

perceive rain here now, to figure out what it would take for rain to be somewhere else some other time. Paraphrasing Peacocke:

Very likely, the best explanation of the occurrence of such judgements of what would be evidence for rain elsewhere, given experience of rain here now, is that this putative evidence is in fact evidence, and the mechanisms that lead to judge that this is so are self-perpetuating in a species.

This is, admittedly, extremely unspecific, and much more work would need to be done in order to explain how these mechanisms go about doing what they do. But, if I am right about the idleness of postulating Rain-Here (as opposed to, e. g., Rain-There) as the FRR individuating the concept of rain, this may be the most promising route to explain entitlements having to do with the concept of rain.

The criticism I have been rehearsing comes from what one could call a Grade 3 type of theory of understanding: aiming at truth is *the* most important goal of judgements, and rational transitions are one of the self-perpetuating mechanisms we have stumbled upon while trying to conform to the goal. It is maybe frivolous to predict that, after this very interesting book, Peacocke's subsequent development may take his account of concepts even closer to Grade 3. So I will not.

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**Existential Dependence and Cognate Notions**, by Fabrice Correia. Munich: Philosophia Verlag, 2005, 171 pp.

This fine volume is the first book-length study of existential dependence. It provides a novel and a systematic work entirely devoted to the topic and Fabrice Correia examines the notion of dependence as nobody has done before. Intuitively,  $x$  depends on  $y$  iff the existence of the latter is needed for the former to exist. The most widespread accounts reduce this intuition to an existential link between the two objects, to the effect that  $x$  depends on  $y$  iff it is necessary (or essential to  $x$ ) that if  $x$  exists, so does  $y$ . Though this is seemingly a good rendering, it encounters a number of problems, as Correia shows. A

*remarkable value* of the book is that such problems are avoided. Correia's leading idea is that existential dependence involves a particular relation called *grounding*, so that  $x$  depends on  $y$  iff necessarily, if  $x$  exists so does  $y$  and some feature of  $y$  contributes to *grounding*  $x$ 's existence. What grounding is will become clear below. The idea is developed fully in the book, and it is the very source of why Correia is successful in avoiding the problems of the existing accounts.

It should be pointed out that Correia takes 'Necessarily if  $x$  exists, then so does  $y$ ' as a desideratum: it must obtain if ' $x$  depends on  $y$ ' obtains, although it may not be enough for a case of dependence to hold. Correia's account succeeds in meeting this requirement too. Beside the notion of dependence I have introduced, other notions of dependence are dealt with throughout the book. Still Correia's main interest is in the above notion ('simple dependence', as he calls it). For this reason, henceforth I will just call it 'dependence.' I first sum up the content of the book, showing which the main values of Correia's proposal are. Second, I will make some critical remarks on what seem to me to be difficulties in the book, followed by some short final comments. A remark on terminology is needed before going through the theory. Correia uses the term 'dependent object' for an object  $x$  that depends on some object whatever, and he uses the term 'dependee' for a object  $x$  such that some object depends on  $x$ . This construction is at odd with the usual ones in English, but it is the Author's one and I will follow it. For the matter of simplicity, I here apply his terminological construction and I call 'groundee' a fact  $A$  such that some fact is grounded on  $A$ .

In order to fully appreciate the values and aims of the work, the reader should bear in mind one important point: what is at stake in the book is a *conceptual analysis* of dependence (i.e. an analysis of the notion), not a *metaphysical investigation* (i.e. an attempt to establish *what* depends on *what*). Accordingly, the notions the author provides aim at being neutral with respect to any commitment to (and any exclusion of) any one metaphysical theory. For example, take the thesis that all creatures depend on God. We may argue for or against it. In any case, such a thesis is about a substantial aspect of reality, and we should not let it follow from our very notion of dependence. Otherwise, our notion would hinge on what reality substantively is, and this is plausibly not good for a conceptual analysis. This is an important feature of the work. Indeed, the rejection of opponent accounts is often based on such a 'neutrality policy.' Far from under-

mining the significance of the theory, this policy enhances it: Correia's theory of dependence presents itself as a conceptual framework for a wide number of metaphysical enquiries. For example, the theory is compatible with Mereological Essentialism (as made clear on pp. 66-67; mereological essentialism takes any part of an object to be essential to it) without, however, implying it. In any case the neutrality policy must not be misunderstood: dependence is a *metaphysical* relation, in the sense that its holding (or not) between  $x$  and  $y$  is due to  $x$  and  $y$  being *those very objects*, and not due to logical principles or laws of other kinds.

It is useful to focus briefly on the formal apparatus of the book, contained in Chapter 1. Correia's characterisation of metaphysical necessity ( $\Box$ , introduced together with metaphysical possibility,  $\Diamond$ , pp. 14-17) resembles the one suggested by Kit Fine (see Kit Fine, 'Essence and Modality,' *Philosophical Perspectives 8: Logic and Language*, ed. by James Tomberlin, Atascadero, 1994, pp. 1-16), and it can be summarised by saying that a proposition  $p$  is *metaphysically necessary* if its truth-value is due to the nature of some (or all) of the objects  $p$  is about. For example, it is metaphysically necessary that if Socrates' singleton ( $\{\text{Socrates}\}$ ) exists, then so does Socrates. Indeed, the existential relation under consideration holds due to the nature of one of Socrates and its singleton (namely the latter). Beside this kind of modality, an essentialist modality is introduced:  $p$  is essential to  $x$  iff  $p$  is true by virtue of  $x$ 's nature. Thus, it is essential to  $\{\text{Socrates}\}$  that if it exists, then so does Socrates, because it is in the nature of any singleton not to exist in absence of its member. Essentialist modalities are source-sensitive (i.e. able to spot to which precise object is due the truth of  $p$ ), while metaphysical modalities are source-insensitive. To frame essentialist modalities, Correia uses the operator  $\Box_x$  introduced by Kit Fine (Kit Fine, 'The Logic of Essence,' *Journal of Philosophical Logic*, 24/3, 1995, pp. 241-273). Fine's contribution to this and other topics in the work is recognised by Correia. Together with the operator, the author employs a number of essentialist principles (pp. 26-29). The notions above are indispensable to the analysis of dependence. Metaphysical modalities are needed because dependence holds between two objects by virtue of their being those very objects and because Correia needs them to state his own theory. Essentialist modalities are needed since one of the accounts Correia rejects employs them. The quantification Correia employs is *possibilist*: quantifiers range over the set of possible objects. As we shall see, this entails

no commitment to possibilism: dependence and the other main notions of the book can be expressed in an actualist language (where quantifiers range, at any world, over the objects existing there).

The rejection of the main rival accounts (Chapter 2) is careful and detailed. The *modal-existential account* states that  $x$  depends on  $y$  iff, necessarily, if  $x$  exists so does  $y$  ( $\Box(Ex \rightarrow Ey)$ ). Promising and straightforward as it may seem, the account derives undesirable conclusions. The problematic dependence of creatures on God is at stake here. By modal logic, all the creatures would depend on God, if God necessarily exists ( $\Box Eg$ ). Indeed, in this case any creature would satisfy  $\Box(Ex \rightarrow Eg)$ . But as we have seen, whether any creature depends on God or not should be established by metaphysical investigation, rather than the very notion of dependence (p. 43). The same applies to a number of more undesirable cases: necessarily, if Socrates exists, then its singleton exists. Hence, the modal-existential account concludes that the former depends on the latter. But intuitively Socrates does not need its singleton to exist (while the converse holds), and hence the dependence above is perplexing (pp. 43-44). Hence, the modal-existential account does not succeed. The view of the *essentialist-existential account* is that  $x$  depends on  $y$  iff it is essential to  $x$  that, if it exists, so does  $y$  ( $\Box_x(Ex \rightarrow Ey)$ ). The account avoids the problems of the modal-existential one: the logic of essence plus the definition above does not derive the dependence of Socrates on his singleton, since it is not because of the nature of Socrates that, if he exists, so does its singleton. The same can be said for God and the creatures: it is left to a metaphysical debate whether it follows by their nature that God exists if they do. However, the essentialist-existential account cannot escape a problem. Suppose that (a) God exists of necessity and *per essentiam* if He exists, He causes the world, and (b) necessarily, if  $x$  causes  $y$  then  $y$  exists ('the world' here has to be intended as a rigid designator that refers to our world). But it is a principle of the most common logic of essence (which Correia endorses, p. 28) that if  $\Box(p \rightarrow q)$  holds, and  $p$  is essential to  $x$ , then  $q$  is essential to  $x$ . As a consequence of (a), (b) and the above principle, we have that the existence of the world is essential for God to exist. But this means that God would depend on His creation. Once again, this is not acceptable: it should be the duty of a metaphysical theory to argue for this conclusion. Consequently, it is something that should not follow from a conceptual analysis of dependence (pp. 49-52). The essentialist-existential account is not suitable.

The failure of the two classical accounts is due to a conceptual lacuna. Neither of them is in a position to acknowledge that  $x$  depends on  $y$  if necessarily, where  $x$  exists, *a feature of  $y$  contributes to  $x$ 's existence*. Though both Socrates and Socrates' singleton satisfy  $\Box(\text{Ex} \rightarrow \text{Ey})$ , we do not say that the former depends on the latter, since probably no property of Socrates' singleton contributes to the existence of Socrates. The same holds for God and the world in the essentialist-existential account. In contrast, I depend on my mother because, necessarily, if I exist this is partly by virtue of some feature of hers. This intuition is the starting-point of Correia's proposal. A quick look at the idea is enough to realize that it avoids the problematic cases that jeopardize the previous accounts (pp. 65-66). Correia starts by giving a rigorous formulation of the idea that  $x$  exists (partly) by virtue of something about  $y$  (Chapter 3). The notion of 'holding by virtue of' is given formal expression by the primitive propositional '*metaphysical grounding*' operator (pp. 53-57). A fact A grounds a fact B if B happens by virtue of A. For example, the fact expressed by 'the set {Socrates, Plato} exists' holds by virtue of the fact expressed by 'Socrates and Plato exist.' The operator is furnished with a detailed list of principles (pp. 60-64). A very important feature of grounding is that it is *factive*, as Correia says (p. 61): necessarily, if A grounds B, then both of them hold. This guarantees that, in every world, grounding is plainly *actualist*. Indeed, if A grounds B in a world  $w$ , then both A and B occur in  $w$ , and so grounding cannot involve merely possible states of affairs in  $w$ . In addition, since facts supposedly depend on their participants, all the objects 'A grounds B' makes reference to exist in  $w$ . Grounding is thus admissible for the actualist. Though all this fits with the neutrality policy (grounding is not committed with possibilism), Correia does not state it explicitly. As Correia acknowledges, the notion of grounding is not new in contemporary metaphysics. Kit Fine proposed a theory of dependence based on a different notion of grounding in an unpublished manuscript (Kit Fine, 'Dependent Objects,' unpublished manuscript, 1982). Jonathan Lowe presents (and dismisses) the definition of dependence in terms of a 'because' connective that somehow matches the idea behind Correia's grounding operator (Jonathan Lowe, *The Possibility of Metaphysics*, Oxford, Clarendon Press, 1998). The accounts of Fine and Lowe are discussed and rejected in Correia's book (pp. 63-66). In Correia's account, grounding is followed by two derived notions. *Partial grounding* (p. 61) holds between A and B iff the former is among the groundees of the latter, that is iff B holds *also* by virtue of A. *Base*

(p. 66) holds between  $x$  and  $y$  iff there is a feature of  $y$  that partly grounds  $x$ 's existence. Partial grounding and base are factive in the same sense as grounding. *Dependence* is then defined with the help of *base* (Chapter 4):  $x$  depends on  $y$  iff, necessarily, if  $x$  exists, then there is some feature  $F$  of  $y$  that implies  $y$ 's existence and such that  $y$  bases  $x$  via  $F$ . Once again, the notion is perfectly admissible for the actualist: since the involved feature must imply  $y$ 's existence, it follows that if  $x$  exists, so does  $y$ . Since  $F$  is existence implying, the definition provided by Correia is able to meet the desideratum I have mentioned at the beginning of my review: if ' $x$  depends on  $y$ ' is true, so is  $\Box(E_x \rightarrow E_y)$ . However, the converse does not hold, and consequently dependence is not reduced to the existential link between the involved objects. At the same time, the intuitive idea behind Correia's theory prevents the undesired cases of dependence the rival accounts encounter.

Far from being just a technical value, this is conceptually salient. Indeed, what we perceive as distinctive for dependence is a nexus that makes the dependee relevant for the dependent object. Some property of the former must contribute to the existence of the latter, while the mere co-existence of the two, even if necessary (or essential), is not enough to guarantee the contribution of one to the existence of the other. The need for a contribution of this kind has been neglected by the classical accounts, while it is given the right attention in Correia's theory. As a consequence, the theory increases the complexity and adequacy of our very idea of dependence.

Alternative characterizations of the theory (Chapter 4, pp. 75-77) are given, as well as some logical properties of dependence (pp. 77-81). The indispensability of the relation of base is stressed for notions such as *constituency* and *origin* (pp. 81-84), and further notions of dependence are introduced (Chapter 5).  $x$  *generically depends* on some  $F$  iff, necessarily, if  $x$  exists then there is some  $y$  such that  $y$  is an  $F$  and it contributes to  $x$ 's existence (pp. 89-95). For example, a given colour  $c$  lies on the surface  $e$ ; it depends on surfaces, but it could arguably also exist on a surface that is different from  $e$ . The analysis of the notion reveals a variety of generic dependences that could hardly be individuated by our pre-theoretic intuitions, and it has a direct application to the characterization of the Aristotelian and Platonic views on universals (pp. 95-97). As is well known, the Aristotelian understands universals to not exist if no particular instantiates it, while the Platonist takes universals to not need particulars to exist. The two can be expressed thus: a universal generically depends on the

particulars instantiating them (Aristotelian view); a universal is generically independent from particulars (Platonic view). A temporalised version of dependence is presented (pp. 115-123). It permits us to distinguish (i) the case where the existence of the dependee precedes that of the dependent object (I cannot exist if my parents do not already exist), (ii) the case where the two existences are simultaneous (this red cannot exist without a surface hosting it) or (iii) the case where the dependent object precedes the dependee. Finally, an interpretation of Husserl's theory of dependence is presented (pp. 98-110). The battery of notions previously designed is applied to supervenience at the end of the volume (Chapter 6). To be more precise, grounding has a central role in giving a definition of the notion, thus making supervenience an important cognate of dependence, and showing how grounding may have a philosophical significance even beyond dependence.

Correia employs the modal system S5 as a logic for metaphysical modalities and justifies the choice by mentioning matters of simplicity: the system is the easiest to be used (p. 16). This prevents him from undertaking a discussion of which modal system is the most suitable for expressing metaphysical modalities. Correia's approach to the issue seems to admit the possibility that weaker logical systems, e.g. S4, are suitable as logics for metaphysical modalities (systems stronger than S5 are clearly unsuitable to this purpose). Yet there are very good reasons to doubt that such systems are suitable. Indeed, a metaphysical relation obtains by virtue of the involved objects being those very objects, as Correia admits. Now suppose it is possible that  $x$  depends on  $y$  ( $\diamond\text{Dep}(x, y)$  for short). Since dependence is a metaphysical relation (i.e. a relation whose holding is due to the nature of the involved objects), we probably would like to say that it is metaphysically necessary that  $x$  depends on  $y$ . Otherwise, there could be a world where ' $\diamond\text{Dep}(x, y)$ ' is true and another where ' $\text{Dep}(x, y)$ ' is false. This would contrast with the fact that  $\text{Dep}(x, y)$  is due to  $x$  and  $y$  being those very objects. Indeed, they keep their identity through every world, and thus they should determine either the necessary truth of  $\text{Dep}(x, y)$  or its necessary falsity. Thus, it seems desirable that ' $\diamond\text{Dep}(x, y) \rightarrow \Box\text{Dep}(x, y)$ ' should hold. Given the definition of dependence, the previous formula is equivalent to ' $\diamond\Box(\text{Ex} \rightarrow x \text{ is based on } y) \rightarrow \Box\Box(\text{Ex} \rightarrow x \text{ is based on } y)$ .' Yet the latter does not hold in systems weaker than S5. Indeed, sentences of the form ' $\diamond\Box\phi \rightarrow \Box\phi$ ' are valid just in S5. Thus, systems that are weaker than S5

cannot give us the non-contingency of dependence and of metaphysical modalities in general (a feature that we may reasonably take as desirable). Some explicit words on the issue could have stressed that the choice of S5 is supported not just by matters of simplicity, but also for conceptual reasons.

Another questionable aspect of the work arises from the temporalized version of dependence Correia proposes (pp. 115-123). To understand it we must say something about *actualism*, *possibilism* and *presentism*. Correia's theory is expressed in a possibilist language. If we use  $\exists$  as the possibilist existential quantifier,  $\exists x \exists y (\text{Dep}(x, y) \wedge (\neg Ex \wedge \neg Ey))$  implies that, at the world of evaluation,  $x$  and  $y$  are mere possibilities. This notwithstanding, we have seen that grounding, base, and dependence are compatible with actualism. For example, in any world where the dependent object exists, one of its dependees exists as well. In other words, dependence (as well as base and grounding) is not a *cross-world relation*, where a (binary) relation is *cross-world* at  $w$  if at least a pair in its list at  $w$  has at the first place an object that exists at  $w$  and at the second one an object that does not exist there. Furthermore, it is easy to translate the definition of base and dependence into an actualist language, i.e. a language where, in each world, the quantifiers range over the domain of that world. For example the possibilist proposition above is expressed by  $\neg \Sigma z \neg \diamond (\Sigma x \Sigma y (\text{Dep}(x, y)) \wedge (x \neq z \wedge y \neq z))$ , where  $\Sigma$  is the actualist existential quantifier. The above translation is enough to guarantee the compatibility with a purely quantificational form of actualism (here I call it 'weak actualism' for the sake of brevity). Such a translation *plus* the absence of cross-world relations make Correia's theory compatible with a stricter form of actualism (let me call it 'strong actualism'). Correia never explicitly pursues the compatibility with (weak or strong) actualism as an objective, but one may suspect that incompatibility with actualism would not fit the neutrality policy employed throughout the book. The policy is designed to make Correia's position compatible with any viable metaphysical perspective. Yet this attempt would be doomed to failure if the theory was essentially committed to mere possibilities, since such a commitment is ruled out by a number of metaphysical theories. Neutrality with respect to actualism and possibilism is a virtue, and Correia's theory succeeds in maintaining it.

The same 'neutrality argument' applies to (weak or strong) presentism: an inevitable commitment to non-present entities (at a given instant), would make Correia's theory incompatible with all those

metaphysical views that reject non-presentist commitments. Such an incompatibility would clash with the neutrality policy. Notice that by ‘strong presentism’ I mean a position that accepts neither cross-temporal relations nor an essential commitment to quantifiers that, at any  $t$ , range also over objects that fail to exist in  $t$  (while ‘weak presentism’ endorses just the last condition). Unfortunately, Correia’s theory is not compatible with strong presentism, though it is compatible with the weak one. The reason is that some cases of temporalized base are *cross-temporal*. Take a kind of temporalized base (as Correia defines it, p. 116): ‘ $x$  at  $t$  is based on  $y$  at  $t'$  iff some feature  $F$  of  $y$  holding at  $t'$  partly grounds  $x$ ’s existence at  $t'$  (where  $Fy$  at  $t'$  implies the existence of  $y$  at  $t'$ ). It is possible that  $t \neq t'$ , and  $x$  does not exist at  $t'$ . This makes the definition unfriendly to both kinds of presentism. This notwithstanding, compatibility with weak presentism is easy to guarantee: it is enough to relativize quantifiers to instants, thus restricting them to the domain of any such instant. For example, the above definition would turn into:  $\forall t t' \forall x \forall y (x \text{ is based at } t \text{ on } y \leftrightarrow F_{t'} y \text{ partly grounds } E_t(x))$ ,’ where at  $t$  ( $t'$ ) the values for the variables are just objects existing in  $t$  ( $t'$ ). Things are not so easy with strong presentism. Suppose  $t \neq t'$  and (\*): ‘Some feature  $F$  of  $b$  holding at  $t'$  partly grounds  $a$ ’s existence at  $t$ , and  $a$  does not exist at  $t'$ .’ Here,  $a$  may be a baby that was born at  $t$ ,  $b$  a woman and  $F$  some feature of  $b$  that (at  $t'$ ) contributes to the birth of  $a$  (say, the fact that an ovum of  $b$  is fertilized). (\*) says that  $a$  is based at  $t$  on  $b$  at  $t'$ , and hence at  $t'$  the pair  $\{a, b\}$  is in the list of ‘... being based at  $t$  on ... at  $t'$ .’ But since  $a$  does not exist in  $t'$ , ‘... being based at  $t$  on ... at  $t'$ ’ is cross-temporal there. A moment’s reflection is enough to realize that no logical device can suppress the cross-temporal nature of the base relation above. This feature propagates from temporalized base to temporalized dependence (see pp. 120-123 for a definition of the various kinds of dependence). The ‘neutrality policy notwithstanding,’ Correia’s temporalized base is not suitable for the strong presentist.

In any case, these minor shortcomings have no influence on the global importance of the work, and on the mastery — both technical and conceptual — that Correia shows in tackling such a complex matter. Other points — such as the discussion of the application of the theory to supervenience — bear witness to this. The use of symbolism and technical apparatus is never superfluous, and the formal control is outstanding. Though engaging with technical and formal problems, the work never lacks clarity and the exposition is reader-friendly. A useful appendix closes the book, where the reader

may also find the logical principles previously introduced. Finally, the importance of the topic and the success in dealing with it explains the relevance of the work. It should be evident from the above that Correia's book is a valuable contribution to philosophy. Doubtless, this volume is warmly recommended to anyone interested in dependence and metaphysics, to those who are new to this topic and to those whose studies are more advanced.

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**Relativism and Monadic Truth**, by Herman Cappelen and John Hawthorne. Oxford University Press, 2009, viii + 148 pp.

Relativism has witnessed quite a comeback in recent years, and this fact has not remained without reaction within the philosophical community. Relativism's recent success is in most part due to the new form in which it has been promoted: instead of rather foggy and metaphor-driven formulations, the new doctrine takes the form of a precise semantic theory, using familiar terms and distinctions well-entrenched in contemporary philosophy of language. This new framework has seduced a significant number of philosophers, and as a result quite a number of domains have received relativistic treatments: predicates of personal taste, epistemic modals, knowledge attributions, indicative conditionals — to name just a few.

Given that this new feature of relativism has managed to make it more powerful than its predecessors, a solid reaction to relativism has also been developed. Herman Cappelen and John Hawthorne's book *Relativism and Monadic Truth* represents one such reaction. The book aims to be a thorough defense of a traditional, anti-relativist view, while the authors' main strategy is to weaken the case for relativism by pointing to faulty evidence or dubitable semantic theses that relativists have relied on. Focusing on the case of predicates of personal taste, the authors also sketch a version of contextualism and argue that it is to be preferred to relativism, its main virtues being a better handling of the data and no departure from traditional views.