up between grammatical form and logical form.   The statement appears to be a simple subject and predicate proposition and something that has a property. We can then take various sentences that look as if they are about one thing when they are not. Another example might be a wife has three children but now compare this with the average woman in York has 2.2 children.

There is no such person as the average woman living in York is based on arithmetic, to one decimal place, and even if she was found she could not have 2.2 children. What we are actually saying is something more complicated. If you count up the number of women in York and count up the number of children and divide the second figure by the first you arrive at the answer. It is a mean average and not a person. Russell felt we can then talk about this fictional woman as a logical construction.

Another example might be a committee such as the committee made a decision to do something. The committee itself is not an entity making decisions as it is individual members who do so. In our minds we may well interpret the committee as a body of people brought together for a purpose and who may have been elected or at least appointed in some way or another.

Russell's theory of descriptions was useful in at least three ways:

- The use of the definite article, such as the right way as an absolute viz that way and the only way.

- Russell's introduction of new tools that have wider application in the philosophy of language such as a distinction between grammatical and logical form. As an example, if you do not pay attention to this there is then the prospect of being led astray or wandering down a wrong path.

- Russell's theory of descriptions is regarded as an absolute paradigm in the theory of philosophy. It allows us to engage with topics, especially about contemporary thinking and matters that are beyond the domain of language.

Russell's approach to descriptions illustrated that if we do not pay the most careful attention to how language works and is used we will veer away in our thinking about basic questions and may draw an incorrect conclusion. Fuzziness has to be removed.

That combination of a focus on the big questions and approaching them via careful attention to language characterises the creed of philosophy in the 20th and 21st centuries. It is interesting to compare and contrast the reactions which these ideas and theories provoked back in Russell's time and may still do so, preciseness apart.

Wittgenstein, a pupil of Russell at Cambridge during the First World War, reacted sharply to the idea of language in his later philosophy as possessing an underlying logical structure that requires analysis. Instead, he thought that meanings lie in the surface of language and in the uses to which words are put and what we make of them. We may well mislead ourselves if we think we have to unearth something.

In Wittgenstein's earlier philosophy, written shortly after his time with Russell, he expressed the more radical view of a denotative theory of meaning in that names denote objects, more systematic and even more radical than Russell's own view. Wittgenstein reversed this view in his later work that was a major reaction against the idea of the whole approach that underlies the use of language in philosophy.

Types of Knowledge

In English we use this in at least two ways of knowing an object or person or knowing information. French language is more helpful as this ascribes particular meanings to the word know. Russell is talking about the first viz the knowledge of objects and wants to probe further the ways in which we can have knowledge of objects. One of the things he is rebelling against is the notion of the Idealist view which is the idea that in order to know any one object we would have to know all the truths about the object. On that basis we may say we cannot know a person unless we know what the person looks like, their genetic make-up and who their paternal grandmother is etc.

Russell clearly realised this will lead to the inevitable conclusion we don't know any objects at all. So instead Russell said there are two ways we can know an object that are less demanding. The first applies to objects we may come into direct contact with in saying I know you, by acquaintance, but there are also objects we feel we know in the universe that we have not come into contact with. In this, Russell draws on his work on the theory of descriptions as sometimes we are in a position of knowing a relevant truth. This is taken to mean that the one object and only that object is true such that David Cameron is the prime minister of the United Kingdom.

Russell conjectured that if I know that truth and indeed whether I know it or not, in this specific case David Cameron satisfies the particular description. We can then say we know David Cameron by description even though we have never met him or we may say we are personally acquainted with him in some way. Russell thought this had wide-ranging implications for the theory of knowledge and how things or items are referred to in the world.

He sought to establish that all things we know by description can be traced ultimately back to something we know by acquaintance. Despite changing his views on how you can arrive at such a theory to this effect, he was anxious to show how natural science can and does ultimately rest on empirical foundations. You can trace back all the things you know by description to things known by acquaintance.

Russell and Language

Some may start with Frege's sense and reference but other prefer to use Russell's theory of descriptions as a basis. Later philosophers argue whether Russell produced an adequate account of what constitutes language but the problem is language takes many forms. For Russell there is an important difference between names standing for objects and definite descriptions, capable of analysis into a more complicated form. These are fundamental distinctions.

Other philosophers came in the wake of Russell such as Peter Strawson who had firm views. Writing in 1950 he said hold on, we need to recognise names and definitions often function in the same way as our referring to a particular thing. For example, we may use a definite description to say something about it such as the earlier statement that 'the present king of France is bald.' Strawson did not hold with distinctions and

this started a debate on these two expressions, their interpretations, meanings and usage in everyday life. The debate continues today inviting questions such as it all depends what you mean, how you say it, emphasis on specific words, the context in which it is said as well as mannerisms and facial expression etc.

Legacy of Bertrand Russell

Russell remains an inspiration today because he combines absolute rigour and clarity with taking on just about every topic there is, including social and political affairs. He wrote several books on ethics that he felt had no real part in philosophy and sharply separated it from his own philosophical work. Many philosophers may disagree, or simply shrug their shoulders and say we don't have to take that part of Russell on board. Above all Russell is associated with clarity, logic and reasoning and for many academics what he did, which was immense, he did very well. Getting philosophers to agree even that is in itself quite an achievement!

In purely philosophical terms his theory of descriptions was helpful and enormously influential. Without Russell we would not have analytic philosophy in the way we recognise it today. Russell wrote several popular books including the best seller The History of Western Philosophy which may have introduced people to philosophy in their tens of thousands. It is referred to in the bibliography to this paper.

He was able to give interesting, evocative and witty accounts, sometimes resorting to the sarcastic and even introduced charicatures to emphasise a point and grasp the attention of an audience. People seem to enjoy reading the philosophy of Russell as he has the knack of making the subject intriguing and worthy of investigation though not always easy to follow. The word exciting used by one of Melvin Bragg's guests may be a tad overstated but to those with curious minds his work may be just that.

For Anthony Grayling, Russell writes wonderfully well and his witty style engages the reader. He may well have had a massive impact on social thinking. He was politically engaged all his life as a strong advocate of women's suffrage in the First World War when he was strongly committed to pacifism too. In the early twenties he stood as a labour candidate in Chelsea and in the fifties and sixties was energetically opposed to nuclear weapons.

He was for Grayling a very engaging intellectual. Russell's writing on popular subjects such as marriage, divorce and sexual morality form part of the story of life, including his own, and none more so than Marriage and Morals cited in his Nobel Prize award. His was an era with a far greater liberal outlook. Bertrand Russell is a major presence in that story and without this we may not have moved to the more tolerant age we now live in. Nor would philosophical society have the benefit of such deep insights.

Russell appeared to modify his views in later life on what constitutes truth and reality, seeming to move away rather from his entrenched anti-idealism stance. The trio of Russell, Frege and Wittgenstein helped clear much of the clutter surrounding logical positivism but the quest to reduce language and logic to a matrix remains elusive.

Epitaph

Bertrand Russell died 2 February 1970, aged 97. Last words are extracts from a long obituary in the New York Times the next day, the first being about the philosopher whereas the second is an obituary notice penned personally by Russell should sudden death occur, taking him by surprise.

William Jovanovich, the American publisher, recalled that as a Harvard student he ate in a cafeteria where the food was cheap and not very good. He said "I would sit at a long public table where on many occasions also sat the philosopher Bertrand Russell. One day I could not contain my curiosity." 'Mr. Russell, I said, I know why I eat here; it is because I am poor but why do you eat here? 'Russell replied, because I am never interrupted!"

This tale illustrates an important point for those who enjoy deep and serious study in being able to concentrate intensely and shut out extraneous 'noise.' It also tells us something else, to do with perception, as the student's expectation was for Russell to reveal some deep philosophical insights beyond the student's reasoning ability. This observation may then take us into other realms of philosophy and even psychology.

In 1937 Bertrand Russell composed his own obituary as he imagined it might appear in The Times of London. He disclosed his article in an interview in 1959. It read in part, 'In his youth he did work of importance in mathematical logic, but his eccentric attitude towards the first World War revealed a lack of balanced judgment which increasingly infected his later writings."

The obituary continued, "His life, for all its waywardness, had a certain anachronistic consistency, reminiscent of that of the aristocratic rebels of the early 19th century. His principles were curious, but such as they were they governed his actions. In private life, he showed none of the acerbity which marred his writings but was a genial conversationalist, not devoid of human sympathy."

It was a fitting obituary and testament to the life and work of Bertrand Russell; self effacing when he chose to be, affable, controversial, always interesting, witty and amusing and capable of profound insights into complex questions. He was in short a great philosopher as well as logician and is a worthy great thinker in our U3A series.

Book References

Baggini, J. & Fosl, P. (2010) The Philosopher's Toolkit. Chichester: Wiley-Blackwell.
Grayling, A C. (1997) An Introduction to Philosophical Logic. Oxford: Blackwell.
Russell, B. (1996) History of Western Philosophy. Oxford: Routledge.
Russell B. (2009) Russell - Autobiography. Oxford: Routledge.