THE LOGICAL STRUCTURE OF
RUSSELL'S NEGATIVE FACTS

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In his 1918 lectures on Logical Atomism Russell comments that, while lecturing at Harvard in 1914, his admission that the world contained negative facts "nearly produced a riot".[1] Since then many commentators (Ayer,[2] Klemke,[3] and McDonough,[4] for example) have regarded Russell's admission as indefensible. The fact that Russell himself subsequently denied the existence of negative facts adds weight to these conclusions. This paper will attempt to uncover the logical structure of Russell's negative facts. By so doing it can be demonstrated, firstly, that Russell's 1918 view on negative facts was perfectly consistent with other fundamental principles of logical atomism which he held at that time, and secondly, why Russell felt subsequently forced to abandon his belief in the existence of negative facts. Finally it will be argued that this abandonment was the unnecessary result of Russell's rigid adherence to a questionable epistemological principle. A fine-tuning of this principle leads to the conclusion that Russell's postulation of negative facts represents an acceptable solution to the problem of negation which his atomism must face.

Before investigating the structure of negative facts, a prior question must be answered. Why did Russell feel that he needed negative facts in

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[1] *LK*, p. 211; *Papers* 8: 187.

[2] A. J. Ayer, *Russell and Moore: the Analytical Heritage* (London: Macmillan, 1971), pp. 86–7.

[3] E. D. Klemke, "Logic and Ontology in Russell's Philosophy", in *Essays on Bertrand Russell*, ed. Klemke (Urbana: U. of Illinois P., 1970), p. 425.

[4] R. M. McDonough, *The Argument of the "Tractatus"* (Albany, N.Y.: State U. of New York, 1986), pp. 21–4.

the first place? The answer to this question lies in the fundamental principles of logical atomism which Russell held at this time, and which must now be enunciated.

P1   *The Logically Perfect Language Principle.* For ease of discussion, we
      shall henceforth restrict ourselves to atomic facts. We are attempt-
      ing to uncover the structure of a negative fact, and that is best done
      by considering the simplest of such forms, a negative atomic fact.
      But first we must understand what Russell means by a positive
      atomic fact. Russell at the outset makes it clear that there is a dis-
      tinction between positive and negative facts when he writes,
      "Another distinction, which is perhaps a little more difficult to
      make, is between positive and negative facts, such as 'Socrates was
      alive'—a positive fact—and 'Socrates was not alive'—you might
      say a negative fact."[5] As for positive atomic facts, Russell explains
      that "The simplest imaginable facts are those which consist in the
      possession of a quality by some particular thing. Such facts, say, as
      'This is white'."[6] Such facts are called *atomic facts* and "The prop-
      ositions expressing them are what I call *atomic propositions*."[7] In
      the proposition "This is white", the referring expression "this" is
      functioning for Russell as a logically proper name, a symbol which
      refers to an object but does not describe that object in any way.
      The logical form of an atomic proposition like "This is white" is
      therefore subject-predicate.

   The Logically Perfect Language Principle states that a logically perfect
language "will show at a glance the logical structure of the facts asserted
or denied."[8] This implies that if there are negative facts, as Russell
believes, then the logically perfect language which he is attempting to
construct will contain propositions which will immediately and perspica-
ciously reveal the logical structure of such negative facts. In the search
for such logical structure we will naturally be led to a careful consider-
ation of the logical structure of those propositions of the logically perfect

language which purport to stand for these negative facts.

P2   *The Principle of Acquaintance.* This is most clearly stated in an
      earlier work, *The Problems of Philosophy.* "Every proposition which
      we can understand must be composed wholly of constituents with
      which we are acquainted" (*PP₂*, p. 58). By 1918, however, Russell
      no longer believed in propositions as some sort of abstract entity
      which constituted the meaning of a sentence. As he says in his 1918
      lectures, "A proposition is just a symbol", and "A proposition, one
      may say, is a sentence in the indicative...."[9] So the Principle of
      Acquaintance must at this stage be reinterpreted as saying that any
      proposition (i.e. sentence) which we can understand must be com-
      posed wholly of expressions whose meaning can only be grasped
      through acquaintance with what those expressions stand for. This
      is made clear when Russell says "That the components of a prop-
      osition are the symbols we must understand in order to understand
      the proposition; That the components of the fact which makes a
      proposition true or false, as the case may be, are the *meanings* of
      the symbols which we must understand in order to understand the
      proposition."[10]

   Two points of clarification are in order. Firstly, the Principle of
Acquaintance is intended to apply to every proposition *of the logically
perfect langauge.* The theoretical goal of Russell's logical atomism is that
all sentences of ordinary language will, ultimately, be analyzed in terms
of sentences of the logically perfect language, the theory of descriptions
being a paradigm example. Secondly, the Principle does not apply to the
logical constants of the logically perfect language. The meaning of logi-
cal constants such as "or", "and", etc. is purely syntactic and the Prin-
ciple of Acquaintance, a semantic principle, is not intended to apply to
them.
   Sainsbury argues that the Principle of Acquaintance must be
rejected.[11] However at this point we are not concerned with the ques-
tion of whether the principles which underpin Russell's logical atomism

⁵ *PLA*, in *LK*, p. 184; *Papers* 8: 165.
⁶ *LK*, p. 198; *Papers* 8: 176.
⁷ *LK*, p. 199; *Papers* 8: 177.
⁸ *LK*, p. 198; *Papers* 8: 176.

⁹ *LK*, p. 185; *Papers* 8: 165.
¹⁰ *LK*, p. 196; *Papers* 8: 175.
¹¹ R. M. Sainsbury, *Russell* (London: Routledge & Kegan Paul, 1979), p. 36.

are or are not acceptable. Our concern is in showing that Russell's analysis of negative facts is *consistent* with these principles.

P3   *The Correspondence Theory of Truth.* Russell writes, "That brings us on to the question of statements or propositions or judgments, all those things that do have the duality of truth and falsehood. For the purposes of logic ... it is natural to concentrate upon the proposition as the thing which is going to be our typical vehicle on the duality of truth and falsehood."[12] "The essence of a proposition is that it can correspond in two ways with a fact, in what one may call the true way or the false way."[13] These statements make it clear that Russell held that propositions were made true or false depending upon whether they corresponded truly or falsely with a particular fact in the world. Moreover there is just *one* fact which makes each proposition true or false. "There are, of course, two propositions corresponding to every fact, one true and one false."[14]

P4   *The Unanalyzability Principle.* All predicates which appear in the logically perfect language will be unanalyzable. By this is meant that the meaning of such a predicate can *only* be grasped through acquaintance with the property which that predicate stands for.

With these principles in mind we can return to the question of why Russell felt it necessary to introduce negative facts into his ontology. The obvious answer is that Russell needed them to account for the truth of negative propositions. Thus the negative atomic proposition "This is not red", where the logically proper name "this" refers to an object having the property of being a black dot, is made true by its correspondence with the negative fact that the dot is not red. *Prima facie* this seems an odd way of accounting for the truth of such propositions. Why not simply say that "*not-p*" is true if and only if "*p*" is false? In other words why doesn't Russell simply employ the usual truth-table definition of "not" in order to give an account of the truth conditions of negative

[12] *LK,* pp. 184–5; *Papers* 8: 165.
[13] *LK,* p. 208; *Papers* 8: 185.
[14] *LK,* p. 209; *Papers* 8: 185.

propositions?

The reason is that we have at this stage no idea of what it means to say that a proposition is false. We could take falsehood as primitive, an idea which seems to have been exploited by Frege when he asserted that all false propositions refer to an entity "The False". But this solution is not open to Russell for two reasons. Firstly it would offend against his "robust sense of reality" to introduce into his ontology such a primitive abstract entity. Secondly, and more importantly, such a move violates P3. A proposition is false in so far as it corresponds falsely with some fact in the world. Falsehood is a relation between a proposition and a fact, and any correspondence theory of truth owes us an account of precisely what this relation is.

Truth poses no problem. If a proposition, "This is red", is true then "In a logically perfect language the words in a proposition would correspond one by one with the components of the corresponding fact...."[15] In a true positive proposition there will be an isomorphism between the elements of the proposition and the elements of the corresponding fact, and the Principle of Acquaintance will (at least partially) establish the truth of the proposition. However if a positive proposition, "This is red", is false there will be no such property of redness in the corresponding fact which makes this proposition false. We are face to face here with what Russell calls the "theory of error". "You will notice that whenever one gets to really close quarters with the theory of error one has the puzzle of how to deal with error without assuming the existence of the non-existent."[16] Given the Correspondence Theory of Truth Russell is at a loss to explain how propositions can be false.

Russell's solution is to define falsehood in terms of negation: "*p*" is false $=_{df}$ "*not-p*" is true. This is progress because we already have some idea of what is involved in saying that a proposition is true. The consequence, however, is that Russell is forced to admit a new kind of fact into his ontology. A negative atomic proposition is true in virtue of corresponding truly with some negative fact. That brings us to the key question. What is the logical structure of these negative facts?

The answer lies with P1. In the logically perfect language the true

[15] *LK,* p. 197; *Papers* 8: 176.
[16] *LK,* p. 225; *Papers* 8: 198.

negative proposition, "This is not red", will show at a glance the logical structure of the fact asserted. Unfortunately we do not, as yet, have a full understanding of the logical structure of the *proposition*, "This is not red". The obvious interpretation is to treat the negation operator "not" as negating the entire sentence, so that the structure becomes "Not(this is red)". If *this* proposition is to show at a glance the logical structure of the corresponding fact then we are in trouble. For the word "not" must on this view stand for some entity (notness?) in the corresponding fact.

Russell adamantly denies such a possibility in the same way that he denies that words like "or" stand for entities. In giving his provisional definition of the components of facts Russell adds that "it does not apply to words which, like 'or' and 'not', are parts of propositions without corresponding to any part of the corresponding facts."[17] The point is repeated a little later: "In a logically perfect language the words in a proposition would correspond one by one with the components of the corresponding fact, with the exception of such words as 'or', 'not', 'if', 'then', which have a different function."[18] And again, "You must not look about the real world for an object which you can call 'or', and say, 'Now, look at this. This is "or".' There is no such thing, and if you try to analyze 'p or q' in that way you will get into trouble."[19] A precisely similar remark may be made concerning the word "not". According to Russell it would be "monstrous" to conclude that there were entities like "orness" and "notness" going about the world.

Fortunately we have an alternative analysis of the logical structure of "This is not red". Instead of negating the proposition externally we apply the negation operator to the predicate "red" to give "This is not-red" or "This is non-red". This forces us to argue that "Not(this is red)" and "This is non-red" are logically equivalent. The reason is that we are trying to define falsehood in terms of negation. Such a definition will fail unless the notion of negation takes truths into falsehoods and falsehoods into truths. If there were a difference between external and internal negation then our proposed definition of falsehood would fail, as the following example illustrates:

"All men are wise" is false $=_{df}$ "All men are non-wise" is true.

Such a definition is clearly unacceptable. So too with our proposed definition:

"This is red" is false $=_{df}$ "This is non-red" is true

unless we can show that "Not(this is red)" is logically equivalent to "This is non-red".

A. C. Benjamin argued that for Russell the negation operator can never be taken as a qualification of the predicate. "One cannot say that the notion, 'not red' is equivalent to the notion 'not-red'."[20] Yet there is evidence to show that Russell did hold the proposed logical equivalence. Benjamin bases his conclusion on a passage in Russell's lectures in which Russell is taking issue with a view of negation proposed by Demos.[21] The passage begins, "His *third* point I do not entirely agree with: that when the word 'not' occurs, it cannot be taken as a qualification of the predicate",[22] and ends, "so that in all cases where a 'not' comes in, the 'not' has to be taken to apply to the whole proposition."[23]

Benjamin's conclusion was based on a serious misinterpretation of the passage. The key word in correctly interpreting Russell here is the word "entirely". Russell certainly agrees with Demos that when dealing with *non-atomic* propositions (such as "The present King of France is not bald") the negation operator must be taken as applying to the whole proposition, external negation that is. For non-atomic propositions the internal and external negations are not in general logically equivalent, and Russell's discussion of the point makes this abundantly clear. That Russell does not "entirely" agree with Demos concerning the role of the negation operator strongly suggests that he *disagrees* with Demos with respect to atomic propositions. In such cases "not" can be taken as a

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[17] *LK*, p. 196; *Papers* 8: 175.
[18] *LK*, p. 197; *Papers* 8: 176.
[19] *LK*, pp. 209–10; *Papers* 8: 186.

[20] A. C. Benjamin, *The Logical Atomism of Bertrand Russell* (Ann Arbor: U.M.I., 1992; 1st ed., 1924), p. 35.
[21] Raphael Demos, "A Discussion of a Certain Type of Negative Proposition", *Mind*, n.s. 26 (1917): 188–96.
[22] *LK*, p. 212; *Papers* 8: 188.
[23] *LK*, p. 213; *Papers* 8: 188.

qualification of the predicate.

Romane Clark argues that "*a* is non-F" implies but is not implied by "Not(*a* is F)", citing G. H. von Wright in support.[24] That "Not(*a* is F)" does not imply "*a* is non-F" obviously holds when "*a*" is a definite description. The lack of entailment is not so obvious when "*a*" is a logically proper name. Indeed there is a clear statement in Russell that he did maintain the logical equivalence of "Not(*a* is F)" and "*a* is non-F". "When you say 'Scott is human' there is no possibility of a double denial. The only way you can deny 'Scott is human' is by saying 'Scott is not human'."[25] (Russell here is using the name "Scott" as a logically proper name.)

The view that the internal and external negations of atomic propositions are logically equivalent is supported by Sainsbury. "[F]or atomic propositions there is no distinguishing the case in which the predicate is negated from the case in which the whole atomic sentence is negated ..." (*Russell*, p. 222). Indeed it is arguable that Russell is forced to admit the proposed logical equivalence, for if "not" can only act externally on atomic propositions if our definition of falsehood is to be acceptable, then Russell must either surrender P1 or claim (contra his own statements) that "not" does in fact stand for an entity.

We have apparently established that Russell must admit negative facts. Demos objects. He argues that falsehood can be defined, not in terms of negation, but in terms of incompatibility. We begin first with the following definition of falsehood.

"This is red" is false $=_{df}$ "Not(this is red)" is true.

Note that Demos takes the negation operator as acting externally on the whole proposition. Indeed he feels that negation, in the full sense which takes truths into falsehoods and vice versa, *always* operates externally, a point which as we saw earlier Russell does not entirely agree with. Now it is incumbent upon Demos to account for the truth of "Not(this is red)". He does so as follows:

[24] Romane Clark, "Ontology and the Philosophy of Mind in Sellars' Critique of Russell"; in *Bertrand Russell's Philosophy*, ed. G. Nakhnikian (London: Duckworth, 1974), p. 114.
[25] *LK*, p. 251; *Papers* 8: 220.

"Not-*p*" is true $=_{df}$ "There is some proposition *q* which is true and is incompatible with *p*."

The proposition *q* which is incompatible with *p* is a *positive* proposition, so that "Not(this is red)" gets defined as "There is some positive proposition (say 'this is green') which is true and which is incompatible with (the positive proposition) 'This is red'." It is to be noted that it is not open to Demos to define the notion of incompatibility in the usual way.

"*p* is incompatible with *q*" $=_{df}$ "*p* and *q* are not both true."

This would obviously be circular. Demos is trying to define the negation operator in terms of incompatibility, in order to avoid the postulation of negative facts. So on the Demos account incompatibility becomes a fundamental unanalyzable notion.

Russell attacks this proposed analysis using P1, the Logically Perfect Language Principle. If the proposition "*p* is incompatible with *q*" is now to be a proposition of the logically perfect language then it must show at a glance the logical structure of the fact asserted. This requires that incompatibility becomes a component of the corresponding fact, that incompatibility becomes a "fundamental and objective" relation between two facts. Russell protests that incompatibility is a relation which can hold only between propositions. "It is clear that no two *facts* are incompatible. The incompatibility holds *between the propositions*, between the *p* and the *q*...."[26]

As it stands this is a weak objection. Indeed Demos might respond by saying that Russell has simply begged the question against him, for Russell has given no justification for his claim that no two facts can be incompatible. As an atomist Demos can argue that incompatibility between facts is indeed fundamental and objective, and that the word "incompatible", as applied to propositions, can only be understood through acquaintance with what it stands for! The proposition, "*p* is incompatible with *q*", does therefore show at a glance the logical structure of the fact asserted.

It is suggested that the real reason Russell rejects Demos' account is

[26] *LK*, p. 214; *Papers* 8: 189.

that the incompatibility will be between, not two facts existing in the actual world, but between an actual fact and a *possible* fact. To say that this is not red is to say that the possible fact that this is red is incompatible with the actual fact that this is (say) green. There is no evidence to suggest that Russell ever entertained the notion of a possible fact. In his 1918 lectures, possibility for Russell is strictly a property of a propositional function. Secondly, the introduction of possible facts into his ontology would no doubt offend against his robust sense of reality, and that when one is dealing with the theory of error "one has the puzzle of how to deal with error without assuming the existence of the non-existent." (No doubt Russell would be sympathetic to Quine's attack on possible world ontologies.)

Finally, the introduction of possible facts would violate Russell's Principle of Acquaintance. Sellars holds that for Russell facts are objects of acquaintance.[27] This is clearly false, as Russell held that the Principle of Acquaintance applies only to unanalyzable expressions, and the latter stand for unanalyzable (simple) objects. Facts (and the propositions which correspond with them) are complex, and cannot therefore be objects of acquaintance. However, Russell did hold that one can perceive facts.[28] This forces us to say that in determining the truth of "p is incompatible with q" we would be required to perceive the actual fact which is represented by the proposition p and to perceive the possible fact represented by the proposition q, and then apprehend by acquaintance the relation of incompatibility between them. But it is obvious that one cannot perceive a non-existent possible fact, and consequently cannot apprehend by acquaintance the relation which is supposed to hold between the actual and possible fact. Unable to countenance the idea of incompatibility as a fundamental and objective relation holding between actual and possible facts, Russell is driven to admit negative facts. The latter at least have the advantage of being actual.

We are now in a position to discuss the logical structure of Russell's negative facts. If the true negative atomic proposition "This is non-red" is to show at a glance the logical structure of the fact asserted we must regard the predicate "non-red" as standing for a negative property, the

[27] Wilfrid Sellars, "Ontology and the Philosophy of Mind in Russell", in Nakhnikian, ed., *Bertrand Russell's Philosophy*, p. 58.
[28] *LK,* p. 228; *Papers* 8: 200.

property of non-redness. Hence the logical structure of a true negative atomic fact consists of a particular which possesses a negative property.

This possibility is considered by McDonough:

Russell suggests that "not" can, at least sometimes, be taken as a qualification of the predicate and suggests that this is connected with his view that there are negative facts. That is, "aF" "refers" to a and F and "$\sim aF$" refers to a and a quality distinct from F, namely that referred to by "$not\text{-}F$"! (*Argument of the "Tractatus"*, p. 258).

The appearance of the exclamation mark indicates that McDonough finds this suggestion, at the very least, surprising. He goes on to argue that such a view does nothing to explain the nature of falsehood, which is of course Russell's ultimate objective and the reason why he finds it necessary to introduce negative facts. McDonough's argument is as follows.

Russell points out that two propositions correspond to each fact, but it is also true in his view that there are at least two *possible* facts relevant to the truth of each proposition. But the relationship between a proposition and the fact which makes it false is obscure. If "p" is "aR_1b" then "$\sim p$" is, for example, equivalent to "aR_2b" where "aR_2b" is made true by a complex distinct from, but incompatible with, that which makes "aR_1b" true. But on the face of it "p" only mentions a, b and R_1. It does not mention R_2, a constituent of the fact which makes it false. It does not appear to make the additional claim that a is not R_2 to b. (P. 23)

McDonough then goes on to argue that Russell is committed to the same "fundamental objective incompatibilities" as is Demos. "In both Demos's and Russell's views one simply comes to the point at which distinct propositions are arbitrarily stated to be logically incompatible" (*ibid.*). The error in this argument is the attribution to Russell of the view that there are at least two possible facts relevant to the truth of each proposition. Russell held no such view. Possible facts are not part of Russell's ontology and play no role in his analysis of negative facts. This is to be contrasted with Wittgenstein who readily admits possible states of affairs.[29] Equating Wittgenstein's "states of affairs" with Russell's "facts" one may be tempted to think that Russell countenanced possible

[29] L. Wittgenstein, *Tractatus Logico-Philosophicus* (London: Routledge, 1961), 2.013.

facts. In interpreting Russell one must resist the temptation to attribute to him views held by his friend and pupil Wittgenstein, despite Russell's confessed indebtedness to him.

Secondly, the incompatibility between distinct propositions is not, as claimed by McDonough, "arbitrary" in the sense that we have no reason or explanation for such incompatibility. Even on the view of Demos it can be argued that the reason why some proposition p is incompatible with another distinct proposition q is that we are acquainted with the incompatibility between the corresponding facts. For Russell the incompatibility between the two propositions "This is red" and "Not(this is red)" is explained through the perceived incompatibility of the properties of redness and non-redness.

The advantage of Russell's view is that the incompatibility is not between an actual and a possible entity but between two actual entities, redness and non-redness. If there were no actual property of redness in the world then the predicate "red", being unanalyzable, would be meaningless. Consequently the proposition, "This is red", would be meaningless. In such a case the question of how such a proposition could be false, and the associated question of negative facts, would not arise.

Russell's view requires that we can be acquainted with the property of non-redness. That requirement is further forced upon us because of the way in which negative atomic propositions have been analyzed. "Not(this is red)" is logically equivalent to "This is non-red". The predicate "non-red" is unanalyzable; its meaning can only be grasped by acquaintance with the negative property which it stands for. This brings us to the most critical question which the proposed analysis of negative facts must face. Can one be acquainted with a negative property?

An immediate problem presents itself. Properties are what Russell calls "*universals*, that is to say, general ideas, such as *whiteness, diversity, brotherhood*, and so on" (*PP*₂, p. 52). The difficulty is that universals, not being part of the sensory world, cannot be objects of acquaintance, including therefore negative universals such as non-redness. This problem is met by pointing out that for Russell what one is acquainted with are *instances* of universals, and on the basis of this acquaintance we abstract to the universal itself (Sainsbury, p. 31). The question now arises, can we be acquainted with an instance of a negative universal such as non-redness.

Russell himself does not give a definitive answer. However in a later

work, *An Inquiry into Meaning and Truth*, Russell says this. "In a word: it is possible, in a certain sense, to notice what is not there as well as what is there. This conclusion, if true, is important" (*IMT*₂, p. 164). The concept of noticing involves the notion of acquaintance, but this is not quite the notion of acquaintance which Russell was working with in his 1918 lectures, a point to which we will return shortly. Nevertheless it is at least plausible to suggest that in his lectures Russell was considering the possibility that one could be acquainted with negative properties. If this is the case then Russell's analysis of the structure of negative facts becomes consistent with all of the principles of logical atomism which he held at that time.

A serious objection to this consistency is raised by Sainsbury. He asks simply, "What makes a fact genuine?" (*Russell*, p. 220). Russell's analysis of negative propositions led him to postulate the existence of negative facts in order to account for the truth of such propositions. But by setting down certain criteria which a logically perfect language ought to possess, and then arguing that the truth of certain propositions expressible in this language can only be accounted for by postulating the existence of certain kinds of facts, Russell is perilously close to reading off his ontology from his language. Is there any other criterion to which Russell can appeal to establish that negative facts are indeed genuine? Sainsbury proposes the following:

a fact stated by a true PL-sentence 'p' is genuine iff there is no non-empty set X of true PL-sentences, each shorter than 'p', such that X entails 'p'. (For this purpose one needs to stipulate that one PL-sentence is shorter than another iff the first contains fewer symbols than the second, where parentheses are not counted as symbols, and each name and simple predicate counts as a single symbol.)   (*Russell, ibid.*)

By a "PL-sentence" Sainsbury of course means a proposition expressible in the logically perfect language.

This criterion poses a serious threat to the genuine nature of negative facts. For as Sainsbury argues, "the truth of '~red(this)' will not, according to our principle, generate a genuine negative fact, since it is entailed by the shorter '(white(this))', and, as we have seen, Russell appears to allow that both predicates will occur in the perfect language" (p. 223).

Sainsbury's argument rests upon the assumption that "(white(this))" *entails*, that is logically implies "~red(this)". The entailment goes

through if and only if the predicates "red" and "white" are *logically* incompatible. Yet this is a view which Russell does not hold. "Red and blue are no more *logically* incompatible than red and round" (*IMT₂*, p. 82). (Note again the contrast with Wittgenstein. "The statement that a point in the visual field has two different colours at the same time is a contradiction" [*Tractatus*, 6.3751].) Admittedly Russell's view was stated at a later point in his career, but there is no evidence to suggest that he felt otherwise at the time of his 1918 lectures. Accordingly Sainsbury's proposed entailment fails.

Finally one might question Sainsbury's criterion for what constitutes a genuine fact. According to that criterion a fact is genuine if the corresponding proposition satisfies certain linguistic criteria of the logically perfect language. It is likely that Russell would protest that we cannot settle questions of ontology in this way. He writes, "It seems to me that the business of metaphysics is to describe the world, and it is in my opinion a real definite question whether in a complete description of the world you would have to mention negative facts or not."[30] The following criterion of what constitutes a genuine fact seems more in line with Russell's views concerning what one must admit into one's ontology. As the logically perfect language is purportedly adequate for a complete description of the world, then in accounting for the truth of some proposition in that language we admit into our ontology a new kind of fact if the truth of that proposition cannot be accounted for by appealing to facts already admitted into our ontology.

On this criterion Russell is forced to admit negative facts because he feels that the truth of negative propositions cannot be accounted for in terms of positive atomic facts in the way that Demos suggests. (Incidentally this criterion fits well with Russell's postulation of general facts, as he argues that the truth of general propositions cannot be accounted for by appealing to particular facts.)

One final objection to the proposed analysis of Russell's negative facts must now be faced. Anscombe writes that "Russell in his letters to Wittgenstein after receiving the text of the *Tractatus* once asked whether the negations of elementary propositions were themselves elementary propositions, and received the indignant-sounding rejoinder: 'Of course

not.' "[31] If Russell, identifying Wittgenstein's elementary propositions with his own atomic propositions, were have to taken this remark seriously, then our proposed analysis would collapse. For "This is non-red" would no longer be a (negative) atomic proposition, the meaning of which could only be grasped through the Principle of Acquaintance. If Russell *did* take the remark seriously it may go some way towards explaining his subsequent rejection of negative facts, a point we shall discuss shortly. But Russell need not adhere to the Wittgenstein suggestion. It is arguable that both "This is red" and "This is non-red" are atomic, in the sense that understanding such propositions requires acquaintance with what the constituents of the propositions stand for.

As Russell is ultimately concerned with providing an account of falsehood, we are naturally required to say that "This is red" and "This is non-red" are mutually contradictory. This contradicts Wittgenstein's claim that "the logical product of two elementary propositions can neither be a tautology nor a contradiction" (*Tractatus*, 6.3751). In other words atomic propositions are logically independent of one another. Clark attributes this view to Russell, but gives no argument to support it.[32] Sainsbury, on the other hand, denies the view: "Russell's simplest kind of propositions ('atomic propositions') are not logically independent" (*Russell*, p. 52). However, Sainsbury bases his argument on the view that "This is white" and "This is red" cannot both be true and so are not logically independent. But as we have seen earlier, these two propositions for Russell are not *logically* incompatible and consequently are logically independent. Accordingly Russell cannot adopt the Sainsbury view that all atomic propositions are not logically independent.

However, there is another way of denying Wittgenstein's claim that all atomic propositions are logically independent. Rather than take the contrary of this claim, as Sainsbury does, we take its contradictory; not all atomic propositions are logically independent. We can now claim that *some* atomic propositions are logically independent, "This is red"

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[30] *LK*, p. 215; *Papers* 8: 190.

[31] G. E. M. Anscombe, *An Introduction to Wittgenstein's Tractatus*, 3rd ed. (London: Hutchinson, 1967), p. 34. [We now know that Russell didn't actually ask, but commented to Wittgenstein: "4.211 I gather no elementary prop is negative." See B. F. McGuinness and G. H. von Wright, "Unpublished Correspondence between Russell and Wittgenstein", *Russell*, n.s. 10 (1990): 108.—Ed.]

[32] *Bertrand Russell's Philosophy*, p. 115.

and "This is white" for instance, while others are not. In particular the logical product of any atomic proposition and its negation will be a contradiction. As Russell nowhere explicitly embraces Wittgenstein's position, and since the proposed denial of that view does not conflict with any of the principles underpinning his 1918 atomism, Russell can freely reject it.

Lest there be any confusion about what constitutes a positive and negative predicate in the logically perfect language, the answer lies in Russell's reply to a question raised at the end of his third lecture. Is there any formal test as to whether a proposition is positive or negative? Russell replies that "There is no formal test."[33] He is of course referring to ordinary languages in which it is completely arbitrary as to whether we regard "Harry is absent" or "Harry is present" as positive or negative. But in the logically perfect language there *would* be a formal test. "In the perfect logical language that I sketched in theory, it would always be obvious at once whether a proposition was positive or negative" (*ibid.*). The presence of the negation operator "not" (or "non"), which applies solely to predicates of the perfect language, immediately announces that the proposition (and the predicate) is negative.

By taking the notion of a negative property as fundamental and objective Russell is in a position to give explicit definitions of the interrelated notions of falsehood, incompatibility, logical independence and contradiction. To summarize we have the following:

1. "*Not(a is F)*" is logically equivalent to "*a is non-F*". In other words, necessarily "*Not(a is F)*" is true if and only if "*a is non-F*" is true.
2. "*a is non-F*" is true if and only if that proposition corresponds truly with the negative fact that *a* has the property of *non-F-ness.*
3. "*a is F*" is false if and only if "*a is non-F*" is true.
4. The predicates "*F*" and "*non-F*" are contradictory if and only if the propositions "*a is F*" and "*a is non-F*" are contradictory.
5. The propositions "*a is F*" and "*a is non-F*" are contradictory if and only if they cannot both be true and cannot both be false. (We already know what is meant by saying that a proposition is false.)
6. Two propositions are logically independent if and only if their logical

product is neither a tautology nor a contradiction. (We may define a tautology as the falsehood of a contradiction.)
7. Two propositions are logically incompatible if and only if their logical product is a contradiction.

We now turn to the question of why Russell subsequently rejected negative facts. Sainsbury claims that the rejection is based on Russell's unwillingness to admit that in a logically perfect language there will be a simple contradictory of every simple predicate (*Russell,* p. 222). As Russell permits analysis in terms of negation, a predicate like "is dead" could be analyzed as "is not alive" (p. 223). Consequently "is dead", being analyzable, is not a predicate which would appear in the logically perfect language as "this would involve a redundancy of vocabulary which would not obtain in a perfect language" (*ibid.*).

This argument deserves careful scrutiny. We can eliminate "is dead" from the language because it is analyzable in terms of "is not alive". Note that the function of "not" in "is not alive" must be interpreted as negating the predicate, in effect, "non-alive". Sainsbury's point is that in the logically perfect language no *positive* predicate ("dead") will contain its simple *positive* contradictory ("alive") as one of these predicates is analyzable in terms of the other. To this we can readily agree. But "alive" and "non-alive" are not both positive predicates and our not, on this view, analyzable in terms of one another. They are simple unanalyzable predicates which are nevertheless contradictory.

It is suggested that the fundamental reason why Russell rejected negative facts lies with what appears to be an insuperable epistemological problem. The central difficulty with Russell's account is that a simple predicate such as "non-red", standing for the negative property of non-redness, is unanalyzable. An unanalyzable predicate for Russell is one whose meaning can only be grasped by acquaintance with what the predicate stands for. A typical example is the predicate "red". "You cannot understand the meaning of the word 'red' except through seeing red things. There is no other way in which it can be done. It is no use to learn languages, or to look up dictionaries. None of these things will help you to understand the meaning of the word 'red'."[34]

If "non-red" is similarly unanalyzable then the only way we can grasp its meaning is by seeing non-red things. But arguably we never see non-red things. What we actually see is some *other* colour, a view which, as we saw earlier, Demos wishes to propose. Furthermore, if we were to try to teach someone the meaning of "non-red" by acquainting that person with an instance of it, how could we possibly succeed unless that person already understood the meaning of "red"? Now if the meaning of "non-red" is to be grasped through understanding the meaning of "red", then "non-red" ceases to be unanalyzable, for the *only* way the meaning of an unanalyzable predicate can be grasped is through acquaintance, and not by understanding the meanings of any other words or expressions.

Evidence of Russell's awareness and concern with this epistemological problem can be found in his 1919 article, "On Propositions: What They Are and How They Mean". Here Russell distinguishes between "word-propositions" and "image-propositions". "As a general rule, a word-proposition 'means' an image-proposition; this is the case with false propositions as well as with true ones, since image-propositions are as capable of falsehood as word-propositions."[35] This marks a shift from the 1918 lectures in that a proposition is no longer simply a sentence; an (image) proposition is the meaning of a sentence. What is important is that an image-proposition can be true or false, and is true or false depending upon its correspondence with the fact which it stands for.

As Russell still maintains that there are negative facts, one might be tempted to think that a negative image-proposition is true because it corresponds with some negative fact. This interpretation fails immediately when Russell states that "Not only are image-propositions always positive, but there are not even two kinds of positive image-propositions as there are of word-propositions. There is no 'not' in an image-proposition...."[36] Most significantly he goes on to say "There is no way of visualizing 'A-not-to-the-left-of-B'. When we attempt it, we find ourselves visualizing 'A-to-the-right-of-B' or something of the sort" (*ibid.*). This looks suspiciously like the view which Demos proposes, but what is relevant for our discussion is that clearly Russell is denying that one can be acquainted with (perceive) a negative property. Yet he refuses to deny

the existence of negative facts.

Now the problem looms large. If an image-proposition is always positive, since we cannot visualize a negative property, then how do we account for the falsehood of such propositions? Correspondence with a negative fact, containing as constituent a negative property, will no longer work, and we are left with are original question. What makes a proposition false?

Russell's answer is that "the 'not' belongs to the feeling, not to the content of the proposition" (*ibid.*). This is an important shift which is further developed in a later work, *An Inquiry into Meaning and Truth*. There the notion of acquaintance is replaced with the notion of "noticing". Noticing involves both perception (acquaintance) and a propositional attitude. "A negative basic proposition thus requires a propositional attitude, in which the proposition concerned is the one which, on the basis of perception, is denied" (p. 163). Russell does not say what this propositional attitude is. Still later in *Human Knowledge* he makes his view explicit; it is a disinclination to believe that the positive proposition, which has been negated, is true. "I think we may say that 'not' means something like: 'You do right to reject the belief that....'' And 'rejection' means, primarily, a movement of aversion. A belief is an impulse towards some action, and the word 'not' inhibits this impulse" (*HK*, pp. 519–20). Russell has by this time completely rejected negative facts because "the world can be described without the use of the word 'not'. If the sun is shining, the statement 'the sun is shining' describes a fact which takes place independently of the statement. But if the sun is not shining, there is not a fact *sun-not-shining* which is affirmed by the true statement 'the sun is not shining'" (p. 520).

In the 1918 lectures Russell was wrestling with the fundamental notions of falsehood, incompatibility and negation. At that stage he felt that one of these notions must somehow hook directly onto the world, failing which we would not have an adequate explanation of what we are saying when we deny a fact. As falsehood and incompatibility were found to be inappropriate candidates, Russell, as he admits somewhat reluctantly, chose negation as his vehicle. Having done so, it then became a straightforward matter to define falsehood and incompatibility in terms of this fundamental notion. "On Propositions" appears to represent a transitional stage in which Russell is still clinging to the existence of negative facts, while realizing that there is a serious epistemic

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[35] *LK*, p. 308; *Papers* 8: 297.
[36] *LK*, p. 317; *Papers* 8: 304.

problem in perceiving or being acquainted with the negative properties which are constituents of these negative facts. Finally, in *Human Knowledge*, Russell abandons what Sellars describes as "the (weird) idea that negation belongs to the extra-conceptual order."[37]

The weirdness of this idea can be mitigated provided we do not, as Russell did, attempt to subsume an ontological problem under an epistemological one. A strict adherence to the Principle of Acquaintance, that the only way we can understand the meaning of an unanalyzable predicate is through acquaintance with what it stands for, has the unfortunate result that we cannot understand the meaning of an unanalyzable negative predicate. Accordingly Russell began to look for an epistemic solution to the problem of negation.

The difficulty lies with the Principle of Acquaintance. That principle cannot account for the meaning of unanalyzable negative predicates. Interestingly it cannot account for the meaning of unanalyzable *positive* predicates either, a point which Russell seems to have overlooked. A simple positive predicate like "red" divides reality into two mutually exclusive classes. We can grant to Russell that *part* of what is involved in understanding the meaning of "red" is to be acquainted with what "red" stands for, but that is not all. For no one fully understands the meaning of "red" unless one has grasped what "red" excludes. In a world in which everything were red there is a case for saying that "red" would not have the meaning it does in our world, for in such a world "red" would exclude nothing.

We learn simple predicates, not one by one, but in pairs, apprehending both what the predicate stands for and what it does not stand for. On this view one has not grasped the meaning of "red" unless one has grasped the meaning of "non-red", and vice versa.

So far so good. Now we must face the question of whether we can be acquainted with non-redness. Obviously we cannot if learning the meaning of "non-red" is to be done independently of learning, or already knowing, the meaning of "red". On the proposed view this problem does not arise; one learns the meaning of "red" and "non-red" simultaneously. Consider a red patch on a green background. We learn the meaning of "red" by becoming acquainted with the red patch *and* by

37 *Bertrand Russell's Philosophy*, p. 90.

becoming acquainted with where the redness leaves off and the non-redness takes up. We grasp, by acquaintance, both sides of the dichotomy, and so learn the meaning of "red" and "non-red" simultaneously. Neither can be learned in isolation.

In this example we must resist the temptation to say that we have learned, or must grasp, the meaning of "green". Learning the meaning of "green" is a separate exercise involving "green" and "non-green". We must not confuse understanding where another property takes up with understanding *which* property takes up. On this view it is possible to understand fully the meaning of "red", by looking at a red patch on a green background, without having any understanding of the meaning of "green" or any other predicate. When we apprehend the background we simply apprehend non-redness, whatever it is that is excluded by the redness.

The point can be generalized. On the proposed interpretation of Russell the negation operator is exclusively an operator on predicates which takes any predicate into its complement. There is a natural tendency to require that this complement be specified precisely, in which we list the relevant terms in the complement and end with the claim that these are *all* the relevant terms in the complement.[38] Interestingly that is what is required on the Demos incompatibility account, and it is a requirement which Demos himself came to realize cannot be fulfilled.[39] Russell can avoid this difficulty by emphasizing the rudimentary nature of the knowledge acquired by acquaintance. In the earliest stages of language acquisition we are primarily concerned with carving up reality and applying labels to the scattered portions, whatever they are.[40] And it seems natural to say that we haven't succeeded in carving up reality unless we know where one portion ends and another begins, so that one learns unanalyzable predicates in pairs. There is no need, therefore, for a precise specification of the complement of a predicate.[41]

38 I owe this point to Graeme Marshall, in discussion.

39 According to Julius Moravcsik, Demos admitted this to him in discussion and consequently abandoned his incompatibility account of negation.

40 A similarity with Quine suggests itself here. At this stage there is no distinguishing mass terms, general terms and terms of divided reference.

41 Graeme Marshall has pointed out in discussion that even this rudimentary view of predicate acquisition suggests that properties "self-select". If so it is difficult to see how our apprehension of such properties constitutes knowledge. This is a justifiable attack on

This account fits nicely with Russell's claim that "red" and "green" are no more logically incompatible than "red" and "round". For on the account there is no meaning connection between "red" and "green"; the meaning of each is learned independently of the other. It is simply an empirical fact that greenness is excluded by redness.

We now amend the Principle of Acquaintance. The meaning of any positive unanalyzable predicate can only be understood through acquaintance with what it stands for and with what it does not stand for. Similarly the meaning of any negative unanalyzable predicate can only be understood through acquaintance with what the corresponding positive predicate stands for and with what that positive predicate does not stand for. The Principle of Acquaintance thus becomes a way of understanding contrasts, divisions of reality.[42]

On the ontological level there is no distinguishing between positive and negative properties. On the epistemological level the difference is that in apprehending a positive property we must know what property we are apprehending, whereas in apprehending a negative property we need not know what property we are apprehending, only that it is a property excluded by the corresponding positive property. This epistemological difference, arguably, is a matter of human psychology concerning the way in which we apprehend reality, and ought not to be confused with the ontology of that reality.

Fine-tuning the Principle of Acquaintance allows a Russellian atomist to give a more satisfactory account of how we come to understand the meanings of unanalyzable predicates. It has the further interesting consequence that Russell's postulation of negative facts constitutes an acceptable solution to the ontological problem of non-being which his atomism must address. First insights are often the best.

the notion of knowledge by acquaintance, and indeed Russell may be wrong in thinking there is any such notion. However this paper aims to show that, *given* certain fundamental principles such as knowledge by acquaintance, the proposed account represents the best solution to the problem of negation.

[42] This point, as well as the suggestion that Russell's postulation of negative facts is a defensible view, I owe to Julius Moravcsik, in discussion.