SUSAN STEBBING, INCOMPLETE SYMBOLS, AND FOUNDHERENTIST META-ONTOLOGY

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ABSTRACT. Susan Stebbing's work on incomplete symbols and analysis was instrumental in clarifying, sharpening, and improving the project of logical constructions which was pivotal to early analytic philosophy. She dispelled use-mention confusions by restricting the term 'incomplete symbol' to expressions eliminable through analysis, rather than those expressions' purported referents, and distinguished linguistic analysis from directional analysis of facts. In this paper I explore Stebbing's role in analytic philosophy's development from anti-holism, presupposing that analysis terminates in simples, to the more holist or foundherentist analytic philosophy of the later 20th century. I read Stebbing as a transitional figure who made room for more holist analytic movements, e.g. applications of incomplete symbol theory to Quinean ontological commitment. Stebbing, I argue, is part of a historical narrative which starts with the holism of Bradley, an early influence on her, to which Moore and Russell's logical analysis was a response. They countered Bradley's holist reservations about facts with the view that world is built up out of individually knowable simples. Stebbing, a more subtle and sympathetic reader of the British idealists, defends analysis, but with important refinements and caveats which prepared the way for a return to foundherentism and holism within analytic philosophy.

1. INTRODUCTION

Susan Stebbing (1885-1943), the UK's first female professor of philosophy, was a key figure in the development of analytic philosophy, but neglected by later generations. Her efforts to promote the new mathematical logic, the analysis of propositions, modern philosophy of science, and critical thinking, as well as her crucial professional activity—founding the journal *Analysis*, forging links between Carnap and logical positivism on the one hand, and British analytic philosophy on the other, presidencies of the Aristotelian Society and the Mind Association—have not yet been given the recognition they deserve. In this paper I will be concerned with one under-appreciated aspect of Stebbing's contribution: her work on incomplete symbol theory. I will trace Stebbing's role in a historical chain of action and reaction that began with the holism of the British idealists, especially Bradley, continued through Moore and Russell's attempt to overthrow idealist holism and scepticism about truth and reality, and culminated in a mid-twentieth century synthesis, a movement towards a non-idealist analytic holism and foundherentism. Stebbing's position within this chain of events, I argue, was that of an original, transitional figure whose moves towards a moderate foundherentism began to make room for analytic holism and foundherentism. Moore and Russell were right to object to Bradley's anti-realism, but in rejecting his holism alongside it, they threw the baby out with the bathwater. Well-versed in the idealism she rejected and shrewdly diagnosing some of the flaws in Moore and Russell's views, Stebbing was exceptionally well-placed to point towards a middle way.

The relationship of the early British analytic philosophers to their British idealist predecessors has not always been well understood. Most work on Stebbing in particular misunderstands her relationship to them, and neglects the wider narrative of the transition of British philosophy from idealism to early analytic philosophy to later analytic thought. What follows is a brief sketch of my account of this narrative. We all know that Moore and Russell wanted to break with the anti-realism of the idealists. One neglected aspect of the story is their renunciation of Bradley's holism. It was this holism which led Bradley—who was Stebbing's earliest philosophical inspiration—to deny that our words could ever stand for readily identifiable chunks of reality. Reality, Bradley claimed, resists division into neat, individually cognisable chunks like facts or objects of singular reference. Moore and Russell initially responded by running as far from Bradley's position as they possibly could, embracing a strong anti-holism. They claimed that our minds can indeed reach out to individual constituents of reality. Analysis helps us uncover the underlying structure of facts, hidden behind expressions with misleading surface grammatical forms, and reveal their elements, the building blocks of the world. Stebbing was the first to elucidate the 'analysis' of analytic philosophy. She raised concerns about use-mention confusions in the earlier formulations of incomplete symbol theory. She then proposed to repair these by distinguishing linguistic or 'same-level' analysis from metaphysical or 'directional' analysis, and restricting the term 'incomplete symbol' to the expressions whose usage can be eliminated by means of analysis, refusing to apply it to those expressions' purported referents.

Analytic philosophy, in 1930s Britain, was driven by a legacy of strong opposition to holism, aiming for analysis of facts down to their ultimate constituents. It may seem, then, as though there was little conceptual room for holism within analytic philosophy. Yet holism was soon to return in a variety of forms, and Stebbing was one of the philosophers paving the way for the holist and foundherentist moves made by the later Wittgenstein, Quine, Haack, and others in later analytic philosophy. Stebbing was the first to point out the flaws in logical atomism and the analysis of facts, and to see that a more holist approach was not at odds with the realist aims of analytic philosophy. Over the course of the 1930s, we see Stebbing suggesting a mild foundherentism as an improvement upon atomism. To place Stebbing's contribution in its proper context, first I will briefly sketch her intellectual biography, and then return to the overall historical narrative and her place within it.

2. SUSAN STEBBING: LIFE, WORKS, AND INFLUENCES

Susan Stebbing had to battle several disadvantages not faced by her male counterparts to get to the first Chair in philosophy held by a woman in the UK. Besides being raised in a deeply sexist Victorian society, and being hampered by a relative lack of formal education in her early years, Stebbing was also a woman with a disability. She suffered from Ménière's disease, a disorder of the inner ear which negatively affects hearing and balance. It brought on frequent debilitating attacks of vertigo all through her life. As the disease was not well understood or treatable in her lifetime, Stebbing had to work around the attacks as best she could. Her achievements are all the more remarkable when all these things are taken into account, evidence of her focus, determination, and sharpness of mind.

Lizzie Susan Stebbing was born in London in 1885, the sixth child of Alfred Stebbing and Elizabeth Elstob.¹ Little is known about her early life, but it is clear that she lost her father as a young girl, and her mother in her teens. Susan's education was rather neglected when she was young, because she was considered too unwell. Still, she entered Girton College, Cambridge, in 1904. Constance Jones, an eminent logician with two books to her name [9, 10] and a third at press [11], had just been appointed Mistress. Jones brought renewed academic vigour and raised substantial funds for the previously very poor college, one of just two where women were permitted to study. Women sat examinations alongside men, but would not be allowed to graduate from Cambridge University until 1948, five years after Stebbing's death. Nineteen-year-old Susan was deemed too weak to pursue her chief interests—according to different accounts, either in science [5, p. 13] or classics [37, p. 283 — and so she read History. In her final year she happened to pick up F.H. Bradley's Appearance and Reality at random in the library. She was immediately intrigued, so much so that she stayed on to read Moral Sciences. Despite the name, her education was heavily focused on logic, with Jones in charge and W.E. Johnson as her main supervisor.² The logic she was taught was the old Aristotelian logic, to which she was to devote significant space in her later work on the subject.

Stebbing subsequently moved to King's College London. She completed a Master's thesis defending truth against attacks by pragmatists and followers of Bergson in 1912, which was published in 1914 [25], and held a lectureship from 1913 to 1915. In London she began to attend meetings of the Aristotelian Society. Her earliest publications and presentations there were on the subject of her thesis [23, 22, 24]. It was also in London that she met G.E. Moore, Bertrand Russell, and Alfred North Whitehead, the new generation of philosophers, with whom she discussed recent advances in logic, philosophy of science, and the analysis of propositions. Moore, a Cambridge research fellow, had published his criticisms of British idealism a few years before Stebbing stumbled upon Bradley in the library [14, 15]. But Stebbing had not been exposed to Moore at the time. During her studies at Girton, Moore had been living in Edinburgh with his close friend Ainsworth, the inspiration for a character in an E.M. Forster novel. Once she came to know him, Moore became a lasting influence on Stebbing, whom she credits with several insights in her work on analysis and incomplete symbols.

¹For a longer and thoroughly researched account of Stebbing's life, see [5, chapter 1].

²Johnson was described by Russell as a clever man who was far too coddled by his protective family to ever see the need to write anything down. His celebrated three-volume *Logic*, source of the determinatedeterminable distinction, did not not materialise until 1921. It owed its existence to Johnson's student Naomi Bentwich stepping in to offer her 'valuable assistance in the composition' of the work [8, Preface]. Later Naomi Birnberg, she founded and taught at a vegetarian primary school [1].

Stebbing took up a part-time lectureship at Bedford College from 1915-1920. Bedford, in Regent's Park, was a women's college, and would remain a constituent of the University of London until forced to close by budget cuts under Margaret Thatcher in the 1980s. Its philosophy department then merged with that of King's College London. While a part-time lecturer, Stebbing also ran a successful girls' school in Hampstead with her sister Helen and her friends Hilda Gavin and Vivian Shepherd. Well-educated, intellectually engaged women of their generation often ended up as schoolmistresses. Very few academic jobs were available to them. We can only speculate about what they might have written if they had been given the time to do so. Shepherd especially was clearly a significant intellectual sounding board for Stebbing. A Modern Introduction to Logic is dedicated to her. Stebbing was the exception, and the pioneer, by forging an academic career for herself. She was made a full-time lecturer at Bedford College in 1920, a Reader in 1927, and Professor in 1933. Presently, King's College London still has a Susan Stebbing Professorial Chair.

Stebbing's scholarly writings, popular books, and professional activity did a great deal to promote analytic philosophy in the United Kingdom and on the European continent. Stebbing wrote the world's first accessible text on the new polyadic logic, A Modern Introduction to Logic, which was widely admired and went through several editions [28, 31]. In this book she also covered the old Aristotelian logic and metaphysical questions arising from recent developments in logic, such as domains of discourse, knowledge by acquaintance and description, and the *a priori*. Around the same time she published several papers on metaphysical analysis and a short book on logical positivism [30]. She held a visiting professorship at Columbia, was president of the Aristotelian Society and of the Mind Association, and brought Carnap to the UK to speak, introducing him to Ayer and Russell. The mutual influence between British analytic philosophy and logical positivism owes much to Susan Stebbing. Her conversations with Whitehead led to her work on the philosophy of science, comprising several journal papers on Whitehead and a book called *Philosophy and the Physicists* [34], a critique of Eddington and Jeans on consciousness, free will, and the role of metaphor in science. Though described as a kind and helpful person by those around her, Stebbing's philosophical style was direct and uncompromising. She never minced words and was frequently hard on herself as well as others. For instance, she commented on a paper by Joseph discussing her Modern Introduction to Logic that 'Mr. Joseph's polemic is long and difficult to read; it is also rambling', but also thanked him for engaging with the views expressed in a serious way, and not taking the easy way out: 'It would be easy to ridicule what I said because I said it so badly' [32, p. 338]. Her later works aimed to bring clear thinking and plain speaking on difficult philosophical topics to the greater public. Thinking to Some Purpose [35] was an accessible, popular book on reasoning and critical thinking in the then newly established Penguin series. Ideals and Illusions [36] discussed clear reasoning and its application to moral philosophy. Stebbing died in 1943, after a long illness. She left her money to Bedford College to establish a studentship for women in philosophy, which continues at King's College London to the present day.

3. Incomplete Symbols and the Development of Early Analytic Philosophy

Our topic in this paper is Stebbing's work on metaphysical and linguistic analysis, in particular her views on incomplete symbol theory. To understand Stebbing's contribution, we must consider it in relation to the development of early analytic philosophy: its connection to Moore and Russell's break with British idealism, and in particular Bradley's holism and consequent opposition to facts. Stebbing was a measured and, to some extent, sympathetic reader of Bradley. She had been much impressed with his holist arguments against isolating individual objects and fact[S] from each other as a young woman, and continued for several years afterwards to defend a moderate version of his identity-in-diversity. Although sympathetic to Moore and Russell's realism and their aim to analyse away incomplete symbols, this keen-eved critic of logical atomism saw that holism need not entail anti-realism, and that the strong foundationalism of the early Moore and Russell was not necessary to the analytic project. She expressed some foundherentist leanings which helped prepare space for later holist and foundherentist movements in analytic philosophy. Here I use 'foundationalism', in contrast with 'holism', for the view that our knowledge of the world derives from knowledge of its individually knowable constituents. My use of the term is not meant to imply that what is known is anything intrinsically mental or private. Although the term is now more commonly used in that way, the kind of foundationalism endorsed by the early Russell and Moore is mind-independent. According to the early analytic philosophers, the world is built up of components, facts or individuals, which we can truly and coherently describe. Philosophical analysis can help us achieve knowledge of these components, and describe them correctly. Analysis terminates in simples, and these simples are the world's constituents. This strong version of foundationalism, the thesis that reality divides into small, discrete, knowable chunks, I propose to read as a reaction against Bradley's extreme holism, his view that we cannot grasp facts or individuals in isolation from each other in order to name or describe them at all. Stebbing moderates the early analytic philosophers' foundationalism and points the way towards a more holist, but still realist, analytic philosophy.

No published work on Stebbing seriously explores her relationship to Bradley. Too often it is assumed that British idealism holds reality to be composed of ideas, and that its foundational texts are light on argument and replete with Victorian grandiloquence. For instance, in her book on Stebbing, Chapman says that *Appearance and Reality* is 'full of dogmatic but apparently unsupported statements' [5, p. 15] and that in this work 'Bradley defends a version of idealism: the philosophy that reality consists of our ideas and experiences' [5, p. 16]. Chapman goes on to express puzzlement that Stebbing should have been so captivated by such a book, when she was soon to embrace Moore's 'more rigorous, analytic style' [5, p. 17]. There is some evidence against Chapman's suggestion that Stebbing was merely fascinated by metaphysical speculation in general, and eagerly to embrace the analytic style as soon as she happened upon it. Although the mature Stebbing rejected idealism, her abandonment of it was gradual. Her earlier publications, after her Master's work on truth, Bergson, and pragmatism, gave pride of place to Bradley's argument for the unreality of relations [26]. It would indeed be puzzling if plain-speaking, quick-witted Susan Stebbing had been taken in by mere bombastic posturing about the Absolute. But the answer to the apparent puzzle is that this is a mischaracterisation of Bradley. He did not take reality to be composed of ideas. *Appearance and Reality* is strongly anti-psychologistic [2, p. 613, for example]. And, though written in the nineteenth-century academic style, it is full of sharp philosophical argument.

Bradley put forward a battery of arguments for his contention that we cannot make our sentences stand for readily identifiable chunks of reality. His Appearance and Reality contains a blistering attack on the coherence of facts and the possibility of reference to them. His well-known regress argument for the unreality of relations led him to deny that there was any sense to be made of fact-talk. A fact, supposedly, is some things in relation. Yet things cannot ever begin to stand in a relation to each other, and so facts must be illusory. After all, a relation is either something to its relata, or it is nothing to them. But if it is something to them, then a further relation is needed to bring it about that they are something to each other, and if it is nothing to them, then clearly they are not related at all [3, pp. 31-2]. Bradley also adduced several arguments against facts which were more explicitly holist. He denied the coherence of subject-predicate analysis [3, p. 17] and of singular reference, on the grounds that singular judgements always leave out significant aspects of the description of the referent, which can only be filled in by reference to other judgements [3, p. 320 n. 3]. So neither individuals nor facts can be categorically singled out by referential means. As a result, singular statements never succeed in attributing a predicate to a subject as something clearly distinct from the subject; there is only identity in diversity, also known as concrete unity. Bradley objected to the British empiricists' assumption that our sentences represent reality correctly, that reality will either conform or fail to conform to our sentences, and that this conformity or lack of it yields truth and falsity. That assumption implies the world has some structure rather than another, a structure we have the capacity to identify. But that, according to Bradley, is a 'most ruinous superstition' [2, p. 95]. Young Susan Stebbing appears to have been genuinely impressed with the content of these arguments, and not just with their spirit of logical and metaphysical enquiry. In her 1916-17 paper 'Relation and Coherence', she expressed scepticism about Russell's counter-arguments to Bradley's regress [26, p. 470], and defended Bradley's idea of concrete unity [26, p. 460, p. 480].

When analytic philosophy first emerged in Britain, Moore and Russell did not spend any time attacking the thesis that that reality consists of ideas. As realists, they naturally rejected that thesis, but it was not one that their serious contemporary opponents held. Rather, they attacked Bradley's holist case that the world resists division into independently structured facts and individuals, ready for us to grasp, name, and describe. Moore and Russell thought Bradley's conclusion was intolerable, and simply had to be false. They shot straight into the diametrically opposed view that we can grasp, and refer to, individual bits of reality directly. The young revolutionaries at first boldly claimed that each and every one of our words stands for some part of reality. But the 'one word, one thing' model is unstable. Firstly, it implies an immensely bloated, Meinongian ontology. Secondly, if each word stands for something, it becomes difficult to see how we could ever say anything false. So Moore and Russell were forced to abandon the 'one word, one thing' view. Instead they proposed that it was not every word, but every true sentence which stands for one thing, namely, a fact. Falsity is now easily explained as failure to correspond to a fact. The theory of incomplete symbols is crucial to avoiding a Meinongian ontology. Some sentences appear to be about non-existent objects, such as unicorns or the present King of France. The question then arises what in the world they are about, and whether they are true or false. If their form is what it appears to be, then the world must contain unicorns and the present King of France. Incomplete symbol theory avoids this problem by distinguishing between the grammatical form of a sentence and its underlying logical form [19]. Certain expressions are such that their surface form misleads us into supposing that they must have referents, when really they disappear upon analysis. Analysis helps reveal the structure of the underlying fact, and justifies our not taking those expressions as referential after all.

Russell linked the project of logical analysis with the metaphysics of logical atomism [21]. According to Russell, an incomplete symbol is the grammatical subject of a proposition, but not its logical subject, because it disappears upon analysis. As Stebbing was to emphasise, analysis allows us to dispense with incomplete symbols particularly because they are not, like logically proper names, linked to knowledge by acquaintance, where a referent is necessary [28, p. 153]. Although Russell does not invariably talk about acquaintance in the context of incomplete symbol theory—e.g. he does not mention it in the introduction to *Principia Mathematica*—it is another clear indication that Russell's project is foundationalist. He holds that we can be acquainted with simple objects. Analysis helps us uncover the structure of the world because analysis terminates in simples, the ultimate constituents of the world. Stebbing makes this even clearer in the second edition of her book: 'Russell .. sought to discover a simple fact, which he could regard as an indubitable datum' [31, p. 502] Opposition to Bradleyan holism is still a discernible motivation: Moore and Russell wanted the world to bottom out into individually knowable constituents, in order to show that reference to individuals was possible. Russell used the terms 'logical constructions' or 'logical fictions' for the apparent referents of incomplete symbols, including classes [28, pp. 146-149, ordinary objects such as tables and, once Russell had abandoned belief in the existence of the self [20], persons. He claimed that logical constructions are literally defined away, where the definition in question is the mathematical kind. Logical analysis reveals the ultimate constituents of the facts in the world which account for the truth of our sentences. Young Susan Stebbing had initially resisted this project, for instance in response to Moore in 1917. Moore had sought to invalidate Bradley's argument that time is unreal, and yet exists, because we think of it, by pointing out that it is not necessary for the truth of 'I am thinking of a unicorn' 'that there should in any sense whatever be a unicorn' [16, p. 119]. Once more, Stebbing defended Bradley. She claimed Moore had committed 'an obvious fallacy of the accident, the remedy for which is a more accurate treatment of the levels of being' [27, p. 583], and argued for a distinction between existing, being, and reality.

4. Stebbing on Incomplete Symbols

By the time of A Modern Introduction to Logic, Stebbing had come round to the univocity of being. She championed as one of the advantages of incomplete symbol theory that it allows us to sidestep sophistical inferences from 'I am thinking of a unicorn' to 'there is something of which I am thinking' [28, p. 159]. She also explained its great explanatory potential for philosophy, mathematics, and the physical sciences, on the grounds that it helps us gain clearer insight into the meanings of our theoretical terms. But Stebbing considered some aspects of Russell's theory of incomplete symbols to be 'extremely confused' [28, p. 157]. First of all, she complained that it embodied a use-mention confusion: confusion of a Russellian proposition, or fact, with a sentence expressing a proposition. Although she agreed that analysing away an incomplete symbol could be regarded as a form of definition in the mathematical sense, she stressed that definition is only ever a relation between symbols. Things themselves cannot be defined, or defined away. Rather, 'definient and definiendum express the same referrend' [28, p. 441]. Nor did she approve of Russell's saying that the classes, tables, and persons he did not believe in were 'logical constructions' or 'fictions'. Classes, tables, persons, etcetera, are not fictional, or constructed. If terms purported to stand for them are indeed incomplete symbols eliminable by means of analysis, they are not objects at all. There simply are no such things. She proposed the following definition of 'logical construction': "Any X is a logical construction" = "X is symbolised by 'S' and 'an S' is an incomplete symbol" [28, p. 157]. Stebbing stressed that we must avoid Russell's tendency to speak of the purported referents whose existence we are denying as incomplete symbols, but apply the term only to the expressions which are eliminable by logical analysis.

She further denied that being an incomplete symbol was inextricably bound up with disappearing upon analysis. In some contexts, incomplete symbols need not disappear, for instance, where a property is ascribed to *the F*. Nevertheless, even in such contexts they do not necessitate acquaintance or reference [28, p. 154]. Stebbing proposed to fix Russell's oversight here by stipulating that symbols must be called incomplete only relative to some specific usage [28, p. 155]. The definition she recommends is the following, which she credits to Moore in correspondence: "S, in *this* usage, is an incomplete symbol" = "S, in *this* usage, does occur in expressions which express propositions, and in the case of every such expression, S never stands for any constituent of the proposition expressed." [28, p. 155].

5. Stebbing on Analysis

Stebbing is sometimes read as a logical atomist, essentially a follower of Russell, give or take some quibbles over use-mention confusions and terminology [4]. It is easy to misread her as embracing logical analysis and atomism wholeheartedly. In the second edition of *A Modern Introduction to Logic*, Stebbing asserts that 'there are good reasons for supposing that the familiar objects of daily life, including persons, are logical constructions' [31, p. 502], and in her 1932 paper 'The Method of Analysis in Metaphysics', she describes the aim of metaphysics as uncovering the structure of facts, which are the referents of true sentences [29, p. 65]. But, as becomes clear from her responses to her critics, her intention, especially in the 1932 paper, was to set out the intellectual parameters of Moore and Russell's conception of analysis, not to defend it. Although the criticisms she raises are cursory, she also expresses some reservations about foundationalism and logical atomism, the ideas that each sentence stands for a fact, that analysis terminates in simples, that the world bottoms out into discrete facts all of which are knowable. Analytic philosophy was soon to move away from logical atomism. The later Wittgenstein would express some moderately holist reservations about the existence of simples, and about isolating individual statements and matching them with individual facts. On the other side of the Atlantic, Quine was about to develop a robust form of holism, drawing on the legacy of American pragmatism, but also on conversations with Tarski.³ Later, Susan Haack was to put forward a new epistemology she called 'foundherentism'. Haack was concerned to do justice to the difficulty of isolating individual statements and their corresponding facts without a background theory, and at the same time recognise that some of the input into such a theory must be non-descriptive, directly apprehended [6]. Stebbing, I argue, can be seen as taking some moderate steps towards a kind of foundherentism.

Another murky feature of the development of analytic philosophy rears its head here: what is the 'analysis' that's so crucial to it? Famously Dummett proposed that analysis of language was the hallmark of analytic philosophy. Stebbing took a different view. She distinguished linguistic or 'same-level' analysis, the kind of analysis which rephrases a statement in order to clarify its logical form, from metaphysical or 'directional' analysis, which reveals the ontological commitments of a statement. Directional analysis is involved in, for instance, analysing facts about a committee into facts about people, and those in turn into facts about mental and physical states or events. Stebbing contends that although these two kinds of analysis were unfortunately frequently conflated by the early analytic philosophers, directional analysis is the crucial one for Moore and Russell. Samelevel analysis, by contrast, she holds to be of paramount importance for representatives of the analytic school on the European continent, including the early Wittgenstein and the logical positivists. Although the distinction between same-level and directional analysis is sometimes credited to Wisdom, or to 'Wisdom and Stebbing' together, Chapman argues persuasively that Stebbing is likely to have been the originator of this distinction, and that it is implicit even in the first edition of A Modern Introduction to Logic. Stebbing there distinguishes definition, a relation between symbols, from uncovering the kind of constituents of facts that are knowable by acquaintance, as she stresses when introducing her definition of 'logical construction' as opposed to 'incomplete symbol' quoted above. The distinction is made explicit in Stebbing's paper 'Substances, Events, and Facts' first read at the Eastern Division meeting of the American Philosophical Association in 1931. Stebbing puts significant weight on the distinction she draws here. Most of her work on analysis is exploratory, setting out what the necessary conditions for it would be. Still, in the

³Milkov notes that Stebbing foreshadowed some of Quine's reservations about the role of the *a priori* in philosophy. Stebbing considered the directional analysis characteristic of British analytic philosophy to be neither *a priori* nor necessary [13, p. 358].

end she suggests that Moore and Russell gave insufficient arguments to inspire confidence in the underlying atomistic principle that analysis terminates in simples: 'we must make assumptions which so far from being certainly justified, are not even very plausible' [29, p. 92].

Stebbing identifies as a necessary condition for directional analysis the atomistic principle that the intelligibility of p means that there is a unique analysis of p. She then proceeds to query it. The assumption of a unique analysis for each intelligible theoretical statement, plus the assumption that analysis terminates in simples, yields a strongly foundationalist doctrine. Although Stebbing makes some efforts to make this foundationalism sound plausible, she shies away from endorsing it. She elucidates the connections between incomplete symbol theory, directional analysis, and ontological reduction, but expresses reservations about our capacity to pull off the reductive project. She says: 'If we analyse a statement about a Committee into a statement about individuals, [and] again analyse the statement about individuals into statements about bodily and mental states, then the analysis is directional' [33, pp. 35-36], but doubts that we can prove that 'basic facts', Russell's ultimate constituents, exist [33, p. 34]. Stebbing also connects incomplete symbol theory and logical constructions explicitly to knowledge by description, by contrast to knowledge by acquaintance. AcquAintance is connected with the linguistic device of logically proper names, like demonstratives. But she is far less sure than Russell and Moore were that we can be acquainted with, or single out by means of a logically proper name, the kind of thing which ordinary middle-sized objects are constructed out of: 'Ordinary language is essentially descriptive. It is for this reason that no non-general fact can be expressed. If we attempted to use a sentence not containing any descriptive symbol, we should be reduced to a set of pointings. In such a case, we could say nothing; we could only point' [32, p. 341]. Here Stebbing is expressing a kind of foundherentism. Although demonstration of an object of acquaintance is a necessary kind of input to our language, she says, we have no statements which consist of nothing but such demonstrative content. Some descriptive content is necessarily involved in each and every one of our statements. Use of demonstratives is rarely, if ever, independent of a background theory. 'Pure demonstration is a limit of approximation.' [32, p. 342]

6. Conclusion: Stebbing As a Forerunner of Contemporary Empiricism

All in all, Stebbing's work emerges as having intrinsic interest for its sharpness, clarity, and innovation, and as having equal interest from a historical point of view. Stebbing, a driving force behind the development of analytic philosophy in the 1930s, was instrumental in pushing the new, polyadic logic into the mainstream, as well as analytic metaphysics and philosophy of science. Stebbing is also a bellwether for the development of analytic philosophy. She can be seen as one of the catalysts in the under-researched transition of analytic philosophy from strong anti-holism—motivated by opposition to the holist anti-realism of Bradley and other British idealists—via strong foundationalist realism back towards realist holism and foundherentism. Stebbing's early fascination with Bradley never completely left her. His work implanted in her some appreciation for holism, particularly his arguments against dividing reality into individually knowable and nameable units. Moore and Russell wanted individually cognisable, ultimate constituents of the world in order to explain truth and reference. Stebbing was sympathetic to the realist ideal, but raises legitimate concerns for the idea that reality bottoms out into discrete, individually cognisable facts. Yet Stebbing also gestured towards a way to resolve this conundrum: a realist foundherentism. She was aware that realism does not entail strong foundationalism or logical atomism. Her pivotal idea that symbols are not complete or incomplete absolutely, but relative to a given usage, provides the kernel of an explanation of incomplete symbols that is compatible with modern empiricism.

It now appears overly simplistic to assume, like Russell did, that incomplete symbols are a form of definition in the mathematical sense which clarify what we meant all along by our use of the symbol [28, p. 441]. This sits uncomfortably with the purely syntactic treatment—swapping strings for strings—of definition in modern mathematics [17], and with the insights gained from the development of semantic and confirmational holism, that we may arrive at better theories precisely by adjusting the definitions of our theoretical terms [18]. But Stebbing's distinction between same-level and directional analysis classes definition with the former, and reduction to ultimate constituents with the latter. Also, Stebbing can be seen as beginning to leave some room for philosophical analysis which allows for definitions to be adjusted under theoretical pressure by her emphasis on construing 'incomplete symbol' relative to a usage. After all, if a symbol is incomplete relative to the context it occurs in, the confirmational holist can take 'usage' in as wide a sense as she likes. For her, THE CONFIRMATIONAL HOLIST the unit of confirmation was always the whole theory rather than the individual sentence or context. Our present best empirical theories appear to bear out Stebbing's contention that acquaintance is a limit of approximation rather than a sound foundation for theory. Contemporary empiricism suggests that knowledge by acquaintance is relatively rare and has limited explanatory power [12, section 4]. Most objects posited by the sciences are known to us only as solutions to puzzles about how best to explain the phenomena. But logical analysis, and ontological commitment by acquaintance as well as by description, are still valuable for contemporary philosophy of science and meta-ontology. For instance, incomplete symbol theory has much in common with Quine's method of ontological reduction by paraphrase. Stebbing's view that directional analysis can be carried out without the requirement that it terminates in simples is congenial to, for instance, the view of ontological reduction by paraphrase I have recently proposed. According to my proposal, apparent ontological commitments can be paraphrased away by providing a template to demonstrate the equivalence of statements containing these expressions to some part of a longer, more cumbrously expressed, but more parsimonious theory, without any requirement that the old and the new theory be fully materially equivalent, or share a meaning, but with the requirement that there is no loss of expressive strength [7, section 2.4].

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