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Conceptions of Analysis in Early Analytic Philosophy

Over the last few years, within analytic philosophy as a whole, there has developed a wider concern with methodological questions, partly as a result of the increasing interest in the foundations – both historical and philosophical – of analytic philosophy, and partly due to the resurgence of metaphysics in reaction to the positivism that dominated major strands in the early analytic movement. In this paper I elucidate the key conceptions of analysis that arose during the formative years of analytic philosophy, focusing, in particular, on the debate over the nature of analysis in the early 1930s, within what was called at the time the 'Cambridge School of Analysis', and the development of Carnap's conception(s) of logical analysis during his critical phase when he was a central figure in the Vienna Circle. In the final section, with this in mind, I revisit the origins of analytic philosophy in the work of Frege, and show how the distinctions I draw can be used in diagnosing some of the tensions that are present in Frege's thought and which have given rise to controversy in the interpretation of Frege.

Keywords: analysis, analytic philosophy, Cambridge School, Russell, Carnap, Frege, contextual definition

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§1 Modes of Analysis

In its basic sense, 'analysis' means a *working back to what is more fundamental*, but there are clearly many different kinds of things that can be analysed, and even where the same thing is being analysed, many different kinds of things that can be regarded as more fundamental, and many different forms that such a process of 'working back' can take. For the purposes of the present paper, we may distinguish three core *modes* of analysis, which may be realized and combined in a variety of ways in constituting specific conceptions or projects of analysis.[1] I call

[1] For fuller discussion of the various forms of analysis in the history of philosophy, see M. Beaney, *Analysis* (forthcoming).

these the *regressive* mode, concerned to identify the 'starting-points' (principles, premisses, causes, etc.) by means of which something can be 'explained' or 'generated', the *decompositional* mode, concerned to identify the components — as well as structure — of something, and the *interpretive* mode, concerned to 'translate' something into a particular framework. The first mode has its roots in ancient Greek geometry and has had a significant influence throughout the history of philosophy. The key idea here is that of 'working back' to first principles, by means of which to solve a given problem (e.g. construct a particular geometrical figure, derive a particular conclusion or explain a particular fact). The second mode forms the core of what is undoubtedly the conception of analysis that prevails today. Analysis is seen here as involving the *decomposition* of something (e.g. a concept or proposition) into its constituents.[2] The distinction between these first two modes has been widely (though by no means sufficiently) recognized by philosophers. But it is also important to recognize a third main mode, which emerges explicitly in the twentieth century, but which has always been around implicitly in conceptions and projects of analysis. *Any analysis presupposes a particular framework of interpretation*, and preliminary work is done in *interpreting* what it is we are seeking to analyse — the *analysandum* — before we engage in other processes of 'working back to what is more fundamental'. As we will see, it was this idea that came of age in early analytic philosophy.

§2 Paraphrastic and Reductive Analysis: The Cambridge School

What became known at the time as the Cambridge School of Analysis was primarily active in the 1930s. Based in Cambridge, it drew its inspiration from the logical atomism of Wittgenstein and Russell and the earlier work of Moore. As well as Moore himself, its central figures included John Wisdom, Susan Stebbing, Max Black and Austin Duncan-Jones. Together with C.A. Mace and Gilbert Ryle, Stebbing and Duncan-Jones (who was its first editor) founded the journal *Analysis*, which first appeared in November 1933 and which remains the flagship of analytic philosophy today.

The paradigm of analysis at this time was undoubtedly Russell's theory of descriptions, first expounded in 1905. On Russell's account, 'The present King

[2] To take just one example, here is Blackburn's definition of 'analysis' in his recent *Oxford Dictionary of Philosophy*: "the process of breaking a concept down into more simple parts, so that its logical structure is displayed".

of France is bald' was to be 'analysed' as 'There is one and only one King of France, and whatever is King of France is bald', which could then be readily formalized into the new predicate calculus. Wittgenstein commended Russell for having shown the need to distinguish between the grammatical form and the logical form of a proposition (cf. *Tractatus*, 4.0031), and the theory of descriptions clearly opened up the whole project of rephrasing propositions into their 'correct' logical form, not only to avoid the problems generated by misleading surface grammatical form (exemplified in such propositions as 'God exists' or 'Unicorns do not exist'),[3] but also to reveal their 'deep structure'. Embedded in the metaphysics of logical atomism, this gave rise to the idea of 'analysis' as the process of uncovering the 'ultimate constituents' of our propositions (or the primitive elements of the 'facts' that our propositions represent).

This characterization already suggests a distinction that needs to be drawn here — between analysis as mere *rephrasal* (with no metaphysical commitments) and analysis as *reduction*. Let us call the conceptions reflected here *paraphrastic* and *reductive* analysis, respectively. The use of the first term alludes to Bentham's conception of paraphrasis, which John Wisdom, in his first book, published in 1931, saw as anticipating Russell's method of analysis.[4] The use of the second term indicates that the aim is to uncover the logically or metaphysically more primitive elements of a given complex (e.g. proposition or fact). Paraphrastic analysis involves 'interpretation', whilst reductive analysis involves 'decomposition'.

This distinction reflects the distinction that did indeed come to be drawn in the 1930s by Susan Stebbing and John Wisdom, in particular, between what was called 'logical' or 'same-level' analysis and 'philosophical' or 'metaphysical' or 'reductive' or 'directional' or 'new-level' analysis.[5] The first translates the proposition to be analysed into better logical form, whilst the second exhibits its underlying metaphysical commitments. In Russell's example, having 'analysed

[3] I return to this in §4 below.

[4] In his *Essay on Logic* (published posthumously, in 1843), Bentham writes: "By the word paraphrasis may be designated that sort of exposition which may be afforded by transmuting into a proposition, having for its subject some real entity, a proposition which has not for its subject any other than a fictitious entity" (1843: p. 246). Bentham applies the method in 'analysing away' talk of 'obligations' (cf. 1843: p. 247). Wisdom discusses the relationships between Bentham's 'fictitious entities' and the 'logical constructions' of the Cambridge School in the second half of his *Interpretation and Analysis*.

[5] See esp. Stebbing, 1932, 1933, 1934, and Wisdom, 1934. Cf. Urmson, 1956: pp. 39ff.

away' the definite description, what is then shown is just what commitments remain — to logical constants and concepts (such as 'King of France'), which may in turn require further 'analysis' to 'reduce' them to things of our supposed immediate acquaintance.

The conception of analysis as involving both 'paraphrasis' and 'reduction' was characteristic of the Cambridge School in the early 1930s. In a paper entitled 'The Method of Analysis in Metaphysics', published in 1932, Susan Stebbing set out to elucidate this conception, and to articulate, and consider the justification of, its presuppositions. She first distinguishes her own conception of metaphysics from that of McTaggart, whom she understands as offering us a conception of 'ultimate reality' on the basis of which everything else is to be either explained or explained away. The method involved here, she says, is thus *deductive*, the aim being to construct a system in which our ordinary beliefs, to the extent that they can be justified at all, are derived from the ultimate principles. (1932: pp. 66-8.) On Stebbing's conception, however, the task is not to find *reasons* for our beliefs, but to make clear just what those beliefs involve. We do not start from some conception of 'ultimate reality' and then attempt to *deduce* our ordinary beliefs, but start from our ordinary beliefs and simply proceed to *analyse* them. (1932: pp. 68-70.) The aim, in other words, is to pursue analysis not in the 'regressive' sense, moving back to 'first principles', but in the 'decompositional' sense, taking something as 'given' and seeking to uncover its primitive components.

This method of analysis Stebbing finds exemplified in the work of Moore, Russell, Broad and Wittgenstein (1932: p. 74); but she regards their own appreciation of this method as deficient. She writes:

> Just as every conception of the nature of metaphysical problems rests upon certain dogmatic assumptions, so the use of a given metaphysical method rests upon certain presuppositions. It does not, however, follow that those who use a certain method have paused to ask what are the presuppositions upon which its successful employment rests; still less whether these presuppositions could be justified. The philosophers who have used this method of analysis have not, I think, seen fit to raise these questions, which seem to me important to ask and difficult to answer. (1932: pp. 74-5.)

Stebbing goes on to distinguish what she calls 'the method of metaphysical analysis', exemplified by the Cambridge School, from 'the method of symbolic analysis', understood as abbreviating 'the method of analysis used in the construction of postulational systems', utilized by the logical positivists of the Vienna and Berlin Schools (1932: p. 76), and confines herself to the elucidation of the former.

As she sees it, there are three main assumptions that underlie the method of metaphysical analysis, one logical and two metaphysical (1932: p. 85):

(1) If p is to be analysed, then p must be understood. It follows that there is at least one expression which unambiguously expresses p.
(2) If p is to be analysed, then it is not always the case that p is known to be false, and it is sometimes the case that p is known to be true.
(3) Directional analysis is possible.

What is involved in the first, logical assumption? On Stebbing's account, "To understand p is to know its immediate reference", and "The immediate reference of the proposition p is what would ordinarily be understood to be what the proposition asserts. . . Thus the immediate reference of *There is a table in this room* is what you have all understood, namely, that there is a table in this room." (1932: p. 78.) There is a strong suspicion of circularity here, and it is not clear how to rectify it. Appealing to Moore's distinction between 'understanding p' and 'knowing the analysis of p', as she formulates it,[6] Stebbing suggests that I understand p when I "know how the expression expressing the proposition is being used" (1932: p. 86). But what are the criteria for knowing how an expression is used? Stebbing writes that "I think it must be granted that we cannot understand p unless there is some expression "S" which unambiguously expresses p. Nor do I see how we can analyse what we do not understand." She states that there is 'little difficulty' in granting the first assumption, and that it is an assumption that is shared by the method of symbolic analysis. (Ibid.) But the case of symbolic analysis seems precisely to demonstrate its problematic status. For the main aim of 'symbolic analysis' is to *replace* ordinary expressions, which may *not* be clearly understood, by more precise, logically well-defined sentences. (I return to this in the next section.) Of course, this means that there is indeed 'at least one expression which unambiguously expresses p', but in symbolic analysis, this is arrived at *through* analysis, and it would be wrong to say that the proposition is clearly understood *prior* to the analysis. Yet this does seem to be what Stebbing wants to say. At any rate, Stebbing's first assumption is by no means as unproblematic as she thinks.[7]

With regard to the second and third assumptions, however, Stebbing admits that they stand "in serious need of justification" (1932: p. 86). She writes:

[6] Moore himself formulates it as the distinction between understanding the meaning of an expression and giving a correct analysis of its meaning. See 'A Defence of Common Sense' (1925), p. 111; referred to by Stebbing, 1932: p. 86.

> Once these presuppositions are explicitly stated in the form of assumptions, it becomes clear that they are not logically necessary. These assumptions entail certain consequences with regard to the constitution of the world. It cannot be maintained that the world is certainly so constituted. If it could, then the method of metaphysics might be deductive. But unless the world *is* so constituted metaphysical analysis is not possible. (1932: p. 87.)

This is an extraordinary confession, for it would appear to constitute a *reductio ad absurdum* of metaphysical analysis. Clearly, the key assumption here, as Stebbing herself notes, is the assumption that what she calls 'directional analysis' is possible. She offers a number of semi-technical definitions in order to fill out what is involved here (1932: pp. 83-5); but what is crucially assumed is that there are *basic facts* (ultimately simple or atomic facts) upon which all the facts that are the 'immediate references' of true propositions are based, and that it is the aim of analysis to reveal these facts. Underlying this is the assumption we have already questioned — the assumption that what we are seeking to analyse already has a determinate sense; but in any case, that there are absolute simples or basic facts is even more problematic. These assumptions were amongst the main targets of Wittgenstein's *Philosophical Investigations* (see especially §§ 27-78), which was concerned to repudiate precisely that logical atomism of his earlier *Tractatus* which had been taken up by the Cambridge School.

On Stebbing's account, it is the idea that analysis has a 'direction' that distinguishes 'metaphysical' analysis from 'symbolic' analysis, which Stebbing suggests "may very well be circular" (1932: p. 87). The aim is to get down to the 'ultimate constituents' of the world, and not merely to offer 'translations' of the expressions to be analysed. 'Reductive' and not just 'paraphrastic' analysis, in other words, is the goal. But if 'reductive' or 'directional' analysis turns out to be confused, we are still left with 'paraphrastic' analysis; and this equally leaves us with the 'symbolic' analysis of the logical positivists. In drawing her paper to a close, Stebbing reluctantly admits that once the key assumptions of metaphysical analysis have been made explicit, "so far from being certainly justified, [they] are not even very plausible" (1932: p. 92). But she fails to draw the obvious conclusion — that we should look elsewhere for more satisfying conceptions of analysis.

[7] Of course, *some* distinction between what we know prior to the analysis and what we know after the analysis must be made (unless we are to fall victim to the paradox of analysis), and we can agree with Stebbing that such a distinction is 'of great importance' (1932: p. 86), but it is not clear that Stebbing has articulated this distinction properly, and mere recognition of such a distinction does nothing to justify the assumption that I do clearly 'understand' *p* prior to the analysis of *p*. I return to this in the next section.

§3 Postulational Analysis: The Vienna Circle

In response to Stebbing, in a paper published in 1933, entitled ‘Philosophical Analysis’, Max Black argued that ‘logical analysis’, properly conceived, did not have any metaphysical presuppositions at all, but was simply concerned to reveal the *structure* of our propositions. According to Black, logical analysis is a branch of applied mathematics, elucidating the logical form of expressions (their type, level or multiplicity) by a testing process of substitution and translation, Russell’s theory of descriptions once again being seen as a paradigm here (1933: pp. 238-50). In critique of Stebbing, Black repudiates the conception of ‘absolutely specific’ or ‘absolutely simple’ elements, presupposed by Stebbing as the ultimate products of metaphysical analysis (1933: pp. 255-6); but more fundamentally, rejects the idea of metaphysical analysis as uncovering *facts*. The example Black considers is the following:

(E) Every economist is fallible.

Black suggests that a metaphysical analysis, on Stebbing’s conception, at least at an intermediate level, would yield the following set of facts:

(E#) Maynard Keynes is fallible, Josiah Stamp is fallible, etc.

Yet (E) does not mean the same as (E#), Black objects, unless ‘means’ is being used loosely in the sense of ‘entails’. But analysis cannot exhibit the propositions entailed, since this would require knowing, in this example, the name of every economist. The correct analysis, Black suggests, is simply:

(E*) (x) (x is an economist) entails (x is fallible).

This is a ‘logical analysis of structure’ rather than a metaphysical uncovering of facts. (1933: p. 257.)

It is clear that, for Black, analysis is paraphrastic rather than reductive, concerned not with metaphysical constitution but only with logical structure; and it is for this reason that he argues that logical analysis needs no metaphysical presuppositions and hence is not open to the objections that Stebbing faces (1933: pp. 254-8). He recognizes, however, that in some cases of analysis, such as the analysis of mathematical concepts, more is involved than simply paraphrasis. In these cases, where our ordinary or old concepts have led to contradictions, these concepts must be *replaced* by new concepts to avoid the contradictions. But Black is ambivalent as to whether this should really be called ‘analysis’. He writes:

> This is a process of analysis supplemented by synthesis. Such a procedure diverts emphasis from the original notions to be analyzed, which, in so far as they are confused and inconsistent, permit of no exact analysis. …
>
> Philosophic analysis of mathematical concepts therefore tends to become a synthetic, constructive process, providing new notions which are more precise and clearer than the old notions they replace, and so chosen that all true statements involving the concepts inside the mathematical system considered shall, as far as possible, remain true when the new are substituted. (1933: p. 253.)

Talk here of analysis being 'supplemented by synthesis', of there being 'no exact analysis' of confused concepts, and of analysis becoming a 'synthetic, constructive process' suggests that Black is still under the grip of the decompositional conception of analysis, even in the context in which paraphrastic rather than reductive analysis is being advocated. But the fact that he still wants to talk of 'analysis' shows that he recognizes that more is involved here than 'decomposition'. Using the term 'constructive analysis', he goes on:

> Such constructive analysis may, however, acquire a purely *formal* character when, instead of analyzing, it replaces the concepts by a completely new set having the same formal interconnections. A process of this kind is appropriate in the analysis of mathematics, but should be called postulational analysis and carefully distinguished from logical analysis. (1933: pp. 253-4.)

Here again talk of 'constructive analysis' involving something other than 'analyzing' suggests ambivalence; but we also have here a clue as to the resolution of the tension. In so far as the construction of a new set of concepts remains answerable to certain features of the old set (e.g. to the assignment of truth-values to the statements that involve them), we can agree that the process still counts as 'analysis' — revealing 'formal interconnections'. What we have is a 'paraphrasis' that does indeed attempt to capture something of what it is analysing, and which is not just replacing it. But if this is right, then the distinction that Black draws between 'logical analysis' proper and 'postulational analysis' is not as clear-cut as he makes out.[8] Both involve paraphrasis, with merely varying degrees of answerability to the features of what is being analysed. Paraphrasis, in other words, occurs along a scale of forms — from completely conservative to radically revisionist; and postulational analysis is simply a species of logical analysis at the revisionist end of the spectrum.

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[8] Black suggests that whilst logical analysis requires identity of meaning, postulational analysis only requires logical equivalence (1933: p. 254). But this begs questions as to what these equivalence relations are.

It was the radical form of logical analysis — postulational analysis — that Carnap, in particular, developed during the course of his work in the 1920s and 1930s; and what characterizes his development here is precisely the transition from an early conception of method in which there is some ambivalence as to whether 'analysis' is really involved to a later conception in which this ambivalence is largely removed in favour of an explicitly articulated conception of 'logical analysis'. The ambivalence is revealed most strikingly in what was the central conception in his *Aufbau* of 1928 — the conception of 'quasi-analysis'.[9] Influenced by both Russell on the one hand and the neo-Kantians on the other hand, the ambivalence revealed itself as the tension between an empiricist reductive and a neo-Kantian structural conception of analysis.

Influenced too by Gestalt psychology (and perhaps Frege's context principle), Carnap held that the fundamental 'units' of experience were not the qualities (the colours, shapes, etc.) involved in individual experiences (such as seeing a physical object), but those experiences themselves, taken as indivisible wholes. These were his 'Elementarerlebnisse', which formed the basis of the phenomenalistic version of his 'Konstitutionssystem' (§67).[10] But if these were indeed 'indivisible', then how was it possible to determine the qualities involved in the elementary experiences? 'Analysis' — understood in the decompositional sense — could not yield these qualities, precisely because they were not seen as *constituents* of the elementary experiences (§68). Carnap's answer was that they are 'constructed' by what he called 'quasi-analysis', a method that mimics analysis in yielding 'quasi-constituents', but which proceeds 'synthetically' rather than 'analytically' (§§ 69, 74).

In essence, Carnap's method of quasi-analysis is just that method of contextual definition that Frege had introduced in the *Grundlagen*.[11] This was the example that Frege had given to motivate his logicist 'constructions':

[9] Carnap's informal account of quasi-analysis is presented in Division C ('Die Basis') of Part III of the *Aufbau*, §§ 61-83, esp. §§ 68-74, and his formal account in Division A of Part IV, §§ 106-22. Unless otherwise indicated, references given in what follows are to the relevant sections of the *Aufbau*.

[10] Carnap also outlines a physicalistic version, the offering of alternative 'reductions' suggesting that Carnap is less concerned with uncovering the ultimate metaphysical components of our experiences than with the structural features that they have in common.

[11] Carnap himself talks of the Frege-Russellian 'principle of abstraction' in §69, and mentions its source in Frege's *Grundlagen* in §73. Whether Frege himself, however, would have regarded it as a principle of 'abstraction' is questionable, as I explain in the next section. For Frege's own discussion, see *Grundlagen*, §§ 62-9.

(Da) Line *a* is parallel to line *b*.
(Db) The direction of line *a* is identical with the direction of line *b*.

A line, we might suggest, is also an 'indivisible' unit (at least in so far as it is intuited, i.e. where it is not seen as 'composed' of an infinity of points, or smaller lines).[12] Yet it too has properties that can be ascribed to it on the basis of the relations it has to other geometrical figures. In particular, we can talk of its 'direction', which, whilst not literally a 'constituent' of it arrived at by (decompositional) 'analysis', can nevertheless be introduced contextually, by means of the relation of parallelism. Frege had used this example to explain the corresponding definition of 'number', encapsulated in what is now called 'Hume's Principle':

(Na) The concept *F* is equinumerous to the concept *G*.
(Nb) The number of *F*'s is identical with the number of *G*'s.

Here too we have an equivalence relation holding between things of one kind (concepts) being used to define — or 'construct', as Carnap would put it — things of another kind (numbers). Numbers too are not *constituents* of the concepts to which they are ascribed, but are 'constructed' from the appropriate equivalence relation. Although in the end, Frege went on to give *explicit* definitions of the individual numbers, Hume's Principle still stood at the base of his system, and Axiom V of the *Grundgesetze*, introducing (or underpinning the introduction of) the value-ranges that were used to define the numbers, was to have the same form.[13]

How, then, does Carnap apply the method of contextual definition? Although he distinguishes between 'analysis' and 'quasi-analysis', what he actually gives to explain the operation of 'quasi-analysis' is an example of 'analysis', involving colours, which at least normally are thought of as properties rather than 'quasi-properties' of objects (§70).[14] The simplest case can be seen as based on the following (seemingly trivial) contextual definition, the term 'is equicoloured to'

[12] Strictly speaking, it is the whole judgement that two lines are parallel that is seen as 'indivisible', if the analogy with Carnap's 'Elementarerlebnis', involving the recognition of a similarity relation, is pursued. This raises important issues, not least concerning how we 'analyse out' the *objects* that are supposed to have the qualities. But I ignore these complications here. Cf. n. 18 below.

[13] I discuss the role of Hume's Principle and Axiom V, in relation to Frege's developing conception of analysis, in *Frege: Making Sense* (1996), esp. ch. 5.

[14] Given Carnap's avowed ontological neutrality, it might seem surprising that Carnap presupposes that colours are properties rather than 'quasi-properties'. I return to this below.

abbreviating 'has the same colour as' (to bring out its connection with the examples just given):[15]

(Fa) Object *X* is equicoloured to object *Y*.

(Fb) The colour of *X* is identical with the colour of *Y*.

Accepting such a definition as unproblematic,[16] and given that being 'equicoloured' is an equivalence relation, we can immediately proceed to form the equivalence classes, within the relevant domain, from which to (structurally) define the constituent colours.

Now the details of this procedure, and the complications and difficulties that it gives rise to, need not concern us here.[17] What is important is the central distinction between 'analysis', understood as uncovering 'constituents', and 'quasi-analysis', understood as constructing 'quasi-constituents'. But this formulation suggests that the distinction is an ontological one, which seems in conflict with Carnap's professed ontological neutrality. Carnap remarks that 'analysis' and 'quasi-analysis' are formally analogous (§69) — to the extent that both make use of the method of abstraction (contextual definition). But if we wanted to capture the distinction more formally, we might suggest that we distinguish between the following two results, (Fb) and (F**β**), of the method as applied to our initial proposition (Fa):

(Fa) Object *X* is equicoloured to object *Y*.

(Fb) The colour of *X* is identical with the colour of *Y*.

(F**β**) The colour (constituent) of *X* is equal to the colour (constituent) of *Y*.

For if analysis yields constituents rather than 'quasi-constituents', and the wholes of which the constituents are parts are themselves distinct (i.e. the objects *X* and *Y* in this case),[18] then the two colour constituents of *X* and *Y* cannot, strictly speaking, be identical but only equal, in the relevant respect. So whilst 'quasi-analysis' can be seen as yielding (Fb), 'analysis' should be thought of as yielding (F**β**).

[15] The term 'equicoloured' used here is my own.

[16] I take up the question of Carnap's precise understanding of (Fb) shortly.

[17] For discussion, see Goodman, 1977: ch. 5; Runggaldier, 1984: Part II; Richardson, 1998: ch. 2; and Beaney (forthcoming: ch. 7).

[18] This rules out Siamese twin cases, where one or more constituent parts are shared by two larger wholes. Again, this reveals how ontological assumptions may underlie conceptions of analysis. Cf. n. 12 above.

However, if this account of 'analysis' is right, then an infinite regress threatens. For if two 'constituents' are uncovered, then there will be some similarity relation holding between them, in which case the method of abstraction (contextual definition) can be applied again to uncover further constituents. So either we need some different account of 'constituent', which Carnap does not supply, or we no longer have a clear distinction between analysis and quasi-analysis. All we really have is quasi-analysis; and this in any case might seem to be all we have in 'pure' uses of the method of abstraction, which, after all, is seen more as a 'constructive' process.

Of course, if there is no viable distinction between analysis and quasi-analysis, where both are seen as involving the method of abstraction, then this might seem to support the neo-Kantian rather than Russellian interpretation — or better, 'rational reconstruction' — of Carnap's *Aufbau* project. But the truth seems to be that Carnap, at the time of the *Aufbau*, was in a transitional stage. His position was inherently unstable: he was in the process of freeing himself from the Russellian programme that had to some extent inspired him, whilst allowing his more neo-Kantian instincts, which one might suggest were more deeply embedded in his philosophical outlook, to guide his development, a development that was to lead to the conception of logical analysis characteristic of his later philosophy. This conception surfaces even in the *Aufbau*. Here is one characteristic passage, in which Carnap summarizes his view of quasi-analysis:

> the analysis or, more precisely, quasi-analysis of an entity that is essentially an indivisible unit into several quasi-constituents means placing the entity in several kinship contexts on the basis of a kinship relation, where the unit remains undivided. (§71.)[19]

Compare this with Carnap's characterization of logical analysis in his 1934 paper, 'Die Methode der logischen Analyse':

[19] The German text reads: "die Analyse, richtiger: Quasianalyse, eines Gebildes, das seinem Wesen nach eine unzerlegbare Einheit ist, in mehrere Quasibestandteile bedeutet die Einordnung des Gebildes in mehrere Verwandtschaftszusammenhänge auf Grund einer Verwandtschaftsbeziehung, wobei die Einheit unzerteilt bleibt." I have slightly altered the standard English translation (by Rolf A. George), which renders 'eines Gebildes, das seinem Wesen nach eine unzerlegbare Einheit ist' simply as 'of an essentially unanalyzable entity', which does not do full justice in this context to the meaning of 'unzerlegbar' and its echo in the use of 'unzerteilt' that follows. It is worth noting here that in an early draft of what became the *Aufbau*, Carnap did indeed talk of 'Zerlegung' and 'Quasizerlegung' rather than 'Analyse' and 'Quasianalyse', but perhaps his later choice of terms indicates a growing awareness that 'analysis' is to be understood less in the decompositional and more in the interpretive sense.

> The logical analysis of a particular expression consists in the setting-up of a linguistic system and the placing of that expression in this system. (1936: p. 143.)[20]

After the publication of the *Aufbau*, Carnap never talks of 'quasi-analysis' again, except in referring to the ideas of the *Aufbau* itself, and we can see why. For in the contrast it suggests with 'analysis', there were realist undertones of an ontological kind that Carnap was later keen to purge. Given that the underlying method — the method of abstraction — was the same in both cases, then there was no need to distinguish between 'analysis' and 'quasi-analysis'. What we are thus left with is paraphrastic analysis without the metaphysics of reduction. But the paraphrasis involved here was aimed at motivating the construction of a 'Konstitutionssystem', and it is this latter aspect that talk of 'postulational' analysis captures. Postulational analysis might thus be characterized as paraphrastic analysis undertaken in the service of the development of a new conceptual system.

In the *Aufbau*, the phrase that Carnap used to characterize his project of 'postulational' analysis was 'rational reconstruction'. In his later work, the term 'explication' was used. This latter term did not appear in Carnap's published work until 1945, but as his preface to the second edition of the *Aufbau*, which appeared in 1961, makes clear, 'explication' was simply the new term for 'rational reconstruction'. The idea of explication received its fullest discussion in the first chapter of *Logical Foundations of Probability*, published in 1950, but it was also clarified in *Meaning and Necessity*, which appeared in 1947, where Carnap wrote:

> The task of making more exact a vague or not quite exact concept used in everyday life or in an earlier stage of scientific or logical development, or rather of replacing it by a newly constructed, more exact concept, belongs among the most important tasks of logical analysis and logical construction. We call this the task of explicating, or of giving an *explication* for, the earlier concept … (1947: pp. 8-9.)

In illustrating this conception, Carnap specifically takes the example of Frege's and Russell's logicist 'explication' of number terms such as 'two' — "the term 'two' in the not quite exact meaning in which it is used in everyday life and in applied mathematics", and their different explications of phrases of the form 'the so-and-so' (1947: §2). But he does not comment on what was the major difference between Frege and Russell here — that Russell, unlike Frege, utilized 'explication' as part of an ontologically eliminativist project. In this respect, Carnap

[20] "Die logische Analyse eines bestimmten Ausdrucks besteht in der Aufstellung eines Sprachsystems und in der Einordnung des Ausdrucks in dieses System." The paper was written for a conference in Prague in September 1934, but was not published until 1936.

remained much closer to Frege than to Russell — or perhaps more accurately, moved back closer to Frege after going through a quasi-Russellian phase. Carnap's own conception of logical analysis finally fulfilled its own *telos* — to liberate paraphrastic analysis from reductive analysis.

§4 Contextual Definition: Frege Revisited

One way of clarifying the central thread in the story of analytic philosophy as it runs from Frege through Russell to Carnap is by focusing on the use of contextual definition. Introduced by Frege in those central sections of the *Grundlagen* that Michael Dummett has suggested inaugurated the 'linguistic turn' in philosophy,[21] but which I would prefer to characterize as heralding the 'paraphrastic' turn, what is notable about this first use is the way in which contextual definition — or paraphrasis generally — is not used to do eliminativist work, in the sense of supplying a method for a project of ontological pruning. The eliminativist possibilities of contextual definition were first suggested by Russell's theory of descriptions, in which paraphrasis was coupled with decomposition in an attempt to uncover the ultimate constituents of reality. But the possibility of using contextual definition — or paraphrasis generally — simply to reveal logical structure (in a more neo-Kantian rather than Russellian way) was demonstrated by Carnap's conception of 'quasi-analysis'. But as his use of the phrase 'quasi-analysis' shows, he had still not yet broken free of the grip of the reductive conception of analysis that was so central to Russell's conception of analysis.

Frege's analysis of existential and number statements does, I think, mark a genuine turning-point in philosophy and heralds the development of analytic philosophy. Take the case of negative existentials, which proved particularly problematic right up to the time of Meinong and the early Russell. On Frege's account, existential statements (like number statements generally) are construed as claims about concepts, i.e. as involving the attribution of second-level properties to first-level properties.[22] A statement such as (0a), in other words, is to be analysed as (0b), which can be readily formalized in his new logic as (0c):

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[21] Dummett, 1991, p. 111: "Of these inspired sections, §62 is arguably the most pregnant philosophical paragraph ever written … it is the very first example of what has become known as the 'linguistic turn' in philosophy. Frege's *Grundlagen* may justly be called the first work of analytical philosophy."

[22] Cf. *Grundlagen*, §§ 46ff.

(0a) *F*'s do not exist. [There are no *F*'s.]

(0b) The concept *F* is not instantiated.

(0c) $\neg(\exists x)\, Fx$. $[(\forall x) \neg Fx.]$

On a Fregean account, the analysis of (0a) does not proceed by decomposition, and run into the difficulty of explaining what the '*F*'s' are which have the mysterious property of non-existence, but by interpretation or rephrasal, offering (0b) and its logical formalization (0c) instead. The problems that traditionally arose then just drop away (although an account of concepts and quantifiers, of course, is still required).

Such an analysis clearly opens up the possibility of an eliminativist project, pruning the extravagant ontology that Meinong and Russell had felt obliged to posit. But what is intriguing about Frege's work is that he does not, at least explicitly, pursue this project. Consider his notorious problems with the paradox of the concept *horse*. On any natural view, the following proposition seems to be obviously true:

(Ha) The concept *horse* is a concept.

Yet *analysing (Ha) decompositionally*, the logically significant parts, on Frege's view, are the proper name 'the concept *horse*' and the concept expression '( ) is a concept'. If the proposition as a whole has a reference (*Bedeutung*), then each of these parts must also have a reference (*Bedeutung*), according to Frege. Since proper names refer to objects and concept expressions refer to concepts, and there is an absolute distinction between (unsaturated) concepts and (saturated) objects, 'The concept *horse*' must refer to an object, so that (Ha), taken literally, is false, not true. Clearly, something has gone wrong, and Frege's only response, biting the bullet, is to admit that 'The concept *horse*' does indeed stand for an object, but one that goes proxy for the concept, a response that seems as ontologically inflationary and metaphysically mysterious as the views of Meinong and the early Russell.[23]

In the light of what was said above, however, there is clearly a better response available. *(Ha) needs to be analysed not decompositionally, but paraphrastically*. And this is indeed just the response that Dummett later made on Frege's behalf.[24] On the assumption that the concept *horse* is sharp (i.e. that it divides all objects

[23] Cf. Frege, 'On Concept and Object', in *The Frege Reader*, pp. 184-5.

[24] Dummett, 1981: pp. 216-17. Cf. Beaney, 1996: §7.3.

into those that fall under it and those that do not), (Ha) is to be interpreted as (Hb), which like (0b) above, can be given a straightforward formalization in the predicate calculus, as (Hc):

(Hb) Everything is either a horse or not a horse.

(Hc) $(\forall x)\ (Hx \vee \neg Hx)$.

Given that the general strategy of analysing by paraphrasing had been just what Frege had done in the *Grundlagen*, it may seem surprising that he failed to pursue that further in the case of the paradox of the concept *horse*, especially since the paradox seems to cry out for such treatment. But as the history of Russell's development between *The Principles of Mathematics* and 'On Denoting' shows, the possibility of using paraphrastic analysis to resolve ontological problems was a hard-won insight, and Frege, despite introducing and powerfully employing this form of analysis within his logicist project, did not appreciate its full potential. Even whilst offering paraphrastic analysis, Frege's ontological outlook was still unduly influenced by a decompositional conception of analysis.

Frege's failure to appreciate the distinction between paraphrastic and decompositional analysis was also responsible for the tension in his thought concerning the status of his *Grundlagen* contextual definitions and Axiom V of the *Grundgesetze*, a tension that has given rise to a great deal of controversy in the interpretation of Frege and in the recent debate over attempts to revitalize Frege's logicism. In the *Grundlagen*, Frege clearly regards both (Da) and (Db), and (Na) and (Nb), as given above, as having the same 'content' ('Inhalt'), but in his later work he vacillates somewhat between saying that they merely have the same reference (*Bedeutung*) and saying that they have both the same reference and the same sense (*Sinn*).[25] But in both the *Grundlagen* and the *Grundgesetze*, it is clear how his thinking goes. Taking the key case of (Na) and (Nb), if (Na) is true, and (Na) and (Nb) are equivalent (all that is required here is that they are logically equivalent), then (Nb) is true, i.e. has a reference, on Frege's view (since the reference of a proposition just is its truth-value). But if this is so, then, by the principle mentioned above that the reference of a whole is dependent on the reference of its parts, then all the logically significant parts of (Nb) must also have a reference. So the number terms, in particular, must refer — and refer, as proper names, to independent objects. Frege is clearly not using the method of contextual

[25] For detailed discussion and references, see Beaney, 1996: §§ 5.3-5.5, 8.1.

definition here as a method of *abstraction* — in the way that Carnap was later to use it — in the sense of moving *up* an ontological level. (Na) and (Nb) are seen as on the same ontological level, an assumption, of course, that was responsible for the contradiction in Frege's system that Russell discovered in 1902. In seeking to explain or derive (Nb) from (Na), through paraphrastic analysis, and at the same time understanding (Nb) decompositionally, Frege is trying to both have his cake and eat it. Insofar as (Nb) is genuinely equivalent to (Na), then (Nb) cannot involve any other ontological commitments than are already involved in (Na), so (Nb) cannot be regarded as making reference to numbers construed as 'independent' objects. Rabbits can only be pulled out of hats if they are already there. So if the account of (Nb) runs through (Na), it cannot also be analysed — ontologically — decompositionally.[26]

Appreciation of the distinction between paraphrastic and decompositional analysis thus allows us not only to identify what is new and valuable in Frege's philosophy, regarding his analysis of existential and number statements, but also to diagnose what is problematic in his philosophy — in particular, concerning the paradox of the concept *horse* and the tension in his thought about the status of his key definitions and Axiom V, the axiom that Frege himself held responsible for the contradiction in his system. Whilst introducing paraphrastic analysis, Frege did not fully think through its implications, and remained wedded to a decompositional conception of analysis, which he naively applied even where it was neither needed nor legitimate.

It is important, then, to appreciate the distinction between paraphrastic and decompositional analysis; and this holds not just for an understanding of Frege's philosophy, but for analytic philosophy generally. I will conclude here by simply noting how the distinction we have drawn may also be used in answering the question as to the sense in which we can still talk of 'analytic philosophy' more than a century after its origins. To some philosophers, we have long since entered a 'post-analytic' era; yet the term 'analytic philosophy' seems to be more widely used than ever to designate what is not only seen as the mainstream tradition in the English-speaking world but also, increasingly, a major movement in continental Europe. Whilst 'reductive' analysis still flourishes, it is the extensive use of

[26] This is not to say that decompositional analysis cannot be employed for linguistic purposes, for example, in explaining how we understand the *linguistic meaning* of (Nb). The point is that we must respect the differences between linguistic meaning, sense and reference, and not automatically assume that the same form of analysis will be appropriate for each in a given case.

'paraphrastic' analysis, which Frege introduced and Russell and Carnap consolidated (albeit in their different ways), that underpins more, I think, the legitimacy of the term 'analytic philosophy', and those who talk of 'post-analytic' philosophy merely mean that it is 'reductive' analysis that has (or should have) been left behind. Of course, over the last century, analytic philosophy has become a very broad church indeed, and to say that it is held together by concern with analysis, in whatever way, is to say virtually nothing. But as I hope I have shown, by looking briefly at one chapter in the history of analytic philosophy, there is an intricate and continually shifting web of conceptions of analysis involved here, which sometimes combine effectively and sometimes pull apart, and it is this complex and contested web that characterizes, and will continue to characterize, analytic philosophy.[27]

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