The Spaces of Knowledge: Bertrand Russell, Logical Construction, and the Classification of the Sciences.

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I.

Bertrand Russell's Lowell Lectures at Harvard in the spring of 1914 were expressly meant to demonstrate to his audience the power, scope, and applicability of his newly proposed 'logical-analytic method' to some classical problems of philosophy. Unlike Russell's *RSDP* published at the beginning of the same year, which was meant for a specialized scientific audience and fittingly published in *Scientia*, these lectures were formulated for a wider philosophical audience. As such, the lectures, which were then swiftly published into its book form (*Our Knowledge of the External World*, hereafter OKEW) in the same year and extensively discussed in Great Britain and abroad, provide historians with an important sneak peek into what Russell presumed to be the most strategic, well-known, and widely discussed problems to focus on in order to illicit the response he desired for his new 'scientific philosophy.' In other words, these lectures reveal what Russell took to be some burning questions in Anglo-Saxon philosophy at the time so that his new methods could directly challenge and prove, in a way acknowledgeable to most, their broad effectiveness.

One of these burning problems was what I will be calling the 'classificatory problem,' or the problematic relationships between philosophy, logic, and physics in the *space* of knowledge, with the focal point being the nascent discipline of psychology. The notion of space here is not superfluous; it is, in fact, central to the formulations and attempted solutions to the classificatory problem and its history.

The central role of the notion of space in this problematic, that is, is just as crucial for James Ward's "standpoints" and as it is for Russell's "perspectives."

Much of the literature on late 19th and early 20th century British psychology and philosophy has stressed its relationship to philosophical problems such as the mind-body problem, and the issue of free-will.[1] What has not been made as prominent in the literature, however, is this more general problem that many at the time were also preoccupied with. When one merely scans the titles of the symposia and articles from the period, this general classificatory problem sticks out like a sore thumb. Consider the following sample of titles, ranging from the 1880s to the 1910s, written by some of the period's foremost philosophers: 'The Standpoint of Psychology' (1910-1911); 'Epistemological Difficulties in Psychology' (1909-1910); 'The Scope and Method of Psychology' (1887-1888); 'The Subject Matter of Psychology' (1909-1910); 'On the Relation of Psychology to Other Sciences' (1896); 'Psychology, Epistemology, Ontology, Compared and Distinguished' (1894); 'Psychology as So-Called 'Natural Science' (1892); 'Metaphysics and Psychology' (1893); 'Psychology and Philosophy' (1893); 'The Place of Psychology in the Classification of the Sciences' (1906); and so on. When one reads these essays, and many others besides, one gets a clear impression of the well-documented growing pains of both the nascent psychology and the newly formulated German science of the 'Theory of Knowledge' (*Erkenntnistheorie*). This crisis was directly related to questions like: what is the subject-matter of psychology, and how does its subject-matter demarcate it in relation to other disciplines? What is the difference between logic, psychology and theory of knowledge? How does one harmonize the apparently independent realms of

[1] Take for instance, (Lorraine Daston 1978, 1982), (Kurt Danziger, 1982), (Gary Hatfield 2002, 2009).

psychology and physics? These questions also implicated not only the place of psychology among the sciences, but in turn also implicated the respective roles of logic, metaphysics, and epistemology. Indeed, the location of psychology in the space of knowledge should not be considered apart from the identity crisis that was well underway in philosophy itself.

A recent work (Bordogna, 2008) informs us that the classificatory problems at the turn of the twentieth century, especially between Psychology, the Natural Sciences, and Philosophy, motivated particular institutional practices, new buildings, and intense discussions about the geography or space of knowledge. Psychology demanded new laboratory space, for instance, and divisions were beginning to be made at universities between Chairs for Philosophy and those for the newly found discipline of Psychology – what the English had always regarded as one discipline under the head of the Moral Sciences was now in disarray. These spaces of knowledge were hotly debated in the midst of the fresh sting of specialization and professionalization. At a theoretical level many as distinct as William James, George Stout, Francis Bradley, Harold Arthur Prichard, and Andrew Seth, thought it was a philosophical problem to be solved by philosophical means. As one of Russell's old teachers at Cambridge, and one of the most distinguished philosopher-psychologists at the time, James Ward, put it concerning the relationship between the disciplines: 'contradictions emerge …. and as we are willing to concede that it does not lie in the special concepts of any given science, we infer that it must lie in some mistake as to the relation of their several standpoints to each other. *The first business of philosophy, then, is to reduce these to a consistent orientation*' (Ward, 1904, 5-6; my italics). Such an orientation among several standpoints indicates that one of the guiding metaphors in the approach of many to the classificatory problem was indeed a spatial metaphor.

I would like to show that it was in the midst of such prevalent disorientation in the space of knowledge that Russell constructed his own six-dimensional space of *perspectives*.

In a chapter entitled, 'Sense-Data and the Mind-Body Problem,' the historian Gary Hatfield has recently done a great service in pointing out our current prejudice against the phenomenal, stemming from the mid 20th century 'fear' of the mental that analytic philosophers began to display thanks mainly to the linguistic turn (Hatfield 2009, 298). He is absolutely right to remind historians of analytic philosophy that when dealing with figures such as Helmholtz, Mach, James, and Wundt, one must be sensitive to the fact – often forgotten or ignored – that 'they all had a healthy respect for the integrity of both the mental and the physical domains … they all accepted the reality of both mental and physical phenomena' (Hatfield, 2009, 297).[2] This is clearly the case for Russell as well.

Hatfield, however, goes on to describe Russell's 'phenomenal realism' as being 'a crazy position'. This is because, says Hatfield,

> physical objects just aren't made of perception-like entities, of color patches or colored points. They are not made of sensational or phenomenal elements, but of chemical elements in the periodic table, which are themselves composed of subatomic particles, which are in turn composed of yet more basic particles or energy packets. (ibid, 299)

Hatfield's assessment is specifically made with regard to Russell's later concessions and his move to a neutral monism in the 1920s. One also finds a similar appraisal of Russell's earlier, circa 1914 form of 'phenomenal realism' in H.A. Prichard's lengthy

[2] See also (Hatfield, 2002).

review of OKEW.[3] Now these may in fact be correct philosophical assessments; what interests me, however, is to understand what kind of historical context permitted Russell to originally take such a 'crazy position.' I will show that it was Russell's attempt to answer the on-going classificatory problems, up to now pretty much ignored as a historical episode in Anglo-Saxon philosophy,[4] which was at least one reason for the constructive proposal one finds originally formulated in the 1914 lectures. After all, what comes across in Russell's early work on the external world is not any explicit solution to the classic mind-body problem, which is nowhere even formulated as such, but, as Russell himself says in *Our Knowledge of the External World*: 'It is the hypothetical construction, with its reconciliation of psychology and physics, which is the chief outcome of our discussion' (OKEW, 104). As late as 1922, after Russell's own neutral monist position had been formulated in *Analysis of Mind* (1921) he still regarded his theory to have had the virtue, as he puts it, of being able to 'harmonize physics, the physiology of the sense-organs, and psychology' (Russell 1922, 483).

My purpose in this paper is not to defend Russell against Hatfield or Prichard, therefore, but to get a clear grasp of at least one major thing Russell thought he had accomplished by proposing his 'crazy position,' namely, the reconciliation between physics and psychology by the aid of new logical techniques. I will do this by considering a select, but non-exhaustive set of representative pieces dealing with the classificatory problem, either directly or indirectly, from the period of interest. By bringing in such philosophers as Ward, Bosanquet, Prichard, Seth, Robertson, and

[3] (cf. Prichard 1915, 149, and indirectly on p.169)
[4] Except of course (Bordogna, 2008). Also see (Hatfield, 2003) for a superb overview of the issues with regard to psychology and its relation to the other disciplines; and some of the essays in the volume by (Ash and Sturm 2007).

Dumville, I hope to expand, however slightly, the historical discussion begun in my book that was limited in its discussion of similar themes by the way in which Russell's theory of perspectival six-dimensional space related specifically to Nunn and Stout (cf. Nasim 2008, esp. Chapter 5). In this essay, rather, I will go a little beyond that and I will indicate how the issues involved in Russell's proposal implicated many others, indeed that it relates to larger themes found in British philosophy at the time, such as the classificatory problem. Russell's proposed resolution to the apparent conflicts between physics and psychology was not done in a vacuum, that indeed, the problem of classification itself has a history, one that needs to be further accentuated particularly in relation to rise of analytic philosophy in Great Britain. It is well known that the place of psychology in the space of knowledge was highly problematic at the time, but this fact ought not be taken in isolation from the classificatory problem I consider in this paper; namely a matter not solely about psychology's relation to logic, but also its place among the disciplines. I hope to slightly broaden what we take to be Russell's concerns in relation to those around him (seen as competitors to the nascent analytic philosophy), and to broaden how we understand the influence of psychology in Russell's thinking - his naturalism is usually seen to have taken root much later then the period I am examining, for instance.

II.

Allow me to begin where Russell begins when dealing with the problem of the external world in *OKEW*; namely, with the preliminary sorting and arranging of psychology, logic, physics, and common sense. I will not rehearse here the details of the logical constructive method, which is primarily meant to preserve the truth of commonsense or natural scientific (specifically physics) statements by replacing

inferred or metaphysical entities in these statements with sets that formally have the same properties, except that they are not inferences. This by now is pretty-much common knowledge about Russell's project. What I wish to expose instead are the various implicit and explicit assumptions and claims Russell makes with regard to the relationships between Logic, Physics and Psychology.

It is indeed quite telling that the vast majority of the reviews of Russell's *OKEW* focused for the most part or exclusively on Lectures Three and Four – on those two chapters concerned with the problem of the external world, and the logical construction of physical things, space, and time. The remaining chapters deal with issues of continuity, infinity, causality and freewill, but what caught the attention of many philosophers, that is, was Russell's application of his 'logical-analytic methods' (partly explained in Lecture Two) to the areas of perception, sensible-objects, phenomenalism, and the relationship between the sciences.

In order for Russell's logical analysis to get off the ground, he must begin somewhere, namely, from what Russell calls the body of 'common-knowledge,' which includes commonsense, psychology, and physics. From among this common-knowledge, however, certain things must be taken as 'primitive' and others as 'derivative.' In both Lectures Three and Four what is assumed to be basic or primitive are the data of sense, introspection, facts of recent memory and the basic laws of logic, these are Russell's 'hard data.' However, those beliefs that are psychologically derivative, even if they may be taken as logically primitive (and most are in commonsense and physics), are most susceptible to doubt, and are termed 'soft data.' These last are mostly commonsense or natural scientific beliefs about the world. One of the essential points to be noted in relation to these distinctions is that Russell takes seriously the truths uncovered by both psychological and physical research, some of

which may be taken as primitive and others as derivative, which are in need of *logical* justification even if they already have their respective psychological or physical explanations. Let us now take some time to understand what Russell is getting at when elaborating the distinction between psychologically primitive and derivative beliefs. The very success of his analysis is dependent on his understanding of the roles played by these different areas of knowledge, and their arrangement and orientation.

Among some of the things that are clearly psychologically primitive in Russell's view, there are sense-data or the immediate data of our senses, especially touch and sight. But this is no obvious or simple place to begin, for much discerning psychological work is required concerning a subject's inner or outer experiences to make the fine distinctions necessary. The determination or 'discovery,' says Russell, 'of what is really given in sense, is full of difficulty' (OKEW, 76). In fact, Russell takes what is psychologically primitive, such as sense-data, as a fundamental result of psychological research, or as Russell explains: 'Psychologists have made us aware that what is actually given in sense is much less than most people would naturally suppose, and that much of what at first sight seems to be given is really inferred' (OKEW, 75). In another place Russell attacks Kant precisely for being 'psychologically innocent' (1914A, 10), that is, naive of psychological research with regard to what is actually given in sense when we say we perceive space.[5] Sense-data may be psychologically primitive, but that does not mean they are self-evidently or even instinctively primitive as well – there is some difficult psychological work to be done before we get even that far.

[5] (Russell 1914a, 10); also see (Robertson 1883, 21).

As to what is psychologically derivative, it is quite clear that Russell has in mind, as he says, 'extra-logical' processes or mental inferences, especially (but not only) as they are detailed by the psychologists. He also calls these 'intellectual constructions' (OKEW, 118), 'instinctive theorizing' (OKEW, 109), 'unconscious inferences' (OKEW 77-78), or 'correlations' (OKEW, 129). Russell's OKEW is filled with such psychological inferences or 'mental constructions,' which are mainly used to provide some psychological explanation for the origin and formation of some of our basic commonsense or physical notions. For instance, we infer a mental state of anger from a man's frown; the mind of another human being is inferred from bodily responses similar to our own; and the correlation of the space of touch with the space of sight is one we construct at infancy.[6] Again, Kant is criticized for being 'unusually ignorant of psychology' in his description of space as 'an infinite given whole.' In other words, 'People who have never read any psychology,' explains Russell, 'seldom realize how much mental labour has gone into the construction of the one all-embracing space into which all sensible objects are supposed to fit' (OKEW, 118).

Both psychologically primitive and derivative products, therefore, are the results of psychological or physiological research. There are two closely related points that require highlighting at this juncture. The first is a minor caution. Although Russell sometimes adds to the confusion, it ought to be clear that when he speaks of psychologically primitive or derivative beliefs, he is not simply referring to an individual's reflections on her own private subjective states without any aid and guidance of psychological research, as a psychologically innocent Kantian or Cartesian might have approached the matter. The second point to observe is that Russell regards both what is primitive and what is derivative as being the results of

[6] (OKEW, 118)

psychological research, left in the capable hands of the psychologists. It is not in Russell's purview to doubt what psychology teaches us.[7] The problem for Russell is thus not to provide some sort of alternative story for these psychological results, but to provide a logically sound justification for psychologically derivative beliefs on the basis of what is regarded to be psychologically primitive. This is not some sort of implicit attack directed at psychology's proposed constructions, but it actually assumes their explanatory powers – Russell even uses such mental constructions to explain how some of our beliefs may have arisen, including some held by physicists, such as the belief in the 'thing in itself,' and physical space.

However, even at this juncture we've entered into disputes about the orientation of the disciplines. Take for instance, on the one hand, Shadworth Hodgson, the founder and first president of the *Aristotelian Society*, who in a symposium on the 'Origin of the Perception of an External World,' argues that, 'Psychology in my view logically comes after and depends on Philosophy' (Hodgson 1891-92, 39). With regard to the problem of the external world and perception, Hodgson distinguishes between two questions of 'analysis' and two questions of psychology, and argues that in all cases the latter two presuppose fundamental, sometimes *a priori*, elements of the former two (such as the self-awareness of the self). In other words, the philosophical problem of the external world occurs before and provides the resources for the 'psycho-genetic' conditions for the sensation, perception and conception of the external world.

Russell's methods briefly outlined above, on the other hand, come much closer to one of the great philosopher-psychologists of the period, George Stout – one of

[7] This is not to say that Russell does not think one may be critical of either psychology or physics, but that at the philosophical level such a critique is done within and during the actual explication of the logical process involved; see (OKEW, 73).

Russell's most influential teachers at Cambridge. Whether it is physics, biology, chemistry or common-sense, the job of psychology, according to Stout, is to regard the 'actual products' of each of these areas as givens that are presupposed in the psychologist's attempt to provide the psychical 'processes' that went into their production (Stout 1887-88, 35-36). In so far as these processes are subject to 'time-vicissitudes' and are dependent on the history of consciousness, psychology may be distinguished from Metaphysics and the Theory of Knowledge, which treat given products of knowledge rather than the developmental processes involved in those products. Finally, 'it is totally outside,' claims Stout, '[psychology's] province to pass sentence on approval or disapproval. It may describe a process or reasoning and fix the laws according to which it takes place, but it cannot criticize the reasoning when completed, and pronounce it valid or invalid' (Stout 1887-1888, 34-35). The scope of the latter, namely to pronounce reasoning valid or invalid, is that of Logic's. Or as Andrew Seth expressed the same sentiment but in relation to the 'new science' or the Theory of Knowledge, that the psychologist 'in so far as he is a pure psychologist does not attempt to tell us whether our belief is true, whether we have real warrant for it. On that point he is dumb' (Seth 1892, 135).

For Russell too, psychological constructions provide only possible explanations but not justification for the derivative beliefs of commonsense or physics – justification is the task of the logical method in philosophy. In many cases, says Russell, derivative beliefs require logical justification, because the beliefs concern inferred or postulated metaphysical entities, processes, and events that are not directly observable, nor therefore verifiable. Also notice, however, mainly in relation to Stout who maintains that psychology's scope is restricted to the mental processes in the development of certain actual products of knowledge assumed to be true

explananda, that Russell too adopts this model, but rather for the role played by 'logical processes' (OKEW, 77) instead. By regarding psychological knowledge, physics, and commonsense as common-knowledge, Russell aims at providing for a subset of these products (i.e., soft data) some plausible justifying logical processes. These logical processes may include inference, but Russell rather prefers logical constructions, because unlike the former, constructions are said to successfully avoid any implicit or explicit inclusion of some 'self-evident' or a priori postulate, such as the inductive principle of continuity, a principle, that is, which leads, in Russell's view, most often to those very metaphysical monsters he wishes to avoid.[8] I turn now to placing these two fundamental aspects of Russell's framework into one of their, I believe, appropriate historical contexts – namely the classificatory problematic among the English philosophers.

III.

Let me begin, then, with the 'psychologically derivative' aspects of common-knowledge. Primarily derived through psychological processes, these may include the work of the associationists, structuralists or functional psychologists, but one of the most important forms of such psychological processes at the time was to be found no doubt in Stout's analytic psychology.[9] It is mainly Stout's 'ideal constructions' that I believe are at the forefront of Russell's mind when he contrasts 'intellectual constructions' with logical ones. Stout's ideal or thought constructions may be mere psychological inferences or elaborate constructions. A good brief example of such a psychological inference may be found in Stout's (1890) 'The Genesis of the Cognition

[8] This is best instanced in Russell's work in mathematical logic, see (Nasim 2008, chapter 6).
[9] For an excellent contextualization of Stout's analytic psychology see (Van der Schaar, 1996).

of Physical Reality.' Among many other things, he attempts in this paper to explain the genesis of the belief in the persistence of objects thus: a percipient's 'body-complex' contacts another that offers it resistance, particularly by way of muscular exertion. This kind of resistance, says Stout, may be 'represented as distinct from our own. The experience of resistance is also an experience of persistence'.[10] But persistence of external objects may also be more elaborately obtained by constructive means, where by assuming a continuity in experience Stout tries to show, with regard to sensible appearances of objects that are no longer appearances to anybody, that through psychological processes of attending, remembering, thinking, and imagination that an explicable, continual and gradual explanation or construction may be provided for the object's continuity or change (once it is perceived again, of course). 'For, on any view,' explains Stout, 'it remains undeniable that only a very small portion of the material world, as we know it, is or can be given in immediate experience. In the main, our knowledge of it is a thought-construction on the basis of presentational data, involving at every step, psychological processes of attention, retention, association, reproduction, and productive imagination' (Stout 1911, 11).

Thought or ideal constructions, then, are quite powerful psychological devices used in the explanation of the processes involved in the production of some of the fundamental elements of scientific or common-sense knowledge, such as the notions of persistence, causality, matter, space, time, etc.[11] In relation to the natural sciences then, psychology, it was thought, was fundamental. As George Croom Robertson, the first editor of *Mind*, explains: 'Number and space, motion, material constitution, with every other aspect of things that is or can be conceived to be the subject of direct

[10] (Stout, 1890, 37)
[11] See (Stout, 1899)

positive investigation, are in all their varied modes at the same time facts of conscious experience – in all strictness, *mental* phenomena, of whose elements and composition account may be rendered from the psychological point of view' (Robertson 1883, 12).

Many as dissimilar as Stout, John Dewey (1886a, 1886b), Robertson, and F.H. Bradley (1900) essentially agreed with James Ward's famous characterization of Psychology as having 'the whole choir of heaven and furniture of earth'[12] for its domain; or in less dramatic terms:

> From this point of view the object of any physical science appears to fall within the scope of psychology. The conclusion reached is that psychology cannot like mineralogy or botany be defined by reference to a general subject matter. It deals in some sort with the whole of experience: and the difference between it and the physical sciences is one not of objects but of standpoints. The sciences deal with objects in abstraction from the fact of their presentation to an individual; psychology deals with them in this relation (q. in Prichard 1907, 28).

The distinction between psychology and the other sciences, according to Ward, is simply a matter of 'standpoints.' For Ward the difference between the material and mental is only one of two points of view in which the same class of objects may be considered, and not a difference between two distinct or separate classes of phenomena. The apparent 'gulf' between the mental and the material, then, is only a difference in standpoints or perspectives, one abstracted from the other. While Stout for the most part agreed with this characterization of psychology's place, the point at which he disagreed with Ward is indicative of his Brentanian inclinations. That is, for Stout there is an essential difference between the mental and the material, because

[12] (quoted in Prichard 1907, 29)

the former is intentional and the latter not (Stout 1887-1888, 37). Before Russell came to accept neutral monism in and around the 1920s, he roughly shared Stout's enthusiasm for such a Brentanian act-psychology.

Consequently, it is no wonder that the two, Stout and Russell, both shared the same philosophical problem: how to bridge the gulf between the world of sense and the world of matter? While acknowledging the important role of 'pre-knowledge' to the problem, which is the knowledge that arises from physics or common sense, Stout frames the question as a conflict between the way in which things and their appearances are presented to us – 'The problem is to harmonize these apparently conflicting views while doing justice to both,' says Stout.[13] His solution to the problem is to argue for a basic element in sense-experience that is both immediately connected to the subject's mental acts, *and* immediately connected to the real, actual and material external world, and yet is said to be mental. This mental sensible object, which therefore is supposed to be no representational or mediating aspect in sense-experience, Stout labels 'sense-presentation.'

Ward's claim for the scope of psychology was certainly one motivation for Stout's emphasis that psychology's perspective be 'subjective idealism.' With this in mind it might be perfectly correct to describe Russell's 'solipsistic' or 'phenomenalistic' ideal – that is constructing the inferred objects of physics and commonsense out of what is psychologically primitive – as typically Wardian in character. But Russell also takes seriously Stout's act-psychology. The challenge that Russell faces might be described, therefore, as one that must incorporate two conceptually and spatially distinct standpoints that happen to share a fundamental subject-matter (i.e. sense-data). Again, we are back at Russell's constructed space of

[13] (Stout, 1905, 1)

perspectives in which a non-mental element (sense-datum) may be literally placed in two *spatially* distinct classes of aspects – one in the 'thing' and the other where the 'mind' is said to be.

Not surprisingly, therefore, the vocal Oxford Realist H.A. Prichard, one of the liveliest critics of Ward, Stout and Russell, labels all three's works as 'Berkeleyanism' (cf. Prichard 1907 and 1915). In the case of Stout, according to Prichard, he cannot have it two ways at the same time; that is, Stout cannot claim to occupy a standpoint of Subjective Idealism in psychology and yet claim to be some kind of Realist in epistemology. Rather than include a peculiar kind of object for its subject-matter, the remedy, according to Prichard, is to restrict the scope of Psychology to the old-fashioned talk of Faculties, something that Stout himself had helped to destroy earlier on. 'How,' asked Prichard, 'is it possible for any one who is not misled by the supposed distinction [in psychology] between a thing and a thing as presented to us, to imagine that the same thing red can be at once a quality of a material object and a psychical state or even the quality of a psychical state?' Stout's answer, in part, is that 'the Subjective Idealist considers things only in so far as they are known to the individual and his point of view, *in so far as Psychology is directly interested in it*, may therefore be identified with the Psychological point of view. But the Psychologist as such is in no way bound either to affirm or deny Subjective Idealism as a metaphysical theory' (Stout 1907, 239).

In a 1911 paper entitled 'The Standpoint of Psychology,' one Benjamin Dumville, a reviewer of the whole debate between the Psychologists and the Epistemologists, thought Stout's position led to 'an absolute cul-de-sac.' And one of the reasons for this is that if there is 'a world of objects distinct from the modes of consciousness' and another world of mental objects, then there just cannot be two

sensations of red 'one in the sensation and one in the 'object''[14] – there might be two interpretations, but Stout is committed to an object (i.e. a sense-presentation) that is somehow in two distinct worlds. And if a philosophy is supposed to be based on or resourced by such a psychological basis, says the reviewer, 'an insoluble epistemological problem confronts us'.[15] In fact the problem stems from and is directly connected to Stout's act-psychology and his peculiar sensible objects; in other words, the problem arises out of the way in which he construes the realm of the Psychological. 'A large part of Professor Stout's psychology,' claims the reviewer, 'stands or falls according as the positing within the realm of pure psychology of an object distinct from the act of knowing can be justified or condemned'.[16]

Stout's supposedly 'insoluble' problem is also Russell's. The latter's formulation of the same problem is much more explicit about a 'gulf' between disciplines: 'It is necessary to find some way of bridging the gulf between the world of physics and the world of sense … Physicists appear to be unconscious of the gulf, while psychologists, who are conscious of it [like Stout], have not the mathematical knowledge required for spanning it' (OKEW, 106). As we shall see below, Russell's solution is primarily based on a construction of multi-dimensional perspective-space where one element or aspect, a sense-datum, may be in two perspectives or classes, one where we say the thing is and the other where the mind is. That is, we may distinguish, says Russell, 'The two places associated with a single aspect correspond to the two ways of classifying it. We may distinguish the two places as that *at* which, and that *from* which, the aspect appears' (OKEW, 100). It is through the logical

[14] (Dumville 1910-1911, 53)
[15] (Dumville 1910-1911, 54)
[16] (Dumville 1910-1911, 58)

construction of a space of perspectives, therefore, that Russell is able to show the confusions involved in the 'insoluble' problem.

One significant difference between Ward, Stout and Russell, is that the last is not interested in some process of abstraction, mental construction or 'extra-logical' inference from the psychological to the physical. It is in coming to terms with the fact that Russell is concerned in applying new *logical* techniques and methods, inspired by the developments in mathematics, to the construction of 'things,' 'matter,' space, and time, that one also sees that the laws of logic are just as basic as the psychologically primitive.

Those who were under some general Hegelian influence, such as Bradley and Bosanquet, assumed that Hegel had made an important advance in Logic by temporalizing it into a process in history. Take for instance Bosanquet's response to F.C. Schiller (the English Pragmatist) who claimed that Logic must be and is conditioned by psychological processes, and cannot ultimately be taken apart from these. In fact, like Dewey, Schiller proposed that psychology be regarded as more fundamental than logic for philosophy; indeed, that psychology was the proper method for philosophy. Bosanquet responds by admitting that this is partly true, but a logical process can also be abstracted from the psychological, and thus can be treated apart. But this is not all. Logic's very task, in so abstracting, is to make clear, consistent and explicit what is only inarticulate, fragmentary, and implicit in a psychological process.[17] Psychology, in other words, 'is the logical process broken up and disguised; or rather, the logical process is the psychological process in its explicit and self-consistent form' (Bosanquet 1905-1906, 239). This sort of view is certainly

[17] (Bosanquet, 239)

made possible by the developmental, dialectical, and processual nature of Hegelian logic.

Not content with Bosanquet's response, Schiller claims that his opponent 'has not consented to cast his mind to the point at which my problem arises, to the primitive chaos of immediate experience that is before the sciences have been discriminated and set in orderly relations to each other, when as yet all things are together as undifferentiated …' (Schiller 1905-1906, 256). Bosanquet, that is, is accused of beginning his analysis with the 'finished' sciences, and this is not the place to begin an analysis of the relationship between psychology and logic. John Dewey's review of Russell's OKEW in 1916 makes a similar point, but in relation to epistemology and psychology.

> I am on matter-of-fact ground when I point out that the assumption that even infancy begins with such highly discriminated particulars as those enumerated is not only highly dubious but has been challenged by eminent psychologists. According to Mr. James, for example, the original datum is large but confused, and specific sensible qualities represent the result of discriminations. In this case, the elementary data, instead of being primitive empirical data, are the last terms, the limits, of the discriminations we have been able to make. (Dewey, 153)

Dewey is suggesting that what Russell regards to be psychologically primitive (i.e. sense-data) are not in fact psychologically so – sensible particulars themselves are abstracted and discriminated at infancy from a 'large but confused' stream of experience. Russell's response, given three years later, is instructive.

> Primitive empirical data may mean primitive in time, or primitive in logic. The logical articulation of a man's knowledge changes as his knowledge increases; at every stage, there will be parts of his knowledge that are logically more primitive and parts that are logically less so. What, at an advanced stage of knowledge, is primitive in logic, may be very far from primitive in time … When I speak of 'data', more particularly of 'hard data', I am not thinking of those objects which constitute data to children or monkeys: I am thinking of the objects which seem data to a trained scientific observer (Russell 1919, 136).

In order to further explicate his problem, Russell reverts once again to the arrangement of the disciplines and their scope. The problem of the external world, for Russell, arises not in pure psychology nor in pure logic, but in what he calls 'mixed psychology and logic,' where the relevant kind of primitive in this context is the 'epistemological primitive' – in fact this mixture, it seems, arises most distinctly in the scientific work of scientists, and not in the development of monkeys, or children. Russell begins his solution to the problem, that is, from a certain level of knowledge and experience, where advanced techniques of observation, experimentation, and verification are employed to make epistemic claims about an external world.

What Dewey's objection indicates, of course, is the presence of other alternative psychological results with respect to what might be taken as psychologically primitive in sense-experience. In contrast to the Jamesian confused, indiscriminate stream of experience, or what might be called the continuous view, it was Stout, as we have seen, who was the leading proponent of the discrete or object-centered view in Psychology. It is clear that Russell was aware of both of these

approaches to psychology and its elements. And if he was not aware of even more alternative psychological views, which is unlikely, some reviewers made sure he became acquainted with them. In Bosanquet's review of OKEW, for instance, he cites the German phenomenologist Max Scheler in support of what Bosanquet says is 'the better opinion today [which] is that such a sensum is more than is given to sense, and less than is perceived as an object, so that it is not strictly a datum at all' (Bosanquet 1915, 433-34). This alternative aside, Bosanquet concludes bluntly that it is 'the hunt for the psychologically primitive [that] is the root of the evil' – the evil being an 'eclectic treatment' of certainty, evidence, and data on the part of Russell.

Russell's preferred term for sensible-objects that one is directly acquainted with is of course 'sense-data,' which, in fact, was first introduced, in its relevant and appropriate sense, by G.E. Moore in a paper entitled 'The Subject-Matter of Psychology' (1909-1910) – a paper that was explicitly addressed to the classificatory problems dominant at the time. There Moore begins with the claim, 'It seems to me that Psychology has a subject-matter of its own; and that this special subject-matter may be defined by saying that it consists of all those among the contents of the Universe, and those only, which are 'mental' or 'psychical' in their nature' (ibid, 36). It is under the heading of 'Doubtful Mental Entities' that Moore says he prefers to use the term 'sense-data' instead of Stout's 'sense-presentations'.[18] As to whether or not these sense-data are mental or not, Moore manages only to cast doubt on the supposed mental nature of sense-data, and cautiously sums up by saying that 'I see no reason to think they are'.[19]

[18] (Moore 1909-1910, 57)
[19] (Moore 1909-1910, 60)

There are two things to note at this juncture. One is that the consequence of Moore's paper is that he doubts whether sense-data are to be regarded as part of the subject-matter of Psychology. This is clearly contrary to Stout's treatment of his mental 'sense-presentations,' which are not only an integral part of Stout's epistemological efforts, but also his analytic psychology.[20] As for the second thing to note, it is that Moore's article was written quite consciously in response to Stout. Indeed, as it has been shown elsewhere, Stout's notion of a sense-presentation, influenced by the Brentanian tradition, is the proper predecessor to Moore's and Russell's notion of 'sense-data' (cf. Nasim 2008, chapters 1 and 4). But there is a related and much more general perspective to this issue that is crucial for our purposes, and that is, Stout was fervently defending a new point of view with regard to the subject-matter and scope of Psychology, namely, that it include a certain class of *psychical objects or existents*, or his 'sense-presentations' (Nasim, 2008).

By the time Russell begins to deal with the problem of the external world by 1914, he comes to regard sense-data as physical and belonging to 'the actual substance of the physical world.' Notwithstanding the fact that Russell now regards sense-data to be a part of the subject-matter of physics, there is still a sense in which sense-data stand in relation to a subject's mental act of perceiving or sensing. Mental acts being clearly psychological for Russell, we are back to wondering how to bridge these apparent contradictions or gulfs between the domain of physics and that of psychology. But this is no contradiction for Russell, because if we understand the places *from* which and *at* which sense-data or aspects may appear, we may literally be able to 'place' the disputed subject-matter of physics or psychology into their

[20] For more on the historical and philosophical relationships between Stout and Moore see (Preti, 2008).

respective 'standpoints.' In order to do this, we must not assume a public space, which is psychologically derivative, but rather we logically construct a space out of individual private spaces or perspectives. What results is a construction of a perspectival space of six-dimensions, three dimensions, that is, in each place where an aspect may be a member of some perspective. One essential consequence of this, in fact, is, says Russell,

> that *two places* in perspective space are associated with every aspect of a [physical] thing: namely, the place where the thing is, and the place which is the perspective of which the aspect in question forms a part. Every aspect of a thing is a member of two different classes of aspects, namely: (1) the various aspects of the thing, of which at most one appears in any given perspective; (2) the perspective of which the given aspect is a member, i.e. that in which the thing has the given aspect. The physicist naturally classifies aspects in the first way, the psychologist in the second (OKEW, 100).

This is precisely the 'chief outcome' of Russell's logical constructions. A constructed world, consequently, helps us not only safeguard against metaphysical monsters, but also to structure and arrange our disciplines in relation to one another. The general Wardian character of Russell's construction of a space to accommodate different standpoints of knowledge and the disciplines, may be made clearer if we take James Ward at his own words:

> Before we attempt to orient ourselves to the whole of experience, we recognise nowadays the desirability of orientating the diverse standpoints of the several sciences to each other. In a big national [cartographic] survey it is found – after

> the several trigonometrical figures have been made consistent, each for itself – a further so-called 'final reduction' is requisite before all these figures can be adjusted to each other so as to make one consistent whole. This final reduction is not obtained by further surveying, but by reasoning applied to the surveys already attained. The department of philosophy known nowadays as Epistemology, or the Higher Logic, has an office analogous to this final reduction to perform for the partial surveys of the sciences (Ward 1904, 12).

What is for Ward a powerful analogy becomes in Russell's hands, due largely to his knowledge of mathematics and a logical theory of relations, a literal spatial orientation of the disciplines and perspectives.

Seen in the historical and philosophical context I have briefly provided above, it must be clear that this is also then Russell's answer to the classificatory problems engaged with by so many around him. I claim that by positioning his work among such well-known sets of positions concerning the Psychological and Physical sciences, Russell wanted to bring into stark relief the new powers of the logical methods in neatly solving some of these classificatory problems – that is, to display its powers in a place where many would have certainly seen its utility.

IV. Conclusion

At the turn of the twentieth century many philosophers and psychologists were busy organizing, locating, and spatially orienting the newly professionalized sciences, philosophy, and the nascent Psychology. This was reflected not only in such spatializing practices as tables or schematic trees of knowledge, and in the newly erected buildings used to demarcate these disciplines, but also by conceptually

limiting or expanding the scope of some discipline in relation to others.[21] I have shown that Russell's 'chief outcome' of his logical construction of space ought to be seen in this light, that is, in the complex and intricate spatialization and arrangement of the disciplines that was well underway before and after Russell's lecture at Harvard in 1914. Indeed, the metaphor of 'standpoints,' a key-term in these debates, becomes in Russell's logical construction of a six-dimensional space an important perspectival element, of two places: one for psychology and another for physics, without contradiction. I do not claim that this is the only way to see Russell's program or his chief outcome, for there are certainly important mathematical, logical, and even physical contexts that also play a crucial role. But when subsequent historians claim, as does Charles Fritz, that they cannot see any point to Russell's inclusion of psychological concerns in this logical constructions, I believe they end up missing one of Russell's chief outcomes.[22]

The fault is not hard to find. It clearly lies in the level of importance that physics as a discipline began to have after the 1920s for analytic philosophers. To be sure, Russell himself, later on, played an important part in emphasizing the role of Physics for analytic philosophers – which became their unrivalled model for 'Science'. We even see this in the fact that the most popular version of OKEW is the 2nd edition of 1929, which contains many modifications and deliberately includes much more physics, especially of relativity, then did the 1st edition.[23] So while Hatfield would most probably challenge Fritz's fear of the phenomenal and psychological, both fall

[21] For a good discussion of these issues in the context of the American scene at the beginning of the 20th century, see (Bordogna 2008, esp. ch. 1, 3, and 7).
[22] (Fritz 1952, 99)
[23] A note about the copy of the OKEW that I have used for this paper; while it is a reprint of the 2nd edition, I have thoroughly annotated my copy in relation to a 1st edition copy of 1914. Every omission and addition is recorded in my copy of OKEW used for this paper.

into the trap of interpreting Russell's 'crazy position' from the vantage point of this common prejudice, i.e. Physics. I suggest that as historians we begin to read Russell not from the anachronistic perspective of the 21st century, and not even from the perspective of OKEW's 2nd edition, especially if our goal is to understand what was so different and new about the early analytic philosophy in distinction to its competitors.

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