

# Bad Company and Neo-Fregean Philosophy

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## I. INTRODUCTION

It is a basic tenet of Bob Hale's and Crispin Wright's ("H&W's") neo-Fregeanism in philosophy of arithmetic, standardly construed, that *Hume's principle*,

(HP) The # of Fs = the # of Gs iff the Fs and the Gs are equinumerous,

is (something like) a *conceptual truth*, functioning as an implicit definition of '#' (intuitively, *the number of*). From HP plus what straightforwardly are definitions all of second-order arithmetic can be derived, in standard second-order logic. This is supposed to justify two main tenets of neo-Fregean philosophy of arithmetic: logicism (that arithmetical truths are conceptual truths) and platonism (there are mathematical objects).<sup>1</sup>

Now, it is natural to think that if HP is a conceptual truth, this is because all principles of the same form as HP – all *abstraction principles* – are conceptual truths. There are other abstraction principles besides HP that are plausible candidates for being conceptually true. A well-known example is the direction principle

(DP) The direction of line a = the direction of line b iff a and b are parallel.

But as is well-known, the idea that all abstraction principles are conceptual truths cannot be upheld.<sup>2</sup> For some abstraction principles are unsatisfiable. A famous example is Frege's own Basic Law V, which, in simplified form, amounts to

The value-range of concept F = the value-range of concept G iff: for all x, Fx iff Gx.

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<sup>1</sup> The main defenses of neo-Fregeanism are found in Wright (1983) and the essays collected in Hale and Wright (2001).

<sup>2</sup> (DP), as opposed to the other abstractions principles to be discussed, is first-order: 'the direction of' is a function from objects to objects, while e.g. 'the # of' is a function from concepts to objects.

So if HP is a conceptual truth, that cannot be because all abstraction principles are conceptually true. But one may think that even if not all abstraction principles are conceptual truths, maybe all abstraction principles satisfying *some condition C* are conceptual truths. The trouble is that for many otherwise reasonable candidates for being condition C that have been proposed, it can be shown that not all abstraction principles meeting condition C are jointly satisfiable. Let me briefly review some proposals.

One straightforward suggestion regarding what C might be is *consistency* (see Wright (1983)). But there are pairs of consistent abstraction principles which are not jointly satisfiable. Consider for instance George Boolos' *parity principle*,

The parity of F = the parity of G iff F and G differ evenly [where two concepts differ evenly if an even number of things fall under one but not the other].<sup>3</sup>

As Boolos showed, this principle is satisfiable, but only in finite domains. Hence it is incompatible with HP, which is satisfiable only in infinite domains. Another suggestion, defended in Wright (1997) is that C might be *conservativeness*.<sup>4</sup> But again the same sort of problem arises. Consider two principles of the form

$$i(F) = i(G) \text{ iff } [(fF \dot{\cup} fG) \dot{\cup} \exists x(Fx \ll Gx)],$$

where  $i$  is the function from concepts to objects being defined. For the first, let  $f =$  'has the size of a limit in the series of inaccessible' and for the second, let  $f =$  'has the size of a successor in the series of inaccessible'. Then, given the axiom of strong inaccessible (that for every cardinal  $k$  there is a larger strong inaccessible), both principles are conservative, but the first principle is satisfiable only at limits in the series of inaccessible and the second principle is satisfiable only at successors in this series.<sup>5</sup>

The objection to neo-Fregeanism that I have been illustrating has come to be known as the *bad company objection*. The problem can be raised in a more general fashion. The idea that HP is a conceptual truth can for instance be dropped, while still the objection can be raised, for already the

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<sup>3</sup> See Boolos (1990). A more general argument showing why consistency seems to fail as a criterion is given in Heck (1992). Heck shows that every second-order sentence is equivalent to (the existential quantification of) some abstraction principle.

<sup>4</sup> Hale and Wright (2001a) provide the following rough characterization of conservativeness: "a mathematical theory is conservative if its adjunction to a nominalistically acceptable theory N has no consequences for the ontology of N which are not already consequences of N alone" (p. 19). As H&W note, this stands in need of some sharpening.

<sup>5</sup> See Shapiro and Weir (1999), p. 319f.

thesis that HP is true because it is an abstraction principle and all abstraction principle are true leads to problems. Schematically stated, the problem raised is this: HP is said by neo-Fregeans to have a certain *status* because of its *credentials*. But it seems that there are principles with the same credentials that HP is claimed to have, such that not all principles with these credentials can have the status that HP is alleged to have. When the problem is stated this way, it is clear what an adequate solution would have to involve: a characterization of HP's status and credentials such that it can reasonably be maintained that any thesis with those credentials has that status, and the status is significant for foundational purposes.

There is by now a relatively big and very interesting literature on the technical issues surrounding the bad company objection. My contribution here will be squarely on the philosophical side of things. I will consider different philosophical ideas – ideas either suggested by or at least broadly within the spirit of the neo-Fregeans, or, in one case, suggested on their behalf by commentators – regarding how HP's credentials and status should be conceived, and discuss the bad company objection from the points of view of these various suggestions. While the focus is solely on technical solutions to the bad company objection it is easy to lose sight of the question of what the philosophical principles are to which an adequate response to the objection must be faithful.<sup>6</sup>

In the literature on the bad company objection, in particular the literature specifically devoted to how a neo-Fregean can respond to the bad company objection, the suggestions that have been regarded as the most promising are all refinements of the suggestion that one might appeal to conservativeness. One suggestion is that an abstraction principle is acceptable, for the neo-Fregean's purposes, if and only if it is *stable*, where an abstraction principle is stable iff for some cardinal  $k$  it is true in all models of cardinality  $\geq k$ . Another is that an abstraction principle is acceptable if and only if it is *irenic*, where an abstraction principle is irenic iff it is conservative and compatible with any conservative abstraction principle. (However, as Alan Weir has shown, the irenic abstractions are in fact the stable ones.<sup>7</sup>) A third is that an abstraction principle is acceptable if and only if it is *modest*, where “an abstraction [principle] is Modest if its addition to any theory with which it is consistent results in no consequences—whether proof- or model-theoretically established—for the ontology of

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<sup>6</sup> It deserves mentioning that one need not be a neo-Fregean in order to endorse appeal to abstraction principles. One might regard mathematical theories based around abstraction principles as interesting – also philosophically interesting – while diverging radically in outlook from the typical neo-Fregeans. (See e.g. Fine (2002) and Burgess (2005).) Consider the view that exactly those abstraction principles which are *non-inflating* have a privileged status, where an abstraction principle is non-inflating if it is a principle on an equivalence relation  $R$  such that there are no more  $R$ -equivalence classes than there are objects. Hume's principle is arguably non-inflating; but to have a guarantee that it is non-inflating we must already have a guarantee that there are infinitely many objects. This means that paradigmatic neo-Fregeans cannot appeal to a condition like this, for they want to appeal to HP in order to defend against nominalism (without relying on the empirical fact that the concrete world contains infinitely many objects).

<sup>7</sup> Weir (2003), p. 32.

the combined theory which cannot be justified by reference to its consequences for its own abstracts".<sup>8</sup> The criteria of stability, irenicity, and modesty all bear a family resemblance to the simpler criterion of conservativeness. Let us call these criteria *ultraconservative*, and set the differences between them to the side, as the philosophical remarks will apply equally to all of them.

I will set whatever technical problems there may arise for these suggestions to the side.<sup>9</sup> My question will instead be: does any of these suggestions pass *philosophical* muster? I will here pay special attention to whether the ultraconservative criteria are philosophically satisfactory. But throughout much of the discussion in the body of the paper I will consider rather more simpleminded suggestions. Only later, in section V, will I return to the ultraconservative criteria.

Central to my discussion will be the question of what status HP is claimed to have. H&W have not always been as clear as could be desired concerning what exactly the claim on HP's behalf is. In (1983), Wright talks about it as an "explanation of a concept". In the Postscript to Hale and Wright (2001a), they only talk about whether HP is 'acceptable'. There are at least four sharply distinct claims that can be made here. First, the emphasis on the question of whether HP is acceptable can suggest that the question is over the *truth* of HP. Of course the fact that some abstraction principles are false need not cast much doubt on the claim that HP is true. But equally obviously, the mere fact (if indeed it is a fact) that HP is true does not help much in vindicating a specifically neo-Fregean philosophy of arithmetic. Neo-Fregeans have tended to appeal to HP to argue for their platonism/logicism. Then they should want to say something stronger than that it is a true existentially committing mathematical claim. Second, the claim can be that HP successfully *introduces* or *defines* the concept of number: that it is, as I will say, a *successful implicit definition*. Third, the claim can be that we are *a priori justified* in believing in HP because of its role in introducing the concept of number: that it is, as I will say, *aprioritizing*. Fourth, the claim can be that HP is a *conceptual truth*.

These four claims are all distinct. For example, it deserves stressing that there is space between claim two on the one hand and claims three and four on the other. Take definitions, like those of 'heterological' (a predicate true of predicates not true of themselves) and 'tonk' (connective with the introduction rule for disjunction and the elimination rule for conjunction), which in *some*

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<sup>8</sup> Wright (1999), p. 330.

<sup>9</sup> Any set of stable and irenic abstraction principles is consistent, as Cook (this volume) shows (p. 11f of ms). So there is no new version of bad company that arises for stability and irenicity. But this does not mean that no problems of a technical nature can arise. First, it may be that some abstraction principles or, more generally, mathematical theories that should come out 'good' are not stable. Uzquiano (this volume) shows that second-order Zermelo set theory with urelements, choice and countable replacement is not stable. Second, it can be that some abstraction principles or some mathematical theories that should come out 'good' cannot be *shown* to be irenic and stable. Cook (this volume) shows that there are abstraction principles that by the neo-Fregean's lights should be good such that ZFC cannot prove their irenicity and stability; and given certain philosophical assumptions it can then be argued that the claim that they are irenic is not justified.

sense fail. One can distinguish between two views on those definitions. On one view all such definitions fail even to endow the definiendum with meaning. On another, at least some definitions which in some sense fail still manage to endow the definiendum with meaning. Their failing consists in something else. For instance, they might fail to be aprioritizing.<sup>10</sup> Moreover, one can well sharply distinguish claims three and four and insist that some implicit definitions can be aprioritizing without being conceptually true.

H&W in fact hold that some implicit definitions may endow the definiendum with meaning without being aprioritizing. They use the paradox of heterologicality as their example; the idea being that the definition of 'heterological' manages to endow it with meaning despite the fact that the definition leads to paradox. Given this view, one can think that certain definitions manage to endow the definiendum with meaning, but certainly do not express conceptual truths and maybe do not provide thinkers with apriori justification. This is H&W's view on the matter.<sup>11</sup>

After these preliminary remarks, let me turn to specific suggestions regarding the credentials and status of HP. I begin, in section II, by considering the turn to epistemology in some more recent neo-Fregean writings. In section III, I consider a supposed application of Frege's context principle found mainly in early neo-Fregean writings. In section IV, I consider the question whether, as commentators like MacBride (2003) and Weir (2003, 2005) have suggested, the neo-Fregean might perhaps turn to some broadly antirealist view. Section V, finally, will return to ultraconservativeness.

## II. APRIORI JUSTIFICATION

In some recent neo-Fregean writings— see especially Hale and Wright (2000) — the focus has been on epistemology. In these writings, H&W are concerned with the connection between implicit definition and apriori justification. Let me start my discussion of neo-Fregean philosophy by considering whether ideas from this discussion might help with the bad company objection.

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<sup>10</sup> Another distinction may be worth making. It is that between implicit definitions managing to endow the definiendum with sense and implicit definitions managing to endow the definiendum with semantic value (reference). An implicit definition may be successful in the former way but not in the latter way.

<sup>11</sup> See Wright (1997), 287f, Hale and Wright (2000), p. 132, and Hale and Wright (2001a), p. 17f. There is reason to be skeptical of the use H&W make of this example. 'Heterological', is introduced as follows (I follow Hale and Wright (2001a) but similar remarks apply to the other discussions): "a predicate satisfies 'x is heterological' just in case it does not apply to itself" (p. 18). But this presupposes that the predicate 'does not apply to itself' is available in the metalanguage. And the paradox arises equally for this predicate. Or, if this predicate is understood in such a way that it doesn't give rise to paradox, nor does 'heterological' give rise to paradox. So H&W fail to give an example of an ordinary explicit definition leading to trouble.

Using H&W's notation, let '#F' be an implicit definition of some new expression, 'F'. The question is then what condition the implicit definition needs to satisfy in order for a thinker to be – all else equal – apriori justified in believing what '#F' expresses.<sup>12</sup>

A simple suggestion would be that a thinker is *always* so apriori justified. But cases where '#F' cannot express a truth – Frege's Basic Law V, Prior's connective 'tonk', etc. – appear on the face of it to rule this out. If so, we need to look for some more sophisticated suggestion. H&W lay down a number of requirements on implicit definitions:

- (1) Consistency.
- (2) Conservativeness. (The principle must not add anything to the old ontology.)
- (3) Generality. (Truth-conditions for a range of contexts must be determined.)
- (4) Harmony. (If several implicit definitions are laid down for an expression, they must work together in a reasonable way. E.g., elimination rules must not be weaker than is warranted by the corresponding introduction rules.)<sup>13</sup>

H&W are not perfectly explicit about just what the requirements are requirements *for*. One claim is that they are requirements for successful implicit definition. Another claim is that they are requirements for an implicit definition to be aprioritizing. I think it is clear that H&W take the requirements to be requirements for both. But it is important to separate out the different claims here.<sup>14</sup>

Definitional success is required for being aprioritizing. Unless '#F' succeeds in conferring a meaning upon 'F', '#F' expresses no proposition that a speaker can be justified in believing. (The thinker can be justified in believing *that* '#F' expresses some true proposition, but that is different.) Generality is pretty clearly a requirement already on endowing the definiendum with meaning. But the others are better candidates only for being requirements for being aprioritizing. H&W in effect admit as much concerning consistency when they allow that 'heterological' is meaningful. And since conservativeness and harmony are both stronger conditions than consistency, the same goes for conservativeness and harmony.<sup>15</sup>

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<sup>12</sup> In the discussion to follow, I will be concerned with the discussion in Hale and Wright (2000). There is also other important recent literature on the connection between implicit definition and apriori justification. See e.g. Boghossian (1996, 2000, 2003) and, for criticism of Boghossian's ideas, Ebert (2005) as well as Schechter and Enoch (2006).

<sup>13</sup> Hale and Wright (2000), pp. 132ff.

<sup>14</sup> In fact, there are further distinctions to be drawn, as emphasized in footnote 10. Are these conditions for endowing the definiendum only with meaning, or with meaning and *reference*?

<sup>15</sup> One might suggest that the stronger conditions are not conditions for being aprioritizing but merely for endowing the definiendum *with reference*. Maybe so. But then, unless all reference-endowing implicit definitions

The excursion into the requirements on aprioritizing implicit definitions that H&W propose may seem to be a red herring as far as responding to the bad company objection is concerned. It is fairly obvious that the requirements mentioned do not immediately help with the bad company objection. It follows from what has already been noted that pairwise inconsistent abstraction principles such as those discussed in the literature can satisfy the four criteria. Nor do H&W mean their discussion to suggest a response to the objection.

However, here is a reason why the appeal to epistemological considerations might still be relevant. Suppose for some suggested condition on abstraction principles, C, pairwise inconsistent abstraction principles satisfy C. This shows that not all abstraction principles satisfying C are conceptual truths. But with the attention shifted to epistemology, this is not the basic concern anyway. The question is which abstraction principles we are apriori justified in believing. And so long as we keep in mind that apriori justification can be defeasible, we should not balk at the idea of an inconsistent set of principles such that for each principle in the set, a thinker could be apriori justified in believing it. This might provide a cheap way around the bad company objection. The neo-Fregean can insist that her project is the relatively modest one of showing that we are apriori justified in believing HP. Then she might simply accept that we are also apriori justified in believing principles inconsistent with HP.

Take the very simplest suggestion along these lines. It is that we can entirely set aside all more demanding criteria for being aprioritizing, and say that for any implicit definition which satisfies the proper criteria for definitional success, a thinker can possess apriori justification for believing what the definition expresses. On this *extremely liberal view*, a thinker can possess apriori justification for believing that the inference rules governing, say, a given connective are truth-preserving, even if there is no way that the semantic value of the connective can be such that these rules actually are truth-preserving. She can possess such apriori justification upon having come to grasp the definition and before reflecting on it.

Let me start by stressing what can be said on behalf of the extreme liberal view. The reason why a thinker coming to understand 'P' by the implicit definition '#P' would possess apriori justification for belief in the proposition expressed by '#P' would be that by the mere fact that '#P' is an implicit definition, 'P's semantic value will be something that makes true '#\_ ' (if anything does). There is in this – admittedly limited – sense a presumption in favor of the truth of '#P'.

But against the extreme liberal view it can be urged that even if the predictions of the extreme liberal view can be believable in certain cases – it is not clear that its predictions are false in

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are aprioritizing, H&W have failed to say anything about what is aprioritizing. So we may as well take the conditions as conditions for being aprioritizing.

the case of ‘tonk’ or in the case of the predicate around which the heterological paradox is centered<sup>16</sup> – it does not carry any plausibility in cases like that of ‘Jack the Ripper’, conceived of as introduced by the stipulation, “Let’s call the perpetrator of these crimes ‘Jack the Ripper’”, discussed by H&W. There is no way that just by laying down the stipulation governing ‘Jack the Ripper’, I can come to possess apriori justification that there is a unique perpetrator responsible for those killings. (On the basis of this sort of consideration, and on the basis of consideration of what to say about ‘heterological’, H&W reject the extreme liberal view.<sup>17</sup>)

A defender of the extreme liberal view might suggest in response that the apriori justification I come to possess is extremely weak and far outweighed by other considerations. It is only because in a ‘Jack the Ripper’ case these other considerations are antecedently known and quite obvious that the extreme liberal view seems to founder in that case.

There are other sorts of concerns about the suggestion that the neo-Fregean might rely on a liberal view on apriori justification. First, the neo-Fregean does not want to say merely that, by virtue of HP, we possess some apriori justification for our belief in numbers, but that we are *on balance* apriori justified in believing in numbers. The extreme liberal view does not speak to this further issue. It may be that even if the extreme liberal view is true, our justification for believing in mathematical claims can be properly defeated (e.g. by philosophical reflections on platonism, such as Benacerraf’s (1973) famous argument concerning platonism and mathematical knowledge). So even if the extreme liberal view doesn’t have to be abandoned, it would not, by itself, do the work the neo-Fregean needs it to do. Second, if the extreme liberal view should be acceptable, it is doubtful whether it can be used to undergird a specifically *neo-Fregean* philosophy of arithmetic. The worry would be that what does the work in the defense of the claim the relevant beliefs are apriori justified is the liberal view on apriori justification and not anything specifically neo-Fregean.

Suppose, at least for argument’s sake, that the extreme liberal view is false. Even so, it may be that there are implicit definitions which do not amount to conceptual truths but which yet confer apriori justification for belief in their truth. But what might be the condition such that (a) an implicit definition satisfying the condition confers apriori justification for belief in the truth of what it expresses, while still, since we are concerned with switching to epistemology in order to get around the bad company objection, (b) pairwise inconsistent abstraction principles can both satisfy the condition?

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<sup>16</sup> With respect to both ‘tonk’ and ‘heterological’, one can ask both whether the definition succeeds in endowing the definiendum with meaning and whether the definiendum succeeds in endowing the definiendum with reference. My own view, for what it is worth, is that ‘heterological’ has both sense and reference while ‘tonk’ only has a sense.

<sup>17</sup> See Hale and Wright (2000), esp. p. 126f and 132f.



One idea suggested by H&Ws (2000) discussion is that an implicit definition *is aprioritizing if it cannot be empirically falsified*. Another idea they suggest is that an implicit definition is aprioritizing *if it is conservative*.<sup>18</sup> But one thing that should stand out as odd with these proposals, conceived of as proposals for being aprioritizing, is that these conditions seem primarily to have to do with *what could defeat* the justification one might have for believing the proposition expressed by a given implicit definition. There is no immediate reason for thinking that these are plausibly conditions on being aprioritizing in the first place. (Assuming the extreme liberal view on apriori justification, one can suppose that one of these further criteria plays the role of securing the apriori justification against certain kinds of defeat.)

In H&W's (2000) discussion, the notion of *arrogance* plays a central role. The notion is introduced as follows

Let us call *arrogant* any stipulation of a sentence, '#F', whose truth, such is the antecedent meaning of '#\_' and the syntactic type of 'F', cannot justifiably be affirmed without collateral (a posteriori) epistemic work. The traditional connection, then, between implicit definition and the a priori requires that at least some stipulations not be arrogant.<sup>19</sup>

It might be suggested that HP is aprioritizing because it is not arrogant.<sup>20</sup> But talk of arrogance merely puts a label on our problem and does not solve it. For a stipulation is arrogant just in case it cannot "justifiably be affirmed without collateral (a posteriori) epistemic work", and although this does not exactly amount to saying that is aprioritizing, deciding whether a stipulation is non-arrogant is no more straightforward than deciding whether it is aprioritizing.

H&W are under no illusions about this. They use the notion of arrogance only to label the problem. They go on to discuss what might suffice for non-arrogance. Here is what they suggest:

...if it suffices for avoidance of arrogance that the import of a stipulation may be parsed, as suggested earlier, into introductory and/or eliminative components, all conditional in form, prescribing which true statements free of occurrences of the defined vocabulary are to be respectively necessary and/or sufficient for true statements variously embedding it, then it is a sheer mistake to think that Hume's principle is arrogant.<sup>21</sup>

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<sup>18</sup> For both these suggestions, see Hale and Wright (2000), p. 145.

<sup>19</sup> Hale and Wright (2000), p. 128.

<sup>20</sup> This was also suggested to me by an anonymous referee,

<sup>21</sup> Hale and Wright (2000), p. 145.

They go on to stress that if, as they think, HP satisfies the condition here stated, then “[w]hat [HP] does – if all goes well – is to fix the truth conditions of identities involving canonical numerical terms as those of corresponding statements of one-one correlation among concepts”.<sup>22</sup> And they go on to discuss, and dismiss, the charge that the ontological commitments of the relevant sentences are different (only the left hand sides are committed to the existence of numbers) and hence the truth conditions cannot be fixed in the way outlined.

However, in this argument the bad company objection is simply disregarded (and, to stress, I do not think that H&W would mean the argument to address the objection). What H&W claim on behalf of one abstraction principle, HP, is that the truth condition of a sentence on the left hand side of an instance of it is the same as the truth condition of the sentence on the right hand side of this instance. They cannot claim that all abstraction principles are like that. For if all abstraction principles were such that the left hand sides and right hand sides of their instances had the same truth condition, all abstraction principles would be true. So the question is which abstraction principles have the feature that HP is claimed to have. H&W cannot say, for example, that all conservative abstraction principles have this feature. Since not all conservative abstraction principles are jointly consistent, not all conservative abstraction principles can be true. Rather than promising a means to get around the bad company objection, the suggestion seems to falter precisely there. Turning to criteria of ultraconservativeness, it can of course be suggested that at least all ultraconservative abstraction principles have the sought-after feature, that the sentences flanking an instance of the abstraction principle in the relevant sense have the same truth condition. But as far as I can see no argument has been supplied for why we should think that. H&W’s arguments for taking the sentences flanking an instance of HP to have the same truth-conditions do not indicate anything about ultraconservativeness being crucial.<sup>23</sup>

In some recent work (see e.g. 2004 and 2004a), Wright has suggested that what is fundamental to our cognition – our reliance on our senses, our reliance on basic laws of logic -- does not admit of *justification*, properly so called, but still we are in an important sense *rationaly entitled* to proceed as we are. The idea is that when it comes to, say, modus ponens, we cannot appeal either to some immediate, “intuitive” justification or to some inferential justification; but these possibilities (together with Quinean holism, which Wright also rejects) exhaust the options, as far as justification

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<sup>22</sup> Hale and Wright (2000), p. 145.

<sup>23</sup> Setting H&W’s actual suggestions to the side, let me briefly mention a different idea, also in the realm of epistemology. Thus far we have focused on apriori justification. Maybe we should shift our focus to apriori *knowledge*. Even if, say, conservativeness is not a suitable candidate for being what makes an implicit definition aprioritizing, maybe conservativeness is a suitable candidate for being what makes an aprioritizing implicit definition also succeed in conferring upon a thinker warrant sufficient for, in conjunction with other conditions for knowledge, yielding knowledge. This is a more plausible idea. But it does not help with the question of what makes an implicit definition aprioritizing in the first place.

is concerned. But lack of justification or evidence does not entail lack of rational entitlement.<sup>24</sup> One gloss that Wright offers on the notion of entitlement is “warranted acceptance which does not require ratifiability by the entitled thinker”.<sup>25</sup>

More carefully, Wright characterizes entitlement as follows. First, he says that P is “presupposition of any cognitive project” if “to doubt P (in advance) would rationally commit one to doubting the significance or competence of the project”.<sup>26</sup> Then he says that an “entitlement of cognitive project” is any such presupposition P such that

- (i) there is no extant reason to regard P as untrue, and
- (ii) The attempt to justify P would involve further presuppositions in turn of no more secure a prior standing, . . . , and so on without limit; so that someone pursuing the relevant enquiry who accepted that there is nevertheless an onus to justify P would implicitly undertake a commitment to an infinite regress of justificatory projects, each concerned to vindicate the presuppositions of its predecessor.<sup>27</sup>

I will not attempt here to evaluate Wright’s idea of entitlement. What I want to consider is if, provided we take it on board and apply it in the case of arithmetic, that might help with the bad company objection. An immediate obstacle might be thought to be that arithmetic is not the right kind of cognitive project, especially in light of Wright’s focusing on projects “indispensable in rational enquiry and in deliberation”.<sup>28</sup> However, it might be urged that when it comes to the basic rules governing a concept, we are in relevant respects in the same situation we are in with respect to the basic logical laws; and thus Wright’s notion of entitlement is again applicable. Specifically, it can be said that we are in such a situation when the concept is not introduced to have the same content as some other concept; when, say, the implicit definition by means of which a concept is introduced represents a genuine conceptual innovation.

Suppose something along these lines works. Then we face questions about just how stringent the requirements on entitlement are. Are all successful implicit definitions such that we are entitled to accept what the express, as an extreme liberal view on entitlement would have it? Or are there more strict requirements, and if so, which are they? Wright’s criterion (i) by itself is perfectly consistent with an extreme liberal view. If anything serves to rule out the extreme liberal view it is

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<sup>24</sup> For Wright’s arguments, see further (2004a) and especially (2004).

<sup>25</sup> Wright (2004), p. 163. For this characterization adequately to distinguish entitlement from justification, it appears an internalist notion of justification must be presupposed.

<sup>26</sup> Wright (2004), p. 163.

<sup>27</sup> Wright (2004), p. 163.

<sup>28</sup> Wright (2004), p. 164.

criterion (ii). But it is hard to see why criterion (ii) should rule out some implicit definitions but not others, or some abstraction principles but not others. Maybe an extreme liberal view on entitlement can in principle be defensible. But such a view will face the same ‘Jack the Ripper’ problem faced by the extreme liberal view on apriori justification, and it is not clear that this problem is any less serious as it arises for the extreme liberal view on entitlement. In fact, many of the moves that can be made here will parallel the moves relating to the discussion of apriori justification. If the extreme liberal view is not correct, it is unclear what more strict requirement might be appropriate. The above remarks on conservativeness and empirical non-falsifiability are as relevant when it comes to the question of entitlement. The limitations of appeal to apriori justification are also limitations of appeal to entitlement. The one potentially significant difference is that it might perhaps be easier to defend an extreme liberal view on entitlement than it is to defend an extreme liberal view on apriori justification. The reason would be that whereas justification is naturally thought to register some sort of cognitive achievement, entitlement is plausibly thought not to require anything that would be properly regarded as an achievement.

### III. PRIORITY

I shall now turn to a different philosophical idea, and the prospects of appealing to this idea in order to get around the bad company objection.

Set aside the bad company objection temporarily, and focus on another question one might have concerning the neo-Fregeans’ appeal to HP. How can the neo-Fregean insist *both* that HP is a conceptual truth *and* that the left-hand side is genuinely ontologically committing? One might have thought that the only way that HP can be a conceptual truth is if the ontological commitments of the two sentences flanking an instance of it are the same, and that the right hand side clearly is not committed to numbers.

To defend their view on this matter, neo-Fregeans have tended to appeal to Frege’s *context principle*: only in the context of a sentence does a word have a meaning.<sup>29</sup> I should note that the context principle plays much less of a role in the essays collected in Hale and Wright (2001) than in the earlier Wright (1983) and Hale (1987). It is not clear to me whether this is because H&W would not now wish to emphasize it as much, or because the essays tend to respond to the secondary literature, and in the secondary literature the appeal to the context principle has not been much discussed. But however H&W might have changed their minds on this matter, let me consider the appeal to the context principle in its own right. How is this appeal supposed to help? There are two lines of thought in the writings of the neo-Fregeans.

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<sup>29</sup> See Frege (1884/1980), pp. x, 71, 73, 116, and, regarding what the neo-Fregeans use the context principle for, ch. 1 of Wright (1983) and ch. 1 of Hale (1987).

One idea is that the context principle justifies what has come to be known as *reconceptualization* or *content-carving* (compare Frege's *Grundlagen* §64).<sup>30</sup> One sentence flanking an instance of HP is a reconceptualization of the other. Thinkers arrive at reconceptualizations by purely conceptual transformations; by 'recarving' the thought expressed by the original sentence. If the two sentences flanking an instance of HP are recarvings of the same content, one can say either (what the neo-Fregeans typically say) that the left hand side makes explicit commitments somehow already there on the right hand side, or (what to me sounds more attractive) that even if the ontological commitments are different, this does not mean that we are not dealing with purely conceptual transformations. I will not have much to say about reconceptualization. But here follow a few remarks.

One might suspect that the idea that HP can be justified by appeal to reconceptualization is one of the undeniable casualties of the bad company objection. For if the sentences flanking HP are reconceptualizations of each other, then are not all sentences in the same structural relation reconceptualizations of each other? This latter claim cannot be true, by the bad company objection; or that is the worry. Here we again touch upon a theme that has come up earlier. H&W want to say that the sentences flanking an instance of HP have the same truth condition. The sentences somehow express the same content, only carved differently. The worry is that any argument for why HP would have this feature would generalize also to other abstraction principles such that not all abstraction principles it generalizes to can have this feature, for they are not jointly consistent.

Even if these doubts regarding appeal to reconceptualization should prove unfounded, it is hard to see how appeal to reconceptualization could be positively *helpful*. For even if a solution to the bad company objection might in principle provide a workable criterion for when two sentences count as reconceptualizations of each other, it is hardly the case that reflection on the notion of reconceptualization can suggest what the criterion might be, for the notion is not sufficiently sharp to suggest a way out of the bad company objection. (Nor is the most elaborate discussion of the idea, in Hale (1997), meant to address this objection.)

A second idea that is sometimes regarded as justified by Frege's context principle is what we may call *priority*.<sup>31</sup> Questions about reference are, the idea is, in a certain sense secondary to questions about truth. This means that the question about the reference of number terms is secondary to the question of the truth of sentences (of the right kind) in which they occur. The idea would be that HP serves to endow sentences in which number terms occur with truth conditions in such a way that these truth-conditions are sometimes satisfied, and *hence* number terms refer. To suggest that number

<sup>30</sup> See primarily Hale (1997) for extensive discussion of this idea.

<sup>31</sup> The remarks to follow are further developed in Eklund (2006).

terms may fail to refer because there just are not any numbers is to flout priority. Consider here the following passages from Wright (1983):

...when it has been established, by the sort of syntactic criteria sketched, that a given class of terms are functioning as singular terms, and *when it has been verified that certain appropriate sentences containing them are, by ordinary criteria, true, then it follows that those terms do genuinely refer.*<sup>32</sup>

According to [the “thesis of the priority of syntactic over ontological categories”, which Wright presents as implied by the context principle], the question of whether a particular expression is a candidate to refer to an object is entirely a matter of the sort of syntactic role which it plays in whole sentences. *If it plays that sort of role, then the truth of appropriate sentences in which it so features will be sufficient to confer on it an objectual reference*, and questions concerning the character of its reference should then be addressed by philosophical reflection on the truth-conditions of sentences of the appropriate kind.<sup>33</sup>

The idea is that numbers exist, for some sentences in which number terms occur in the right way are true (the sentences can be seen to be true because assertive utterances of them are successful). From some philosophical perspectives it can be retorted that although the relevant utterances may seem successful, appearances must deceive, precisely because there is some powerful argument showing that the number terms can't refer. But the appeal to the context principle is supposed to show that truth is somehow constitutively prior to reference: so saying that the relevant sentences fail to be true because the number terms do not refer puts the cart before the horse.

Appeal to priority does not, by itself, do much to get around the bad company objection. Arguments analogous to the argument just sketched for the existence of numbers can be sketched for entities introduced by other consistent abstraction principles, and would be, it seems, equally persuasive in those other cases.

Priority might however suggest the following way out. The neo-Fregean who appeals to priority does not seem wedded to making use of abstraction principles. She could, *in principle*, abandon abstraction principles to their fate – declare all such attempts at implicit definition illicit – and let number terms be implicitly defined by, say, the axioms of Peano arithmetic (PA); or simply insist that they acquire their meaning through use, without attempting to codify how by appealing to anything that can serve as an implicit definition. Do not mind, for now, what reasons there may be to take this line. (Though the Julius Caesar objection presents independent reason for worrying about

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<sup>32</sup> Wright (1983), p. 13f; my emphasis.

<sup>33</sup> Wright (1983), p. 51f; my emphasis.

how successful abstraction principles are as implicit definitions.<sup>34</sup>) The important point is that here we have a distinctly neo-Fregean consideration in favor of platonism that proceeds in principle independently of appeal to abstraction principles; a potentially good thing, since the bad company objection concerns reliance on abstraction principles.

Abstraction principles occupy a central place in the writings of the neo-Fregeans. But appeal to priority might, in principle, let the neo-Fregean argue for platonism without appeal to abstraction principles. This might make one suspicious of the interpretive claim that the neo-Fregean relies on priority. But two things are worth stressing. First, I am not concerned to claim that the neo-Fregeans have ever let all the argumentative weight rest on priority. Second, at least in Wright (1983), HP appears only to be brought in to argue for the *logician* element in neo-Fregean philosophy of arithmetic: the argument for *platonism* proceeds independently of appeal to it.<sup>35</sup>

However, taking the weight off abstraction principles does not avoid all problems in the vicinity. Take a neo-Fregean who relies on priority but not abstraction principles. It appears that she is committed to adopting a maximally promiscuous ontology of pure abstract objects: whatever abstract objects can consistently exist also do exist. (Needless to say, this is a rough formulation, and it is a delicate matter just how to improve on it.) In the case of ordinary material objects, she would have to say that any such objects that can consistently exist, given that the empirical facts are exactly what they are, also do exist. (And this formulation too could do with some improvement.) Setting all niceties of formulation to the side, let us say that on this ontological view – call it *maximalism* – Ks exist just in case they satisfy *minimal conditions*.

The argument from priority to maximalism is, in broadest outline, the following.<sup>36</sup> Suppose that some would-be type of object, the Ks, satisfy minimal conditions. Then let ‘k’ purport to refer to a K, and consider a sentence ‘F(k)’ such that the only obstacle to the sentence’s truth would be that ‘k’ fails to refer. Then reflect that our only reason to take ‘F(k)’ not to be true is if we take reference to be prior to truth, in the way supposedly prohibited by the context principle. But then ‘F(k)’ is true. But then ‘k’ refers. So k exists. So there are Ks.

There is a kind of *generalized bad company objection* that can be used against this maximalist ontology. What if the Fs satisfy minimal conditions and so do Gs, but Fs and Gs cannot possibly coexist? The examples of entities introduced by incompatible abstraction principles that are found in

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<sup>34</sup> For a helpful overview of the discussion of the Julius Caesar objection, and critical discussion of some responses to it, see MacBride (2006).

<sup>35</sup> The argument for platonism is basically found in chapters 1 and 2 of Wright (1983); HP (under the name ‘N=’) is introduced only later.

I am not suggesting that the neo-Fregeans are not in fact committed to abstraction principles. That would be absurd. What I am insisting is only that even if the neo-Fregean were to give up the idea of implicit definition by abstraction principles, there would still be materials in the relevant writings for a distinctly neo-Fregean vindication of platonism in the philosophy of mathematics.

<sup>36</sup> Again, see Eklund (2006) for more detail.

the literature on abstraction principles can be used to illustrate this. But the problem can be raised even if abstraction principles are set to the side. Here is a list of problems of the relevant kind. (1) (Adapted from Schiffer (2003).) Let anti-numbers be pure abstract objects defined in such a way that they exist only if numbers do not. (2) Let xhearts, if they exist, be much like hearts – for example, spatiotemporally coincide with hearts, but exist only if xivers do not exist; and let xivers bear the same relation to livers and exist only if xhearts do not exist. (3) As I discuss in my (forthcoming a), the liar paradox in different ways presents examples of this phenomenon. (a) In virtue of the capacities of languages to talk about each other’s semantics, there are languages that, taken separately, could consistently exist, but which could not coexist. (b) One may argue that the liar paradox shows that at least one of the concepts truth (naïvely conceived), negation (naïvely conceived), quantification (absolutely unrestricted),... fails to exist; but each of these concepts is unproblematic considered in isolation. (The problem thus set up requires a view on propositions as built up from ‘concepts’.) Relatedly, one may argue that the liar paradox shows that some languages that taken separately individually could exist in fact cannot coexist.<sup>37</sup> (4) In his (2006) and (forthcoming), Gabriel Uzquiano discusses how set theory and mereology can be taken to make different demands on the cardinality of the universe.<sup>38</sup> Uzquiano shows that given natural assumptions ZF set theory demands that the universe be the size of an inaccessible cardinal and mereology demands that the universe be of cardinality  $2^k$  for some cardinal  $k$ . Similarly, in his contribution to the present volume, Uzquiano shows how given the same natural assumptions, ZF set theory and Morse-Kelley class theory are jointly unsatisfiable, for the same reason. The problems that Uzquiano raises can be regarded as another instance of the generalized bad company objection.<sup>39</sup>

Obviously, there is much to be said about these examples. There are specific objections that can be raised against each of them. But I strongly doubt that there will be principled objections to all examples serving to raise the generalized bad company objection.

Needless to say, the generalized bad company objection has application beyond neo-Fregeanism. Obviously, anyone who seeks to defend a ‘maximally promiscuous’ ontology, whether in full generality or specifically when it comes to pure abstracta, will face some version of it. Besides some versions of the generalized bad company objection – (3) and (4) from the list above – will be important even setting maximal promiscuity to the side. (For some further discussion of the generalized bad company objection and some possible reactions, see my (2006).)

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<sup>37</sup> See Eklund (forthcoming a) for further discussion.

<sup>38</sup> See Uzquiano (2006) and (forthcoming).

<sup>39</sup> However, there may be a way for the maximalist to avoid Uzquiano’s problem. One of the assumptions needed for Uzquiano’s paradox to arise is that the Urelements form a set, and the maximalist can perhaps deny this for independent reasons. After all, the maximalist believes in, so to speak, promiscuously many Urelements and then it can plausibly be denied that the Urelements can form a set.



#### IV. PLURALISM AND RELATIVISM

In this section, I will consider whether adopting some sort of broadly relativist stance might help the neo-Fregean. There are two questions here. One question is whether such a stance is compatible with the neo-Fregean's other philosophical commitments. Another is whether adopting such a stance can be of help with the bad company objection.

In his (2003), Fraser MacBride discusses the strand in neo-Fregean thought that I have brought up under the heading of priority and have argued leads to a maximalist ontology. MacBride's take on this is different:

The rejectionist [the theorist who holds that abstraction principles cannot guarantee the existence of anything non-linguistic] assumes that the structure of states of affairs is *crystalline*— fixed quite independently of language. By contrast, the [neo-Fregean] assumes that states of affairs lack an independent structure, that states of affairs are somehow plastic and have structure imposed on them by language. As a consequence it is unintelligible for the rejectionist that the method of abstraction might be ensured to disclose additional structure in a state of affairs. By contrast, from a [neo-Fregean] point of view it is inevitable...that the method of abstraction will succeed.<sup>40</sup>

MacBride refers to the later Hilary Putnam and to Rudolf Carnap (1950) as theorists with the same outlook on ontology. It would appear that on the view that MacBride ascribes to the neo-Fregean, she is not committed to a maximalist ontology; rather, she is committed to a view according to which (very roughly – see below for more careful formulations) different things exist depending on what language we speak. For if structure is somehow imposed by language then different languages can impose different structures. Language somehow carves up the world. I will not enter into a discussion of whether MacBride's suggestion or mine is more faithful to the intentions of the neo-Fregeans. Instead I will discuss the suggestion in its own right.

If something along the lines sketched by MacBride is workable, and can be relied on by the neo-Fregean, then not only does it serve to answer the worries of the 'rejectionist' that MacBride discusses, but it can also serve to deflect the bad company objection. For then one can say that once we have introduced into our language, or conceptual scheme, the concept number, for example as explained by HP, any abstraction principle incompatible with it can thereby be deemed false (indeed, something like conceptually false). The users of some other conceptual scheme can lay down one of

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<sup>40</sup> MacBride (2003), p. 127.

the abstraction principles inconsistent with HP as a conceptual truth, and from their point of view HP will be conceptually false; but that need not bother *us*.

Wright appears to explicitly disavow the suggestion MacBride makes on the neo-Fregean's behalf. He presents a possible view similar to what MacBride suggests, and mentions its relevance to the bad company objection:

If we are to regard abstraction principles as *formative* of the concepts they introduce, then the analyticity of such a principle is consequent on our assigning to it just such a role. If, therefore, we assign such a role to Hume's Principle, then we have so organized our concepts that [a principle incompatible with it] is *analytically false*.<sup>41</sup>

Wright then says that on the relevant kind of view, the infinity of the series of natural numbers is *invented* rather than discovered, and that the view therefore is "utterly foreign to the Fregean spirit which the new logicism was supposed to safeguard".<sup>42</sup> But however that may be, it is worth considering 'MacBridean' neo-Fregeanism in its own right. Moreover, there is room for a distinction which Wright doesn't draw. One view that one can take on the question of why, say, HP but not the parity principle is true is that a relativist view is true (with respect to certain discourses): the relevant *propositions* are somehow not true and false absolutely but true and false relative to different perspectives. But another view one can take is the sort of view suggested by e.g. Eli Hirsch.<sup>43</sup> Roughly, on this view, there are different possible languages with different existence-like concepts, and the sentences of these languages which correspond to the sentence "numbers exist" of English can on this account differ in truth-value. This view is not committed to propositions being true and false only relative to perspectives. All that this *pluralist* view, as we may call it, is committed to is that there are English-like languages that differ in this respect.<sup>44</sup>

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<sup>41</sup> Wright (1997), p. 293.

<sup>42</sup> Ibid.

<sup>43</sup> See e. g. Hirsch (2002), (2002a) and (forthcoming). Compare perhaps Putnam (1987), (1987a), (1994) and (2004). It is not, however, as obvious that what Putnam defends is actually a pluralist view as here defined.

<sup>44</sup> At least, that is all that the pluralist view is *officially* committed to. I would myself argue – see Eklund (forthcoming b) and (forthcoming c) – that the pluralist view in fact incurs further, problematic commitments. But that is different.

When laying out the pluralist suggestion, I am skating over serious difficulties regarding its proper formulation. For example, if we compare two languages much like English, one of which,  $L_{HP}$ , such that the sentence "(for all F, G) the number of Fs = the number of Gs iff the Fs and the Gs are equinumerous" is laid down as a conceptual truth and the other,  $L_{PP}$ , such that the sentence "(for all F, G) the parity of F = the parity of G iff F and G differ evenly" is laid down as a conceptual truth, does the sentence of  $L_{HP}$  which intuitively expresses HP really by the pluralist's lights *express the same thing* as the same-sounding sentence of  $L_{PP}$ ? Hardly. For the sentences have different truth-values.

Wright's point that on the neo-Fregean view numbers are discovered rather than invented, although arguably relevant to the relativist suggestion, is beside the point as directed against pluralism. Despite this, I will not much discuss the pluralist suggestion here. The main reason is that I have elsewhere discussed pluralism at length, and criticized the general idea.<sup>45</sup> But I will make some remarks on relativism. The reason is that despite Wright's dismissal of the idea that the neo-Fregean could turn to relativism, there actually are ideas elsewhere in Wright that potentially could be put to use in a relativist philosophy of mathematics. Moreover, Alan Weir (2003, 2005) has in some critical discussions of neo-Fregean ideas suggested that a relativist proposal might provide a way out. Weir does not present the suggestion as compatible with actual neo-Fregeanism, but as a friendly amendment. Below I will turn to Weir's suggestion.

In (2006), Crispin Wright attempts to defend what he calls the "Ordinary View" on disputes over taste (like over whether or not rhubarb is delicious). According to the Ordinary View, such disputes are characterized by the following features:

1. they involve genuinely incompatible attitudes (Contradiction)
2. nobody need be mistaken or otherwise at fault (Faultlessness)
3. the antagonists may, perfectly rationally, stick to their respective views even after the disagreement comes to light and impresses as intractable (Sustainability)

It should be obvious that what Wright calls the Ordinary View is a relativist view. Wright further stresses that it should be obvious that it is doubtful whether the Ordinary View is defensible. First, and most clearly, Contradiction and Faultlessness seem to be in immediate tension with each other. If our attitudes are genuinely incompatible (Contradiction), then doesn't it follow that at least one of us is mistaken (against Faultlessness)? Moreover, Sustainability too seems difficult to sustain. Is not a retreat to agnosticism the rational response?

Wright's article is devoted to the problem of if, and how, the Ordinary View can be respected. Wright suggests that there is a type of view which can serve to respect the Ordinary View, and he defends this view. Wright's suggestion is that the disputants are judging one and the same content, but one is judging it false relative to one standard and the other is judging it true relative to some other standard. This, if it can be made to work, helps with all aspects of the Ordinary View, or so the claim is. Since it is the same content that is being judged, Contradiction is respected. Since the speakers judge by different standards, they are both Faultless. Wright further argues that the speakers

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Sider (2007) defends the idea that the neo-Fregean by her own lights should be a pluralist. (Though Sider himself does not endorse pluralism.) Hawley (2007) responds to Sider, defending the view that the neo-Fregean should be a maximalist.

<sup>45</sup> See Eklund (forthcoming b) and (forthcoming c).

can justifiably judge by their own standards even after the disagreement comes to light, whence Sustainability too is respected.

Wright thinks that this suggestion would serve to legitimize the relativist view, if it works. But as he notes, it is not clear that it can be made to work. For it is not clear what relative truth at the level of propositions amounts to. But he suggests various ideas about truth such that if they can be sustained, we have made adequate sense of relative truth at the level of propositions. Roughly, Wright's view is that propositional truth can be relative in the relevant sense if truth is understood as some sort of idealization of justification or assertibility and the evidence that thinkers have for various views on a proposition of the relevant sort cannot be 'pooled'. This, he thinks, may be the case when it comes to propositions about taste, given the subjective nature of the evidence.

Now, one thing that should stand out is that nothing like this is *prima facie* plausible in the case of HP and other abstraction principles. If I start out relying on a given abstraction principle and there are other abstraction principles with equally good credentials (e.g. they may likewise be conservative) such that they are inconsistent with the one I start with, then this is information I can come to know, and that can be pooled with the information I have at first (say, about the credentials of my initial abstraction principle). Or at any rate, it is hard to see what could prevent the pooling of information in the case of abstraction principles. To stress, I do not wish to imply that Wright would disagree.

Turn then instead to Weir's suggestion to the effect that the neo-Fregean might accept some sort of relativism. Weir does not relate his relativist suggestion on the neo-Fregean's behalf to anything like superassertibility. Rather he simply urges that the truth of a mathematical statement may consist "in its provability in some suitable and coherent system", and that since there can be different "suitable and coherent systems", relativism is a live option.<sup>46</sup> Since Weir does not justify this idea along the lines that Wright justifies relativism, the above remarks do not directly apply to Weir. On the other hand, it is natural to ask, concerning a suggestion like Weir's, how relativist truth is supposed to be possible. It is this question that Wright aims to answer. Weir does not address it, and hence the relativism he proposes is apt to seem *ad hoc*, having as its only motivation its promise to get around the bad company objection.

When motivating the suggestion that the neo-Fregean can embrace relativism, Weir says,

Is this [suggestion] available to the neo-Fregean? Probably not, since some form of platonistic absolutism seems to be essential to the agreed understanding of 'Fregeanism'. On the other hand, an approach like this may be able to save another key aspect of Fregeanism, the idea that

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<sup>46</sup> Weir (2005), p. 345.

mathematical truths are analytic, or at any rate, knowable by means other than direct intuition or empirical confirmation. The goal will be to show that our knowledge does, or could, in a rational reconstruction using abstraction principles such as Hume's, arise by a route which proceeds through our grasp of mathematical language alone, rather than through connections with the referents, if any, of mathematical terms.<sup>47</sup>

I want to take issue with part of the positive suggestion here. If relativism is embraced, it is unclear what role abstraction principles need play. Cannot then any consistent set of axioms be laid down to implicitly define mathematical terms? The claim that these axioms are true can be justified by the idea that truth, at least in this realm, amounts to nothing more than coherence? As I noted above, in connection with priority, it is anyway not clear what the relation between abstraction principles and platonism is. The reason it is still relevant to point out that Weir secures no role for abstraction principles is that it then is unclear if there is any way at all that the relativism that Weir proposes can be regarded as neo-Fregean.

## V. ULTRACONSERVATIVENESS

In sections II through IV, I have been concerned with various possible philosophical underpinnings for neo-Fregeanism. The discussion has not been directly related to the suggestions for how to deal with the bad company objection that have dominated the recent discussions of this objection. But let me now turn to these suggestions; specifically the ultraconservative suggestions reviewed early on. Suppose – for argument's sake – that some suggestion along these lines works, in the sense that it classifies as acceptable exactly those abstraction principles which we would want to be classed as acceptable. If so, we have, so to speak, a theory in search of a philosophy to underpin it. Let us consider some suggestions for what the philosophy might be.

First, consider the ideas that came up in the section on implicit definitions and epistemology. Ultraconservativeness would be a much too stringent condition on the success of an implicit definition. And the same reasons why conservativeness was not a plausible criterion for being aprioritizing are reasons why ultraconservativeness is not a plausible criterion for being aprioritizing: these conditions seem rather to speak to the issue of how good an apriori justification is once it is there than to the issue of whether there is apriori justification in the first place. If appeal to ultraconservativeness has a role to play it is rather more indirect. Suppose an extreme liberal view on apriori justification or on entitlement is true. Then if an implicit definition is one that a thinker is apriori justified or entitled to believe in or accept, and if this implicit definition is also

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<sup>47</sup> Weir (2005), p. 346.

ultraconservative, then the apriori justification is guaranteed to be secure; nothing can properly defeat it.

Second, there is nothing in the pluralist or relativist suggestion that motivates appeal to ultraconservativeness. If, contrary to what I think is the case, some pluralist or relativist view can be made defensible in this area, an end-run has been made around the bad company objection. The pluralist or relativist neo-Fregean can respond already to the very simplest versions of the bad company objection, like cases of individually consistent but jointly inconsistent abstraction principles, by saying that, somehow, different principles are true from different perspectives.

Third, turn to priority. Given priority, a criterion of ultraconservativeness is surely a plausible *sufficient* criterion for the success of an abstraction principle (still setting aside, for argument's sake, technical worries, and whatever other worries one may have regarding the use of abstraction principles independent from the bad company objection). For priority justifies, as earlier noted, a maximally promiscuous ontology, and anyone who accepts maximal promiscuity should be fine with abstraction principles satisfying a criterion of ultraconservativeness (given the important qualifications mentioned).

There are however potential worries also with regard to appeal to priority. First, as noted earlier, priority preempts the need for appeal to abstraction principles in an argument for platonism, and thus may seem not to be in the spirit of neo-Fregean philosophy of arithmetic. However, as I stressed when I brought up this point, this should not be taken to be a point against the idea that priority is a genuinely neo-Fregean idea. Second, more seriously, return to the generalized bad company objection. If some criterion of ultraconservativeness doesn't face technical objections, it seems clear that a defender of priority should accept that if some would-be pure abstracta, the Ks, satisfy this criterion then the Ks exist. But this does not immediately go any way toward responding to the generalized bad company objection. The generalized bad company objection, as it arises for priority, is that the defender of priority is committed to a sufficient condition for existence which leads to inconsistency. An argument that satisfying some ultraconservative condition is sufficient for existence does not address this. For even if such an argument is successful, it can be that something weaker is, given priority, sufficient.

Fourth, a few remarks on reconceptualization. I have not said much here about the idea of reconceptualization. But analogous remarks are in fact appropriate here as are appropriate in the case of priority. Although the idea that two sentences can be recarvings of the same content remains relatively informal, I think that it is relatively clear that if the idea of reconceptualization can be made sense of and if some criterion of ultraconservativeness passes technical muster, the ultraconservative abstraction principles are such that sentences flanking instances of them can count as reconceptualizations of each other. But to rescue reconceptualization as a philosophical idea in face

of the bad company objection it is not enough to produce a plausible sufficient condition for reconceptualization. Compare the remarks just above, on priority. The threat posed by the bad company objection is, in the case of reconceptualization, that the philosophical idea behind appeal to reconceptualization leads to inconsistency, because jointly unsatisfiable abstraction principles count as reconceptualizations. The objection is not knockdown. But finding a non-trivial consistent sufficient condition for being a reconceptualization does not answer it.

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