



# MONASH University

## **The Objectivity of Ontological Discourse**

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## **Abstract**

The thesis examines whether there are objectively true answers to ontological questions. Traditionally, ontological questions are taken to be significant to philosophers: to give those questions firm answers is typically the first step in establishing a metaphysical system or even a philosophical system. However, recently, more and more philosophers have questioned whether ontological statements really present objective truths about the world. Given that it is widely received that ontology might be the center of metaphysics, to answer this question is therefore very important. In chapter 1, I present some major worries about the objectivity of ontological statements and some important theories in the contemporary literature addressing those worries. In chapter 2, I analyze those theories in detail and suggest that none of them gives a completely satisfactory account of the objectivity of ontology. My positive proposal, raised in chapter 3, is that objectivity of discourses comes in degrees and that we can assess it according to a reasonably comprehensive set of criteria. In chapter 4, I apply those criteria in the assessment of the discourse of ontology. I reached two major conclusions: (a), Euthyphro Contrast, Cognitive Command and Data Sensitivity are the plausible criteria of the objectivity of discourses; (b), since ontological discourse does not strongly exhibit any of those marks, the objectivity of ontological discourse is very weak.

## **Declaration**

This thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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# Chapter 1 Introduction

This chapter aims to provide a background to the discussion of some fundamental worries about the core constituent part of metaphysics known as ontology. Some popular ideas and representative theories in the contemporary literature will be introduced, including ontological deflationism, metaphysical reformism, ontological realism and anti-realism.

## 1.1 Worries about Ontology

If metaphysics is characterized as the investigation of objective truths concerning the fundamental structure of the world beyond mere physical reality, then meta-metaphysics is concerned with the nature of those kinds of truths. It is widely accepted that most metaphysical discussions are centred on ontological questions, such as: ‘Are there abstract objects?’, ‘Are there arbitrary mereological sums?’, ‘Do entirely past events and entities exist?’ In this sense, meta-metaphysics is centred on meta-ontology, which aims to investigate the nature of ontological truths.

Motivations for meta-ontological investigations are simple. Disputes concerning allegedly competing ontological theories seem to be problematic. Suppose you are introduced to the question ‘Does something new – a fist – come to exist when you clench your hand?’<sup>1</sup> or the question ‘Do you and the Eiffel Tower make up a single thing called “you and the Eiffel Tower”?’ After quick reflection – or maybe years of serious research – you might end up suspecting that something about those questions is viciously wrong.

This suspicion may be articulated in different ways. First, you might think that ‘yes’ and ‘no’ are equally good answers to these questions, and that it makes no difference which you adopt. ‘Difference’ can be interpreted to mean either ‘different theoretical explanations’ or ‘different

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<sup>1</sup> The thought experiment is cited in E. Hirsch, ‘Quantifier Variance and Realism’, *Philosophical Issues* 12, 2002, p. 67.

empirical predications'. It follows that debate about which is the true answer is trivial. Second, you might think competition between the answers is merely apparent because there is merely verbal difference between them. Saying that a 'fist' comes to exist when you clench your hand is just another way of saying that your hand is in the shape of a fist when you clench it. And saying that there is a single thing called 'you and the Eiffel Tower' is just another way of saying that there is you and there is the Eiffel Tower. Third, you might think that even if there is something distinctively different about the competing answers, the difference is nothing more than personal taste in linguistic matters, e.g. how to express words, because there can be no evidence that leads to decisive answers to those questions. Fourth, you might think that the right answer should be much easier to reach, because after you realised that there is no external evidence to support either side in the dispute, you may decide we can adopt purely arbitrary linguistic conventions in answering those questions. As long as the conventions are consistent, we are entitled to answer those questions by appealing to those explicitly acknowledged conventions: 'according to the rules of my linguistic group, nothing new comes to exist when you clench your hand.' And there is no truth in question beyond that.

The forgoing does not exhaust the range of responses to ontological disputes. Another – perhaps more elegant – response is that neither party to the dispute can even make a claim with a determinate truth-value, because the reference of predicates and/or quantifiers used in answering those disputes are not determinately fixed. It might also be said that, while it is essential to find a determinate reference for the predicates and quantifiers that we use in ontological claims, we currently lack the means to do this.

The discussion to this part brings out deep concerns about features of contemporary ontological debate. Most of our worries about ontology are derivative from those features. First, although ontology is supposed to provide deep truths about the structure of the world, ontological theories do not make novel empirical predictions. Thus, it is hard to see how ontological theories could be either directly supported or refuted by empirical evidence. In other words, it is hard to see how we might use empirical evidence to adjudicate between ontological theories. Perhaps, one might suggest that some ontological theories do make empirical predictions: e.g., perhaps mereological theories predict how many things exist in given regions. However, it is doubtful whether those cases really yield empirical predictions; and even if they do, those predictions – e.g., that there are three objects in a world of two simples – could never be justified or falsified by observations. And if empirical evidence is largely irrelevant to the evaluation of ontological theories, how do we decide whether those theories do say anything about reality?

Second, in the absence of relevant empirical observations, the evaluation of ontological theories must attend to the ‘*a priori*’ theoretical virtues: simplicity, explanatory power, unity, coherence, consistency with other fields, and so on. However, it is not clear that any of those theoretical virtues has any ‘objective significance’. Suppose that we have two competing ontological theories: one of which does better with respect to simplicity and coherence, and the other of which does better with respect to explanatory power and unification. How do we decide which one is the better theory? Cases like this are very common in contemporary ontological disputes, where parties have distinctive preferences concerning theoretical virtues.

Third, contemporary ontological theorising presumes that our intuitions, theoretical insights and cognitive capacity, along with the ‘current best theory’, are sufficient for us to plumb the structure of reality. However, the historical record shows that even empirical theories based on intuitive theoretical insight and the exercise of the full range of our cognitive capacities can turn out to be false. How can we be so sure that pursuing deep ontological questions with the fallible means at our disposal does get us to the truth?

Given all these problematic features of ontological discourse, we have good reason to investigate what lies behind the old, huge and famous ontological questions that have been researched and debated for at least the last two thousand years. We begin with a more careful presentation of some of the meta-ontological theories that have recently received serious consideration.

## **1.2 Ontological Deflationism**

Ontological deflationism is the view that many – if not all – of the major disputes in mainstream ontology are trivial. In general, a deflationist does not deny that the truth of certain ontological statement is objective, but she will claim that the objectivity is trivial. The idea is that the disputants of ontological debates do not substantively disagree with each other because when they disagree, they are presenting the same proposition in different languages. If any of the disputants expresses a statement with an objectively positive truth-value, the statement is true simply because it is consistent with the language she adopts, and *vice versa*.

Thus, the truth of the statement is trivial, since it is true in the same way that a fictional claim is true according to a particular fiction.

### 1.2.1 Predicate Indeterminism

One version of deflationism states that the only reason that disagreements happen in ontology is that the meanings of key terms – e.g. ‘thing’, ‘object’, ‘substance’ – used in formulating the disagreement differ across the language of the disputants. Disputants adopt different implicit definitions of these terms when engaged in ontological disputes. Deflationism says that these disagreements would be eliminated if disputants agreed on determinate meanings for the predicate they use. This sort of deflationism can be called ‘predicate indeterminism’.

A representative theory of predicate indeterminism is defended by Amie Thomasson. In ‘Answerable and Unanswerable Questions’, Thomasson uses predicate indeterminism to attack ontological realism. She asserts that, since all claims made in response to questions involving an undecided term will lack truth-value owing to the indeterminacy of reference of that key term, those questions are unanswerable. The reference of nominative terms is only ontologically determinate to the extent that these terms are associated with disambiguating application and co-application conditions. Hence, if the rules of use of terms do not yield categorical conceptions that determine what ontological categories of objects are to be referred to by those terms, the reference of the terms in question will be indeterminate, and metaphysical question stated using those terms will be unanswerable.<sup>2</sup>

Thomasson divides existence questions into two sorts: specific existence questions, concerning whether entities of given sorts exist; and generic questions, concerning what ‘things/objects/items/individuals’ exist.<sup>3</sup> She believes that it takes two steps to determine the truth-values of existence claims: first, undertaking conceptual analysis to determine what the associated frame-level application conditions for the terms in question are; second, establishing whether or not those associated frame-level application conditions are fulfilled. If they are, then the existence claims are true; else, they are false. If debate between an

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<sup>2</sup> A. Thomasson, ‘Answerable and Unanswerable Questions’, in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, pp. 445 – 447.

<sup>3</sup> Thomasson, 2009, p. 453.

eliminationist and a common-sense ontologist about the specific existence question ‘Are there tables?’ is to be substantive, the eliminationist and the common-sense ontologist must both associate the same application condition with the word ‘table’. Otherwise the dispute will be merely verbal. Since the application condition of a specific sort of term like ‘table’ relies on the application condition of generic sortal terms like ‘thing’, answers to substantive specific existence questions rely upon answers to generic existence questions.<sup>4</sup>

Thomasson then distinguishes three ways of looking at ‘thing’: the sortal use, the covering use and the allegedly neutral use.<sup>5</sup> Terms like ‘thing’ and ‘object’ have a sortal use if a speaker associates the terms with high-level application conditions specifying what it would take for there to be an object or thing in a given situation and what conditions would permit us to refer to the same object or thing again. However, according to Thomasson, terms used in this way cannot support genuine metaphysical questions, since any dispute involving agreed high level application conditions could be solved by investigative journalists or scientists.<sup>6</sup>

Terms like ‘thing’ and ‘object’ have a covering use if they are used as place-holders for specific sortal terms. When these terms have a covering use, they are guaranteed to apply so long as the specific sortal terms have general application. Thomasson says that whether or not ‘thing’ applies on a covering use is a matter of whether or not the sortal terms covered apply. However substantive disputes about specific existence questions can only arise if there are genuine and substantive disputes about generic existence questions. The covering use of ‘thing’ thus cannot enable us to revive metaphysical disputes about specific existence questions. And if generic existence questions must be based on disagreements about specific existence questions, then the covering use cannot revive disputes about generic existence questions either.<sup>7</sup>

The allegedly neutral use thus remains the sole candidate use of ‘thing’ and ‘object’ that might revive serious ontological questions. However, according to Thomasson, there are no application conditions for the allegedly neutral uses of these terms: claims making allegedly

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<sup>4</sup> Thomasson, 2009, p. 454.

<sup>5</sup> Thomasson, 2009, p. 458.

<sup>6</sup> Thomasson, 2009, p. 459.

<sup>7</sup> Thomasson, 2009, p. 460.

neutral uses of these terms are not truth assessable. Thomasson says that metaphysical claims, stated using quantified expressions, are only semantically complete and truth-evaluable when the quantificational domain of objects is specified. And if the domain is defined as ‘everything’, the problem of the uses of ‘thing’ rises all over again. Thomasson concludes that, since singular terms used in answering serious ontological questions either do not have determinate reference or else have different determinate reference on differing sides in ontological disputes, those disputes either concern unanswerable questions or are merely verbal.<sup>8</sup>

### 1.2.2 Quantifier Variance

Another version of deflationism says that there is no substantive disagreement between disputants since there is no agreed domain, over which quantifiers – and, in particular, existential quantifiers – range. According to this view – ‘quantifier variance’ or ‘ontological pluralism’ – since there are many different candidate meanings for the quantifiers that are inferentially and materially adequate, there is no way to determine an absolute meaning for the quantifiers, so any bold kind of ontological realism must be a mistake.

According to Jason Turner – in ‘Ontological Pluralism’ – ontological pluralism is the view that it is possible that there are different ways, kinds, and modes of being. Turner argues against several common objections to ontological pluralism.<sup>9</sup> According to Turner, ‘ontological structure’ can be modelled by a pegboard covered with rubber bands. The ontological monist holds that things are some way or another; this is modelled by hanging different rubber bands on one peg. In contrast, the ontological pluralist holds that reality does not have a single ontological structure – a single pegboard – and that it is not the case that ontological categories are divisions within this single structure. According to ontological pluralism, reality has multiple ontological structures: multiple, independent pegboards.<sup>10</sup> Hence, ontological pluralism denies that there is only one set of existential quantifiers.

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<sup>8</sup> Thomasson, 2009, pp. 461 – 462.

<sup>9</sup> J. Turner, ‘Ontological Pluralism’. *Journal of Philosophy*, vol. 107, 2010, p. 7.

<sup>10</sup> Turner, 2010, p. 9.

Different quantifiers are needed for perspicuous metaphysical talk about things that exist not in different kinds but in different ways.

Turner presents different cases for ontological pluralism. Neo-Quineans hold that a canonical language represents ontological structure with quantifiers; Neo-Tractarians hold that the canonical language represents ontological structure with names. Neo-Quineans require multiple quantifiers to represent multiple ontological structures; Neo-Tractarians require different semantic categories of names to represent ontological structures. Ontological pluralists can use multi-sorted languages, where each variable and name has a specific sort, and each position of predicate takes an argument only of a specified sort. She also can use sorted variables to do away with multiple quantifiers, letting the variables to do all the ontologically plural work. Turner focuses on single-sorted, neo-Quinean ontological pluralism, because the neo-Quinean view is more widely accepted and because a defence of single-sorted pluralism covers multi-sorted pluralism.<sup>11</sup>

Eli Hirsch, who holds similar view to Tuner concerning the diverse meaning of existential quantification, argues that, since the meanings of the quantifiers vary between disputing factions, the disagreements between those factions are merely verbal disputes.<sup>12</sup> In fact, according to Hirsch, most ostensibly substantive disputes in contemporary ontology are verbal disputes about the choice of language. This sort of deflationist conclusion has the following consequence: in an ontological dispute, each side can plausibly interpret its opponents' view simply as expressing a true proposition in their own language.<sup>13</sup> In other words, each side of the dispute must be able to recognise that the truth-value of the ontological statements asserted by their opponents is positive if they are speaking their opponents' language.

Hirsch argues that dominant views in contemporary ontology – e.g. perdurantism – merely provide ways of choosing a new language in which to express common sense truths. Since most mainstream ontologists do not recognise this, they are mistakenly involved in verbal

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<sup>11</sup> Turner, 2010, p. 10.

<sup>12</sup> E. Hirsch, 'Ontology and Alternative Languages', in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p. 239.

<sup>13</sup> Hirsch, 2009, p. 239.

disagreements.<sup>14</sup> Hirsch believes that although his view is basically Carnapian, the major difference between his deflationism and Carnapian anti-realism is that deflationism does not claim either (a) that the truth-values of ontological propositions are non-objective or (b) that common sense ontology simply does not worth defending.<sup>15</sup> According to Hirsch, disagreements between some major competing ontological theories are merely semantic matters: each side can acknowledge their opponents' view as appropriate formulations in an alternative language. Thus, for Hirsch, the truth-values of contested ontological claims are trivially objective.

'Predicate Indeterminism' and 'Quantifier Variance' are both instances of 'terminological indeterminacy': both hold that the meanings of at least some terms – predicates or quantifiers – used in ontological statements are indeterminate. Disputes about the truth-values of ontological propositions are merely verbal disputes between communicating groups who have adopted different languages. The objectivity of ontological propositions made in those verbal disputes is an entirely trivial matter.

### **1.3 Ontological Anti-Realism**

Ontological Anti-realism is the view that at least some ontological statements which are essential to mainstream metaphysics do not have objective truth-values. Unlike deflationists, anti-realists believe that disputants on a genuine ontological issue do not simply talk past each other using different but translatable existential quantifiers. Rather, anti-realists believe that there are substantive disagreements in ontological discussions; and some of them believe that there may be an absolute meaning of the quantifiers. But they do not believe that there are any objective matters of fact in those discussions.

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<sup>14</sup> Hirsch, 2009, p. 240.

<sup>15</sup> Hirsch, 2009, pp. 231 – 232.

### 1.3.1 Chalmers

One significant anti-realist theory is investigated by David Chalmers. In ‘Ontological Anti-Realism’ Chalmers distinguishes between ontological and ordinary existence assertions. According to Chalmers, ordinary existence assertions are made in first-order discussions of relevant subject matters, whereas ontological existence assertions are made in philosophical discussions where ontological considerations are paramount.<sup>16</sup> The ‘correctness’ of ontological existence assertions is based on ontological matters, whereas the ‘correctness’ of ordinary existence assertions is not, or at least not obviously so.<sup>17</sup> Hence, there are different standards in assessing ordinary and ontological existence assertions.

Chalmers characterises common-sense ontology as constituted by ordinary existence assertions, where the correctness of those assertions is not trivially determined by the truth of ontological theories. Rather, the correctness of assertions in common-sense ontology is based on our disposition to accept those assertions using first-order reasoning and what we take to be empirical facts about the world. Different communities could have different standards concerning ordinary ontological commitments. Disagreements about the correctness of ordinary ontological commitments can be resolved by clarifying standards, and so those disagreements are thus trivial.<sup>18</sup> However, the correctness of an ontological existence assertion is not trivial. According to Chalmers, deflationism is a mistake. Ontological disputes do not disappear when different senses of terms are distinguished, because each side in a genuine philosophical debate actually uses – or at least tend to use – the term ‘exist’ in the same way. Even though it may not be obvious that there is an absolute meaning of the existential quantifier, it is obvious that ontological existence assertions are made as if there is such an absolute meaning of the existential quantifier. These kinds of ontological existence assertions involve ‘heavyweight quantification’.<sup>19</sup> The obvious questions that arise are whether the quantification in ontological existential discussion is heavyweight and whether heavyweight quantification is semantically defective.

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<sup>16</sup> D. Chalmers, ‘Ontological Anti-Realism’, in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p. 81.

<sup>17</sup> Chalmers, 2009, p. 82. According to Chalmers, ‘correctness’ does not necessarily mean the same thing as truth, but should be taken as a natural utterance evaluation.

<sup>18</sup> Chalmers, 2009, pp. 85 – 88.

<sup>19</sup> Chalmers, 2009, pp. 89 – 91.

Chalmers argues that in ontological disagreements, when making ontological existence assertions, disputants have a strong sense that they are using an absolute existential quantifier in the most primitive and fundamental sense. And if there is an expression of the existential quantifier in this primitive sense, then it should be heavyweight.<sup>20</sup> Chalmers argues that if such an absolute quantifier does exist, it is defective: either it does not express a concept, or the concept it expresses is defective. According to Chalmers, the absolute quantifier does not have a determinate extension which yields a determinate truth-value for ontological existence assertions. Absolute quantification is either a pseudo-concept or a defective concept.<sup>21</sup> One of the arguments Chalmers presents for his hard-core anti-realism is the knowledge argument. Suppose we know everything about two objects, including their intrinsic features and the relations they bear to each other and to other parts of reality, except we do not know whether they have a mereological sum. Chalmers argues that, in this situation, the disputants know everything substantive about the two objects: there is no non-trivial knowledge left. However, if the two disputants are using heavyweight quantification in making their assertions and one of them is right, then there is substantive knowledge that at least one of them lacks. According to Chalmers, there can be no fact of the matter about who is right in mereological disputes.<sup>22</sup>

### **1.3.2 Bennett**

Another defense of ontological anti-realism is provided by Karen Bennett. In her ‘Composition, Colocation, and Metaontology’, Bennett defends the idea that the truth-values of statements in ontological disputes of material composition are not objective since there is no objective matter of fact in these disputes. Bennett argues that such disputes are substantive, as both sides to the dispute are genuine and use – or at least intend to use – the same language.

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<sup>20</sup> Chalmers, 2009, pp. 100 – 101.

<sup>21</sup> Chalmers, 2009, pp. 102 – 104.

<sup>22</sup> Chalmers, 2009, p. 103.

However it is impossible for each side to make any progress or actually ‘win’ the dispute, since each side has equally good/bad supporting arguments.<sup>23</sup>

Bennett notes that many ontological disputes have reached permanent impasse. Permanent impasse occurs when there is little reason for believing or disbelieving the view on each side, and standard metaphysical methodology provides no further assistance. *Prima facie*, it seems that disputants are stuck in a tie because controversial views can be defended and attacked via appeal to the same theoretical virtue, e.g. simplicity. The absence of tie-breakers to decide between controversial views depends on mainstream ontology’s indifference to objective factors in the actual world. It is not just that the current relevant theoretical virtues are insufficient for making progress in those disputes; there is no hope that contemporary ontological methodology can provide further considerations to break the tie.<sup>24</sup> Bennett’s ‘Epistemic Pessimism’ insists that no substantive epistemic progress can be made in ontological disputes in contemporary metaphysics.

To sum up: ontological anti-realists believe that there can be – and that there are – substantive disagreements in the field of mainstream ontology. However they do not believe that the truth-values of ontological statements are objective. Indeed, they say that ostensibly determinate terms express defective concepts, if they express any concepts at all. Moreover, they say that substantive but unresolvable disagreements *per se* provide reasonable doubt concerning the objectivity of the truth-value of ontological statements.

#### **1.4 Metaphysical Reformism**

Metaphysical Reformism is the view that mainstream metaphysical debates go wrong because the focus of ontological questions is misguided. Some Reformists share, with metaphysical deflationists, the intuition that mainstream ontological discussions are trivial; others Reformists share, with metaphysical anti-realists, the intuition that some mainstream ontological discussions are non-objective, for one reason or another. However, they do not

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<sup>23</sup> K. Bennett, ‘Composition, Colocation, and Metaontology’, in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p 50 – 57.

<sup>24</sup> Bennett, 2009, pp. 71 – 74.

believe that those problems indicate the triviality of metaphysics. In their view, metaphysicians should abandon answering those ontological questions as their major task, but dedicate their energy to researching other issues.

### 1.4.1 Schaffer

Jonathan Schaffer provides a representative theory of metaphysical reformism. In ‘On What Grounds What’, Schaffer offers his reforming suggestion that the focus of metaphysics should not be the question of *what* exists – particularly whether abstract entities such as numbers, meanings and properties exist – but rather the question of *how* those things exist. Schaffer starts with a criticism of the widely shared Quinean view that the method of metaphysics is to extract existence commitments from the best descriptive theory of the structure of the world. For a Quinean metaphysician, the structure of existence is flat, as the domain over which the existence quantifier ranges is a set without structure.<sup>25</sup> By contrast, the structure of reality of Aristotelian metaphysics, where the major task is to say what grounds what, is ordered.<sup>26</sup> According to Schaffer, there are three possible ontological structures, namely flat, sorted and ordered ones. The presumed flat structure of Quinean ontology is weaker than the presumed ordered structure of Aristotelian ontology for at least three reasons: first, a flat ontology does not subsume a sorted or ordered ontology; second, a sorted ontology subsumes a flat ontology but not an ordered ontology; third, if categories of existence are determined by grounding relations, then an ordered ontology subsumes both a flat ontology and a sorted ontology.<sup>27</sup>

Moreover, Schaffer judges that Quinean metaphysical tasks should be replaced by the neo-Aristotelian metaphysical task of inquiring whether an existent is a ground, a grounding relation, or a grounded entity for three reasons: first, ontological questions are trivial; second, fundamentality questions are interesting; third, the Quinean method of ontology inevitably requires the investigation of questions of grounding.<sup>28</sup> The third reason is obviously the most

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<sup>25</sup> J. Schaffer, ‘On What Grounds What’, in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p. 348.

<sup>26</sup> Schaffer, 2009, p. 351.

<sup>27</sup> Schaffer, 2009, pp. 354 – 356.

<sup>28</sup> Schaffer, 2009, p. 356.

significant support for the proposal of replacement. Schaffer suggests that, first of all, analytical ontology actually concerns grounding and dependency questions, since to ask whether abstract entities exist is in fact to ask whether they are mind-independent. Hence, grounding is the most primitive notion in metaphysics, and thus cannot be analysed by any other terms. Second, the Quinean method of ontology is highly dependent on grounding. To identify the best theory we must determine whether a theory is fundamental. But this requires us to choose a domain for the existential quantifier; and the right domain is the domain of the fundamental.<sup>29</sup> Schaffer provides a prospect for non-trivial metaphysics based on the question of grounding as the central topic for investigation. The task of metaphysics is to determine the fundamental substances. These kinds of substances must have several properties, including minimal completeness, metaphysical generality (modal fitness), and empirical specifiability (physical informedness).<sup>30</sup>

Schaffer's version of reformism can be characterised as a proposal of changing the questions asked in metaphysics from 'What exists' to something else. Philosophers who share this sort of view include Kit Fine, Kris McDaniel and Thomas Hofweber. However, there is another version of reformism which has a quite similar motivation but tries to reform metaphysics by changing the methodology.

#### **1.4.2 Callender**

In 'Philosophy of Science and Metaphysics', Craig Callender provides a version of Metaphysical Reformism which holds that metaphysics should engage in worthy pursuits, where the marks of epistemic worthiness are clear: empirical adequacy, simplicity, novel prediction, novel explanation, unification, consilience, and so forth. If metaphysicians aim to focus on pursuing truths by investigating epistemically worthy ontological questions, then good metaphysics should go hand in hand with good science, since they are highly informed by one another.<sup>31</sup>

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<sup>29</sup> Schaffer, 2009, p. 366 – 373.

<sup>30</sup> Schaffer, 2009, pp. 377 – 378.

<sup>31</sup> C. Callender, 'Philosophy of Science and Metaphysics', *Continuum Companion to the Philosophy of Science*, Steven French & Juha Saatsi (eds.), Continuum, 2011, p. 34.

According to Callender, the major problem of mainstream metaphysics is the general belief that philosophers and scientists doing ontology are doing fundamentally different and separate jobs, which is based on the erroneous belief that scientific discovery of the actual world has nothing to do with metaphysical modality.<sup>32</sup> Metaphysical modality, widely believed to be the most significant, respectable and philosophically interesting metaphysical topic, is suggested by Kripke to be a modality carved by robust intuition but one that cannot obviously be reduced to scientific or logical modality. However, it is not therefore justified for modern metaphysicians to wall science out of metaphysics by claiming that physical modality and metaphysical modality are fundamentally different. Callender argues that there is no interesting species of metaphysical modality that is immune to science, since the mere intuitions of humans are probably unreliable and inconsistent according to both modern and historical records.<sup>33</sup>

But if metaphysics is deeply affected by science, and if ontological questions should be pursued with some kind of constraint by physical modality, then what is really left for metaphysicians to do? Callender's answer is that science does not cover all the work metaphysics can do. In particular, compared to modern science, metaphysics is much more engaged in providing explanation and systemisation of the structure of the world. Even though physics produces fundamental theories of the reality, it often leaves theories partially interpreted with serious gaps of understanding and explanation which can be fulfilled by metaphysical research.<sup>34</sup> Moreover, metaphysics can also prospectively predict the need for new scientific theories, if the study of philosophical ontology identifies such needs. And metaphysics can also pursue questions about how various scientific fields relate or what various scientific fields have in common, with one another.<sup>35</sup>

Metaphysical reformists believe that current work in mainstream ontology is not doing a good job of pursuing deep truths about the world. However, unlike their neighbours, metaphysical reformists remain optimistic about the future of metaphysics since they believe there are non-

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<sup>32</sup> Callender, 2011, p. 48.

<sup>33</sup> Callender, 2011, p. 48.

<sup>34</sup> Callender, 2011, p. 54.

<sup>35</sup> Callender, 2011, pp. 54 – 55.

trivial and objective metaphysical questions, and that there are non-trivial and objective methods for answering existing ontological questions.

## 1.5 Ontological Realism

Ontological Realism is a broad constellation of views that aim to defend mainstream ontology against criticisms, including those that derive from the deflationist or anti-realist theories that we have discussed.<sup>36</sup> In this section, I will present Ted Sider's response, and Peter van Inwagen's Quinean meta-ontological doctrine of the unique existential quantifier.

### 1.5.1 Sider

In his *Ontological Realism*, Ted Sider presents his rejections of both deflationism and anti-realism. The article focuses on the metaphysical dispute that whether mereological sums, such as tables, exist. For anti-realism to be true, realists such as David Lewis (DKL), who hold that tables exist, and eliminativist such as Peter van Inwagen (PVI), who hold that tables do not exist, must have no substantive disagreement.

Sider first examines the possibility that the dispute between DKL and PVI is shallow by considering the predicates that they use.<sup>37</sup> DKL and PVI could mean different things by the sentence 'There exist tables.' DKL and PVI agree on syntax, so they must mean something different by the predicate 'table' or by the quantifier 'there exist'. A predicate indeterminist (such as Thomasson) would argue that the disagreement between DKL and PVI is verbal because they hold different application conditions of the term 'table', namely DKL holds that tables are distinct entities composed of particles arranged tablewise, whereas PVI accepts only that there are simples arranged tablewise. A predicate indeterminist might claim that the disagreement between DKL and PVI is verbal because they would agree when the application

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<sup>36</sup> Metaphysical Reformism has not been paid much attention by ontological realists. If deflationist and anti-realist's critiques of ontology can be rejected, there is no reason to think that we need to refocus on different issues.

<sup>37</sup> T. Sider, 'Ontological Anti-Realism', in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p.388.

condition of ‘table’ is clarified and shared by both of them. The main problem with this view, as Sider points out, is that even if both sides agree that the extension of ‘table’ is table-wise arrangements of particles, the disagreement remains. First, DKL says that the term ‘table-wise’ indicates a substantive shape such that when particles are arranged in that shape, composition occurs. But PVI certainly denies this. Second, DKL says that, when particles are arranged in a certain shape, there is a whole composed, and that all terms associated with this existence are semantically singular. Again PVI does not agree. Third, even if PVI agrees that there are simples arranged table-wise, he will have trouble describing the functions and properties of ‘table’ in the way that DKL does. Hence, it seems predicates should not be blamed: the realism and anti-realism debate is not about semantic meanings.<sup>38</sup> Moreover, in any case, PVI and DKL disagree about whether in a two-simple world,  $\exists x\exists y\exists z (x\neq y \ \& \ x\neq z \ \& \ y\neq z)$  – that is ‘there exist at least three things’ – but there is no ontological predicate that figures in this sentence.<sup>39</sup>

The only option left for an ontological anti-realist is quantifier variance, which says that there are multiple (inferentially and materially adequate) interpretations of the quantifiers. Sider rejects certain anti-realist views by arguing that it is a mistake to think that a variety of candidate meanings results from different choices of domains for the quantifiers to range over.<sup>40</sup> No speaker of any language can say truly that there exists a domain of objects corresponding to an expression of the accepted meaning of the quantifiers of objects. In any language, the sentence ‘D is a domain containing everything; and some domain contains an object that is not contained in D’ is a logical falsehood. Moreover, Sider claims that it is impossible to present a completely satisfiable translating function to translate between languages (say PVIish and DKLish where quantifiers have different meanings), since the translations would either be not meaning-preserving or be meaning-preserving but hostile.<sup>41</sup> If the translating function is not meaning-preserving, then one can hardly take what it translates as a real translation; if the translating function provides hostile translations – violating logical form, not conforming to semantic rules, etc. – then the disagreement between ontologists remains.

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<sup>38</sup> Sider, 2009, pp. 388 – 390.

<sup>39</sup> Sider, 2009, p. 390.

<sup>40</sup> Sider, 2009, pp. 391 – 394.

<sup>41</sup> Sider, 2009, pp. 395 – 396.

Sider's positive proposal starts with an objection to scepticism about objective structure: there is a perfect intrinsic concept of similarity – duplication – which is neither arbitrary nor context-dependent, and it is objective.<sup>42</sup> And scepticism about objective structure is false because, if it is true, then the world is an amorphous collection of objects; any linguistic community is free to choose any grouping they like for their predicates. And by Sider's light, this is obviously absurd.<sup>43</sup> (Sider has other arguments for the importance, or at least the benefit, of supposing that there is an objective and absolute structure of the world, involving considerations about evaluation, cognition, etc. But we shall not consider those arguments here.)

### 1.5.2 Van Inwagen

Another realist theory, which defends mainstream ontology by arguing that there is only one legitimate, absolute and unique meaning of existence, is presented by Peter van Inwagen in his 'Being, Existence, and Ontological Commitment'.

The first step van Inwagen takes to argue for the unification of 'existence' is to argue that 'being' is the same as 'existence'. Following Quine, van Inwagen denies that there is any substantive distinction between saying that something exists and saying that there is something ('something' can express either a sort of things or an individual).<sup>44</sup> Van Inwagen mentions that some philosophers who holds that there is a distinction between being and existence also believe that 'being' is a more general term while 'existence' only express the meaning of 'physically exist'. This belief is also rejected by van Inwagen as there is actually no semantic or logical principle or usual practice regarding this sort of distinction in both daily and philosophical language, even for the ones who believe in that distinction.<sup>45</sup>

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<sup>42</sup> Sider, 2009, p. 398.

<sup>43</sup> Sider, 2009, p. 398.

<sup>44</sup> P. van Inwagen, 'Being, Existence, and Ontological Commitment', in *Metametaphysics*, D. Chalmers, D. Manley & R. Wasserman (eds.), Clarendon Press, Oxford, 2009, p..

<sup>45</sup> van Inwagen, 2009, p. 480

Moreover, the concept of existence is univocal. According to van Inwagen, the meaning expressed by the existential quantifier is like the meaning of numerals. Numerals do not express different meanings in the language of different communication groups because they can count any kind of things that fall into different logical or ontological categories.<sup>46</sup> The meaning of ‘existence’ is closely connected to the meaning of numerals: ontological propositions can be interpreted in a way that only numbers are involved. For example, ‘universals exist’ can be interpreted as ‘the number of universals is larger than one’, and ‘God does not exist’ can be interpreted as ‘the number of thing fall under the notion of god is zero’.<sup>47</sup> <sup>48</sup> Van Inwagen argues that the univocacy of numbers and the connection between numbers and existence give good reason for accepting that existence is univocal.<sup>49</sup>

Ontological realists who defend mainstream ontology focus on the univocity of the concept of existential quantifier. Realists believe that there is one and only one legitimate and absolute concept of existence, and that this concept has been appropriately captured by the formal logic adopted in mainstream ontology. Therefore, the disagreements between sincere ontologists who use this concept of existence must be substantive, and ontological deflationism and anti-realism must be rejected.

## 1.6 Summary

In this chapter we have given a brief overview of the background of contemporary meta-ontological debate. Starting with the presentation of some genuine – arguably pre-theoretical – worries about ontology, we have considered diverse philosophical expressions of the suspicion that something is seriously wrong with mainstream ontology. We have looked at representative of various popular meta-ontological views.

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<sup>46</sup> van Inwagen, 2009, pp. 481 – 482.

<sup>47</sup> Or more precisely, ‘Universals exist’ should be interpreted as ‘The cardinal number of universals is not zero.’

<sup>48</sup> van Inwagen, 2009, p. 483.

<sup>49</sup> van Inwagen, 2009, pp. 483 – 484.

Those views include: **ontological deflationism** – the terminologies used in ontological disputes do not have determinate meanings, which allegedly entails that the disputes are merely verbal and that the objectivity of truth-values of ontological propositions is trivial; **ontological anti-realism** – the concepts of terminologies used in ontological disputes are defective, which allegedly entails that there can never be tie-breakers for ontological disputes and that the truth-values of ontological propositions are not objective at all; **metaphysical reformism** – since ontology has one problem or another, it should not be the focus of metaphysics at all, which allegedly entails that different aims or methodologies are required for metaphysics; and **ontological realism** – there is only one legitimate concept of essential ontological terminology – ‘existence’ – adopted in mainstream ontology, which allegedly entails that ontological disagreements are substantive and the truth-value of ontological propositions are objective. In the next chapter, I will discuss those views, and an analysis of the logical form of ontological propositions and of the nature of ontological disagreements.

## Chapter 2 Analysis

This chapter aims to give an analysis of major contemporary meta-ontological theories and a consideration of the logical form of ontological propositions in mainstream ontology. The conclusion of this chapter is that a new systematic account of the objectivity of ontology is required.

### 2.1 Against Ontological Deflationism

In ontological disputes, one side holds that an ontological proposition is true because they believe that certain objects fall in the domain of existence, and the other side disagree because they believe that no such objects fall in the domain of existence. The most popular deflationist criticism of ontology is that the existential quantifier does not have a unique domain over which it ranges over. Different linguistic groups are entitled to use their own language with their preferred concepts of quantifier, so if two agents coming from different linguistic groups are having a disagreement about an ontological sentence, it is very likely that they do not really disagree about the ontological proposition if they speak in the same language. Hence, ontological deflationists hold that some of the mainstream ontological disputes, such as the existence of universals, are not substantive, as participants disagreeing on the issue mainly because of the use of different languages where variant existential quantifiers are adopted. It is thus indicated that if disputants could accept a plurality of quantifiers, it would then be possible to make genuine translations of their ontological claims into each other's languages, and disagreements would disappear.

In this section, I argue against ontological deflationism by raising a concrete counter-example in which substantive ontological disagreement persists, even though the disputing parties are indeed ontological pluralists. I will first give a brief presentation of John Bigelow's *Eleatic*

*theory* of universals<sup>50</sup>, and argue that this theory requires a version of ontological pluralism. And then I will suggest that a nominalist who adopts that same ontological pluralism does not need to agree with Bigelow about the existence of universals.

With a fundamental sympathy to Platonism, the *Eleatic theory* claims that there is a cumulative infinite hierarchy of universals above the first-order level of concrete objects, relations and other sorts of universals that are instantiated by objects or other properties. Besides properties and relations of properties and individuals, there are also relations and properties of different levels of the hierarchy. To sum up the ontological structure in the *Eleatic theory*, the first principle is that if there are things, there are relations among them; and the second principle is that if two things share two properties in common, there is something that those two properties share in common.

The existential quantifier ‘there is’ or ‘there exists’ in those principles is not to be interpreted flat-footedly; it is not that universals exist as individuals. Instead, according to the *Eleatic theory*, in the assertion of an ordinary predicative statement, when an object is associated with a concept, we are committed to two ontological claims. The first is that an individual exists and falls under a concept. The second is that there exists a concept (somehow), such that an individual falls under this concept (is thus). In logical form, when someone asserts  $Fa$ , what she commits to are two ontological statements, the first is  $\exists x Fx$ , and the second is

$$\exists \Phi \Phi a.$$

And when a concept is associated in an ontological claim, there are two jobs that the existential quantifier does: the first is that there is such a concept, and the second is that such a concept has a certain property such that it is instantiated. Since in an ontological statement, existence is being ascribed to properties, the quantifier ranging over universals is higher-order.

The *Eleatic theory* also aims to explain why we should treat descriptions of universals in natural language as using figures of speech, such as in literal interpretations of Platonism or in modern set theories. In ordinary language, the only entities that can be dealt with are concrete objects. For the purpose of discussion, we can only reify higher-order entities into the ground level using proper names and first-order quantifiers. However, reifications are problematic.

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<sup>50</sup> All relevant citation of the ‘Eleatic theory’ attribute to John Bigelow’s unpublished paper ‘Unnameable but Not Ineffable’, presented to the Monash University Philosophy Department Staff Seminar, 08-11-2013. I rely here on my notes on that presentation.

First, it is literally false to take concepts and properties as individuals; second, reifications generate inconsistency, such as the paradoxes of set theory. According to Bigelow, reifications are inevitable for the purpose of discussions. We should go on reifying, but with the recognition that descriptions based on reifications are merely figures of speech.

Combining the two major proposals, it is reasonable to believe that variant quantifiers must be adopted in the *Eleatic theory*. To begin with, if reifications of universals are only figures of speech, then it is literally false to believe that first-order quantifier ranges over higher-order entities such as properties and relations. It seems obvious that the first-order quantifiers should range over individuals. Therefore an *Eleatic theorist* must allow the meaning of the quantifier to vary in different ontological claims. Moreover, to say that we are committed to two ontological claims in an ordinary predicative statement implies there are at least two different quantifiers functioning in the interpretation of the statement. Finally, according to the *Eleatic theory*, it seems that universals within the cumulative hierarchy exist in different ways: properties and relations of properties and relations are not to be taken as the same kinds of existents as their instantiations.

One might maintain that even though there are different quantifier ranges in different ontological statements, it does not follow that the *Eleatic theorist* must accept quantifier variance. The *Eleatic theorist* might accept a unique quantifier, such that it ranges over the whole lot of entities, without allowing the meaning of quantifier to vary in different cases. In other words, the *Eleatic theorist* could accept ontological maximalism, rather than pluralism.<sup>51</sup> My answer to that objection is that ontological maximalism is not consistent with the second aim of the *Eleatic theory*, according to which the reifications of universals are only figures of speech. Suppose one accepts the existence of all universals in the cumulative hierarchy above the first-order level existence, and she also accepts that there is only one existential quantifier. What follows is that she must accept the existence of reifications of higher-order universals are literally true as well as the existence of concrete objects, since those reifications are first-order objects. Reifications have to exist in the same way as concrete individuals and genuine universals, as there is only one existential quantifier. However, according to the *Eleatic theorist*, it is false to take reifications of universals literally as existence as individuals, for taking universals as objects is merely a figure of speech. To

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<sup>51</sup> For more about ontological maximalism, see Matti Eklund, 'Carnap and Ontological Pluralism', 2009.

allow the difference between the existence of reifications of universals and individuals, the only way for the *Eleatic theorist* is to accept a version of ontological pluralism.

If there is one kind of genuine nominalism that is consistent with the ontological pluralism adopted by the *Eleatic theory*, then a nominalist could have a substantive disagreement with a Platonist under quantifier variance. In general, nominalists reject Platonism in two steps: first, denying the existence of universals by restricting the range of quantifier domain; second, raising a positive proposal in which alternative explanations of language and reality are provided. There are various alternative notions provided in different versions of nominalism: falling under the same concept, resemblance, fictions according to which statements about universals are true, and so on. But these alternatives are not more preferable than universals *per se*. First, it is not obvious that they represent the default way we speak, describe and understand the structure of the world in natural language; second, none of them seems to work better than universals in interpreting the structure of reality.<sup>52</sup> Hence, a nominalist has to provide an extra reason to accept her alternative, and that reason is often the non-existence of universals. It thus follows that the essential step in any nominalist strategy is denying the existence of universals.

Nominalists normally try to accomplish that step by defining the range over which the existential quantifier ranges in a strict sense. For example, the Stoic scholars claim that only sensible things exist; fictionalists claim that only concrete objects exist; conceptualist claim that only individuals exist; and so on. However, it is often not the case that nominalists draw a sharp line between existence and non-existence.<sup>53</sup> There has to be a middle range, where *something* that does not exist in a strict sense can exist *somehow*. This *something*, for the Stoics, is the *ideas*; for fictionalist, the fictions; for the conceptualist, the concepts; and so on. Although nominalists deny their existence, they often try to find a different quantifier that can range over those notions. And to some extent, this trick can be taken as a sign that some genuine nominalism is consistent with ontological pluralism. In the following, I will take Stoic nominalism as an example.

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<sup>52</sup> For example, resemblance and falling under concepts might work as well as universals in interpreting propositions like ‘This table is red’. But for the proposition ‘red is a colour’, the interpretations of resemblance nominalism and conceptual nominalism are much more complicated than the one using universals.

<sup>53</sup> There are nominalists who believe in a strictly unique meaning of quantifier, and for them there might not be substantive disagreement with Platonists who also believe in a unique quantifier, if quantifier variance is in fact true.

Following the general pattern of nominalism, the Stoics present their objection to Platonism in two steps: first, denying the existence of universals in a strict sense, i.e. universals neither exist nor subsist, or in their words, universals are not *something*; second, raising their positive proposal with an alternative notion to explain the structure of reality and meaning of knowledge. The Stoics claim that all and only sensible bodies (concrete objects that can be perceived) exist. But there are non-existent things – things that subsist – including meanings, time, place and void. The highest genus that everything falls under is ‘something’, which in the Stoics’ context could mean either existence or subsistence. The Stoics believe that existence is not the common feature of everything, because they sense that something, such as time and place, could have some kind of being but not in the same way that sensible bodies do. Now, given that universals are not sensible bodies, it is evident that universals do not exist. The Stoics then go on to state that unlike meanings, time, place or void, universals do not even subsist. Stoics’ belief in the subsistence of ideas, such as time and space, lies in their perception that these ideas are necessary and essential to understanding. In fact, the reason for the denial of the subsistence of universals is that the Stoics believe that there is no place for universals in the structure or explanation of knowledge. For example, the Stoics assert that when one gets knowledge about two things sharing properties in common and remembers the phenomenon as a reference, she does not actually need to apply any extra entities in this process. The suggestion is that, while realists claim two things are both instances of a certain universal, the Stoics believe that it is just the case that they fall under the same concept. Cognitive progress happens nowhere else but in the mind, and is thus merely a figment of the mind. Since universals have no place in the explanation of cognitive progress, there is no reason for universals to subsist.

Although according to the Stoic nominalism, there seem to be clear boundaries between existence and non-existence and between subsistence and non-subsistence, it is highly implausible to think that the Stoics have adopted a unique or absolute meaning of the existential quantifier. The Stoics say that, while sensible bodies exist, ideas merely subsist, and hence belong to the domain of non-concrete objects. But what is the nature of subsistence? According to the Stoics, things that subsist do not exist, but they are still *something*. And the reason for them to be *something* is that they are essential to knowledge and the structure of the world. But in modern terminology, to say an object or a concept is *something* is just another way to say that there exists such an object or a concept. Or in an ontological pluralist terminology, to say an object or a concept is *something* is just another way to say that such an object or a concept exists in *some way*. Hence, the Stoics must stipulate a different meaning

for a quantifier – the ‘subsistential quantifier’ – which ranges over a domain of objects that is not ranged over by their primitive existential quantifier. And that quantifier is to be taken as a higher-order quantifier, as *ideas* do not exist in the same way as ground level objects. Therefore, in Stoic nominalism, we find the same version of ontological pluralism that we find in the *Eleatic theory*. In Stoic nominalism, there are different existential quantifiers, and some of them are higher order.

However, it does not follow that the Stoic nominalist and the *Eleatic theorist* agree on the existence/higher-order existence/subsistence/or other candidate meanings of existence of the universals. *Prima facie*, the Stoics would not accept – as a translation of their claim about universals into an *Eleatic* language – that universals *exist*, since they believe that they have exhausted all possible ways of being in their account of existence. Similarly, the *Eleatic theorist* would not agree that the universals neither exist nor subsist if their ontological statements are to be translated into the Stoic’s language. Hence, there must be something other than a dispute about which candidate meaning of quantifier should be adopted in the disagreement between the *Eleatic theorist* and the Stoic nominalist. And if ontological deflationists believe that quantifier variance is the only legitimate way of being shallow, then the disagreement must be substantive. Even if both parties to the dispute accept that the existential quantifier varies in a single language, there is no reason to think that their ontological disagreement will simply disappear. The *Eleatic theory* and the Stoic nominalism both adopt a version of ontological pluralism, yet there could still be disagreement between those theories. Therefore, ontological deflationists are at least wrong in maintaining that ontological dispute about the existence of universals cannot be substantive when participants adopt quantifier variance.

To conclude: Ontological pluralism does not necessarily imply ontological deflationism. In our discussion, we have seen that more than one quantifier might be needed to interpret certain ontological propositions. Accepting this view will commit us to a version of ontological pluralism, or quantifier variance. However, the variance or multiplicity of quantifiers in ontological discourses does not indicate the shallowness of ontological disputes. As our example shows, two groups with different meanings of quantifiers in their own language can still have genuine disagreements when the meanings of multiple quantifiers used in both languages are sincerely translated and clarified. Ontological deflationism is mistaken: quantifier variance does not imply shallowness.

## 2.2 Problems for Ontological Anti-Realism

In general, ontological anti-realists believe that there are no objective matters of fact in ontological discussions. Anti-realists have presented two major reasons: first, ontological statements do not have objective truth-value, since existential quantification does not yield a determinate meaning; second, there is no hope that ontological disputes can be solved, since the non-convergence in mainstream ontology so far shows that the research of major questions has reached a permanent impasse.

Although both reasons sound plausible, neither appears to be conclusive. As Chalmers claims, ontological anti-realists believe that agents in an ontological dispute tend to use the same existential quantification, namely the ‘absolute existential quantification’, in their statements.<sup>54</sup> However, Chalmers further claims that since existential quantification does not yield a determinate meaning, there must be no objective matter of fact involved in the dispute.<sup>55</sup> The question is: what is really in debate when both agents decide to use an absolute existential quantification in their ontological statements? In brief, I believe that the ontological debate under that condition is plainly about the meaning of such an absolute existential quantification. There are two claims to support this conclusion. First, ontological disputes happen when agents disagree about the domain over which the absolute existential quantifier ranges and ontological disputes are substantive when both agents agree that the meaning of the existential quantifier is univocal. Second, the meaning of the absolute existential quantifier depends upon the domain over which it ranges.

The first claim has been discussed widely in the literature, and it is accepted by most meta-ontologists. So we need only to address the second claim. This claim is based on a generalisation: the meaning of a quantifier is its semantics and the domain over which it ranges.

If we represent a quantified sentence as  $Qx S(x)$ , then what makes it true, if it is true, is the pattern of truth-values for  $S(\underline{a})$ , where  $\underline{a}$  is taken, in turn, to name each of the objects in the domain. The domain ranged over by the quantifier is often presumed in the context. For

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<sup>54</sup> Chalmers, 2009, p. 91.

<sup>55</sup> Chalmers, 2009, p. 103.

example, if I claim that ‘every cats is a mammal’, what makes the statement true is the pattern of truth-value for if  $\underline{a}$  is a cat, then  $\underline{a}$  is mammal, where  $\underline{a}$  is taken to name each of the objects in turn in the domain of ‘everything’. In another example, if I claim that ‘everyone is here’, what makes the statement true is the pattern of truth-value for if  $\underline{a}$  is here, where  $\underline{a}$  is taken to name each of the objects in turn in the domain of ‘everyone that is invited’, which is presumed in the context.

The case is a little bit different for ontological claims in which existence is taken as part of the meaning of a quantifier. If a universal-realist claims that ‘there are universals’, what makes the statement true, if it is, is that the domain over which the existential quantifier used in the statement ranges contains at least one universal. What makes the statement not true, if it is not, is that the domain over which the existential quantifier used in the statement ranges does not include any universals. Therefore, the dispute between a universal-realist and a universal-nominalist is plainly about whether the domain of the existential quantifier includes universals. In other word, the dispute is about the range of the existential quantifier. Since ontological anti-realists believe that both agents in the debate use the same existential quantifier, ontological anti-realists believe that such disagreement is substantive. And since the locus of the debate is the range of the existential quantifier, there is no reason to think that there is a determinate presumption what this range is in the debate. It is therefore not clear how an ontological anti-realist can question the objectivity of ontology by simply pointing out the indeterminacy of the existential quantifier.

The second reason given by ontological anti-realists is the non-convergence of mainstream ontological issues. Even granted that there is an impasse, the key question for the anti-realist is: why suppose that the impasse is permanent? Why not think that the non-convergence is temporary and that it will be overcome when we find further evidence – either theoretical or empirical – as so often happens in science? The anti-realist might argue that scientists eventually converge on answers because there are further empirical facts to be discovered, but there are no further empirical facts that bear on *a priori* disputes such as ontology. However, in *a priori* studies we can still expect novel theoretical concepts and methodologies that can help solving problems. Just as long-term unsolved arithmetic and geometric problems get solved with modern methodologies that were not available in the past, it is reasonable to suppose that long-term unsolved ontological problems will get solved in the same way.

Furthermore, one might suggest that the current lack of convergence does not even threaten the objectivity of contemporary ontology, since there is no direct connection between

convergence and objectivity. According to this view, to say an area of study is objective is just to say that the truth presented in that area of study is mind-independent. No convergence in an area of study implies that there are unknowable truths in that area, and since unknowable truths must be mind-independent, it follows that there are independent truths in ontology. And if non-convergence in ontology is due to the mind-independence of ontological truth, then it is reasonable to believe that ontology is objective. (We will soon get back to the concept of objectivity in the next chapter.)

The two major reasons given by ontological anti-realists – for thinking that there are no objective matters of fact in ontological discourse – do not conclusively establish that there is no objective matter of fact in mainstream ontology. Although it seems to be plausible that there are divergent uses of existential quantifiers and that contemporary ontological disagreements remain unresolved, we do not have a completely satisfactory anti-realist argument against the objectivity of ontology.

### **2.3 Problems for Ontological Realism**

In brief, Ontological Realists defend the objectivity of mainstream ontology by arguing that ontological disputes are substantive as the concept of existence in ontological propositions is univocal, and that concept is appropriately captured by the existential quantifier adopted in classical formal logic. However, as we will discuss in the next section, classical formal logic cannot provide appropriate translations for ontological propositions. If an ontological realist believes that her language and logic gives a proper account of propositions that have subjects which are unrestricted, fictional etc., then she must accept that there is more than one existential quantifier.

It might be suggested that the necessity of multiple quantifiers in one's language does not commit one to a deflationist or anti-realist view about ontology. First of all, the supplemental quantifiers we need to account for ontological propositions are ontologically neutral, which means that having those quantifiers does not involve new and different concepts of existence. The concept of existence remains univocal. Second, it is obvious that we can differentiate the existential quantifier and the ontologically neutral quantifier clearly in both ordinary language and logical forms. The concept of quantification maintains distinct. Third, even if it is a

problem to adopt a different quantifier for translating some ontological propositions, it does not follow that *most* ontological disputes are trivial, since most mainstream ontological disputes, such as disputes about mereology, universals and time, do not concern those propositions.

Indeed, to adopt multiple quantifiers does not necessarily commit us to multiple concepts of existence, although ontologically neutral quantifiers provide space for the adoption of a plurality of existence predicates. It can be suggested that a logical or linguistic system with multiple concepts of existence presents more explanatory power than a system with only one concept. But this is not crucial to the question whether or not disputes in ontology are substantive, since the variance of predicate does not generate logical troubles in translation between different linguistic groups in the way that variance of quantifier does, and substantive and genuine ontological disagreements are preserved when terminology is fixed.

As Sider responds to deflationism, even if there is vagueness in some ontological disputes, terminological indeterminacy inflicts no damage on mainstream ontology. According to Sider, predicate indeterminacy fails because even if the references of terms like ‘things’ and ‘tables’ are uniquely determined by ontological disputants, there is still space for substantive disagreement, e.g. about whether there is a distinctive singular entity when simples are arranged tablewise.<sup>56</sup> Quantifier variance is very hard to establish because there is no way to create a translation function between languages using different candidate meaning of existential quantifiers that can formally eliminate dispute.<sup>57</sup> Moreover, changing the domain of quantification causes logical problems in many ontological theories. The key point in those responses is that even if the conditions for both predicate indeterminacy and quantifier variance are met in ontological disputes, substantive disagreements persist.

However, substantive disagreements are not enough for us to believe that truths presented by ontological propositions are objective, since two agents can sincerely and substantively disagree on completely non-objective matters. Ontological realists reply to this concern by suggesting that to deny the objectivity of mainstream ontology is to deny the objectivity of the structure of the world. Sider argues for an objective structure of the world by suggesting that if scepticism is true, then the world is an amorphous collection of objects and any linguistic

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<sup>56</sup> Sider, 2009, p. 390.

<sup>57</sup> Sider, 2009, p. 396.

community is free to choose any grouping they like for their predicates. By Sider's light, this is obviously absurd.<sup>58</sup>

This response faces two major problems. First, although it seems reasonable that an objective and absolute structure of the world is in some sense important, or at least beneficial, unfortunately it does not follow that truths presented in ongoing ontology are objective. After all, the methodology used in mainstream ontology to discover the objective structure of nature could be misguided. I agree with Sider that supposing an objective structure of the world is beneficial, but that is not enough to remove scepticism from the field of play. Second, mainstream ontology focuses on questions of existence rather than focusing on questions of fundamentality and supervenience. This means the world structure in mainstream ontologists' mind is flat: all matters are on the same level. One might suggest that this structure, although better than the sceptic's, is still unadoptable. It is not obviously plausible to grant the objectivity of mainstream ontology just because the world structure which it presumes is reasonable. So far as I know, ontological realists have not given a satisfactory answer to either of those problems.

Furthermore, the fact that there are substantive disputes in mainstream ontology is not necessarily good news for realism. As Bennett points out, the lack of convergence in mainstream ontology suggests that the disputes have reached a permanent impasse. One could argue that it is implausible to infer permanent impasses from current lack of convergence. But the lack of convergence on most ontological questions has lasted more than two thousand years. Philosophers have made no essential progress on solving major ontological questions: universals, mereology, temporal parts, and so on. In contemporary ontology, even the terminologies used in expressing those questions in an accurate manner have not been fixed yet, and many are pessimistic about that too.

One might think the lack of convergence does not have so much to do with objectivity. Although it is quite a complex question how we define objectivity, some cases should present good analogies on why convergence matters. As we all know, the more non-objective a question is, the less likely it is that two independent agents will have the same answer. For example, agents will readily agree on which object is heavier if they are given sufficient means of measurement. But agents will not readily agree on which object is tastier even if

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<sup>58</sup> Sider, 2009, p. 398.

they are offered abundant information, stimulative, and philosophical theory. This gives us some reason to think that lack of convergence in ontology has troubling implications for the objectivity of ontology.

To conclude: Ontological realism has an adequate response to the claim that ontological propositions are trivial. The existential quantifier may have univocal meaning in genuine ontological disputes; and even if it does not, the disputes could still be substantive. However, having substantive disagreements does not necessary grant objectivity to ontology. For the purpose of defending ontology, realists must give good reasons to believe in their presumed structure of the world and to believe that lack of convergence does not jeopardize objectivity. So far, neither of those conditions is met.

## **2.4 Logical Form of Ontological Propositions in classical logic**

We have examined three major theories in the contemporary meta-ontological field. The fact that all of these problematic theories focus on the meaning of existential quantifier might give us reason to think that this focus is mistaken. In this and the next section, I will examine possible misconceptions about how we use existential quantification in our language.

Most mainstream ontologists accept that the meaning of ‘existence’ is adequately captured in classical formal logic. To translate an ontological proposition into logical form, we need the existential quantifier,  $\exists$ , to quantify over whatever exists; in other word, anything that can be quantified over by  $\exists$  must be something that exists. For example, if I want to translate the sentence ‘God exists’ into logical form, I need to first recognize what I really say is that ‘there is something such that it is God’, and the logical form of the sentence will be  $\exists x(x=g)$ , where ‘ $x$ ’ stands for ‘something’ and ‘ $g$ ’ stands for God. For another example, if I want to translate the sentence ‘There are white things’ into logical form, what I really say is that ‘there is at least one thing such that it is white’, and the logical form of the sentence will be  $\exists x Wx$ , where ‘ $W$ ’ stand for the predicate ‘... is white’.

Although it is efficient in analysing ontological propositions, the classical existential quantifier does have troubles in analysing some propositions. Although those propositions do

not play significant roles in ordinary daily talk, they do matter for serious ontologists, especially in discussing certain ontological theories.

One of the examples is an ontological proposition:

**‘Something exists’**,

whose negation is ‘nothing exists’ or ‘there is nothing’ or ‘the world is empty’.<sup>59</sup> Evidently, this proposition is an essential one in discussing Nihilism. Notice that we do not restrict the reference of ‘something’ in any way or in any sense. The proposition is true as long as the world is not empty, no matter what *thing* exists out there.

Pre-theoretically, we might think the subject of this proposition is ‘something’ and the predicate is ‘exist’. However in the formal logic adopted by mainstream ontology, existence is captured by a quantifier, so there must be something else to stand in the predicate place. One might suggest that the predicate is ‘something’ or ‘thing’, so the logical form of the proposition is

$\exists x Tx$ ,

where ‘T’ stands for ‘being a thing’. But this translation does not exactly capture the meaning of the proposition, since there is no pre-assumption of what the existing *thing* is. The proposition simply says that something exists, without talking about the nature or any property holding by whatever exists. In other words, whatever the concept of ‘T’ is, the *thing* that exists does not have to fall under it. The logical term represents the proposition ‘there is something such that it is a thing’, and it is not logically equivalent to ‘something exists’.

One might further suggest that ‘being a thing’ is equivalent to ‘exist’, so no property is mentioned for that existing *thing* except its existence. In this sense, the logical form of the proposition is

$\exists x Ex$ ,

where ‘E’ stands for ‘exists’. But this is just to say that we need an existential predicate, which is not required in the formal logic adopted by mainstream ontology. In mainstream

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<sup>59</sup> I agree with van Inwagen and Quine that ‘there is’ and ‘exists’ expresses the same concept. But this does not necessarily indicate that there is only one concept of the existential quantifier or predicate. There still can be different interpretations even we only have using one expression in English – which is exactly the case in many other languages such as Chinese, Japanese, and so on. Sometimes philosophers tend to believe that ‘there is’ and ‘exists’ mean different things because they believe things exist in different ways. However, there is no clear boundary of when and where should we use one or another. So the proposition is logically equivalent to ‘there is something’ and ‘the world is not empty.’

ontologists' logic, the quantifier itself captures the concept of existence, so anything that is ranged over by the quantifier exists. The logical form  $\exists xEx$  express the proposition 'there is something such that it exists', or equivalently in this context, 'some existing thing exists'. Redundancy aside, according to classical logic, this proposition is a necessary truth as it is a logical tautology<sup>60</sup>. But if that's true, 'the world is empty' is a logical contradiction, and Nihilism is false for arguing for something that is necessarily false. But this is simply not case<sup>61</sup>.

Another option is to admit that there is no appropriate predicate in this translation, so we might just leave it blank. The proposed translation is

$$\exists x (),$$

with nothing stand in the place for predicate. However, this logical form actually expresses the proposition 'there is something such that ...', and this is not logically equivalent to 'something exists'.

The only way left for mainstream ontologists is to fit the place of predicate with a predicate that is non-existential but holds universally, for example, self-identity and being accompanied by oneself. The rationale of such translation is that propositions about some properties hold for everything. No matter what other properties a thing might hold, being identical to itself is one of the properties it must have. The proposed translation is thus

$$\exists x (x=x).$$

An obvious problem with this translation is that the logical form does not exactly express our original proposition by mentioning something more than 'something exists'. What it expresses is that 'something such that it is identical to itself exists', or 'there is something such that it is identical to itself'. But nothing about self-identity is mentioned in 'something exists'. One might suggest that 'being identical to itself' hides in the concept of all existing things; hence if we mention something, we mention its self-identity. But notice that there are much more properties could be claimed as holding for everything. For example, the property

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<sup>60</sup> In classical logic, every name must designate. Thus, it is a logical truth that  $Ea$ , if we introduce existence as a predicate. From this logical truth we can infer  $\forall x Ex$ , and we can infer  $\exists x Ex$ . Therefore,  $\exists x Ex$  is a logical truth in classical logic.

<sup>61</sup> Unless you think that the world is not empty is not contingent. But at least Nihilism should not be defeated by a simple logical translation like this.

of either being blue, 'B', or not being blue, '¬B', can take the place for predicate, so the translation is

$$\exists x (Bx \vee \neg Bx).$$

Similarly, the property of either being symmetrical on one's gravity centre, 'S', or not being symmetrical on one's gravity centre, '¬S' can take the place for predicate, so the translation is

$$\exists x (Sx \vee \neg Sx).$$

And we can go on and on until we exhaust all properties in this way, and they all hold for that something we claimed to exist. But do we really mention all of them when we simply claim that something exists so that the world is not empty? This at least sounds very bizarre, if not completely false.

A direct objection to our criticism on ' $\exists x(x=x)$ ' is that in many situations, identity is often necessary in the appropriate logical translation of a sentence expressed in ordinary language where identity is not mentioned, especially when there is a definite article. For example, it is widely accepted that the sentence 'the King of France is bald' should be translated, according to the system firstly introduced by Russell, as

$$\exists x \forall y ((KFy \leftrightarrow x=y) \wedge Bx),$$

where 'KF' stands for 'being the King of France', and 'B' stands for 'being bald'. Although there is not a word about identity mentioned in the ordinary language, the logical translation with the identity notion '=' precisely expresses the proposition with nothing redundant.

I reject this objection for the reasons that in the translation of 'the King of France is bold', identity is needed in the logical form only for the purpose to express the definite article, or in other words, a property that is held by only one thing. The proposition expressed by the logical form  $\exists x \forall y ((KFy \leftrightarrow x=y) \wedge Bx)$  is that 'there is something such that for everything, if it is the King of France, it is the thing, and it is bold', in other word, 'there is one and only one thing that is the King of France, and it is bold'. Notice that the term '=' in the logical form is only intended to express the notion of 'being the same thing' to serve the purpose of saying 'there is only one'. We can find this scenario happens in most sentences that aim to express 'there is one and only one...' in their subjects to avoid the confusion between a name and a property (or a bunch of properties) that holds for one and only one thing. For example, the logical form of 'only the black monkey has a toy' is that

$$\exists x \forall y ((BMx \leftrightarrow x=y) \wedge Ty),$$

where ‘BM’ stands for ‘being a black monkey’, and ‘T’ stands for ‘having a toy’. In this way, we avoid the confusion of thinking ‘being a black monkey’ as a name rather than a property holding of only one thing. However, there is no similar scenario in the translation of ‘something exists’. Obviously ‘something’ is not a subject with definite articles or holding a certain property only by itself; rather, no property is mentioned in the subject part of the sentence. So there is no excuse to have the identity term in its logical translation, except to fulfil a blank position that classical logic must have in a logical form.

One might further suggest that even though identity is not necessary in the logical form, it is not harmful to have something in the logical translation but not mentioned in the ordinary language, as long as the truth-value of the propositions stay the same. For example, if we add a logical tautology to a proposition, the truth-value will stay the same, and there seems to be no obvious reason why we should not do that. For example, the sentence ‘All humans are mammals’ can be translated to

$$\forall x (Hx \rightarrow Mx),$$

where ‘H’ stands for ‘being a human’ and ‘M’ stands for ‘being a mammal’. But it does not seem to be obviously false to say the translation could be

$$\forall x (Hx \rightarrow Mx) \wedge \forall x (Hx \rightarrow Hx).$$

The proposition expressed by this logical form is ‘All humans are mammals and all humans are humans’, in which the second conjunct is a logical tautology. The truth-value of ‘All humans are mammals and all humans are humans’ is the same as the truth-value of ‘All human are mammals’. If this line of reasoning is correct, there is no obvious reason to reject ‘ $\exists x(x=x)$ ’ as the logical form of ‘something exists’, since the property of self-identity is held by everything and therefore adding it to the ordinary sentence will not change its truth-value.

However, mentioning something more in logical translation than in the ordinary sentence will create obvious troubles for hyper-intensional propositions, even if it does not create obvious troubles for non-intensional sentence. For example, if we translate the sentence ‘John believes all humans are mammals’ as

$$\text{JB: } \forall x (Hx \rightarrow Mx) \wedge \forall x (Hx \rightarrow Hx),$$

where JB stands for ‘John believes that...’, we clearly misinterpret John’s thought since it is possible that he does not believe in that all humans are humans for he might have some irregular belief about logical tautology. More obviously, if we translate the sentence ‘John believes all humans are mammals’ as

$$\text{JB: } \forall x (Hx \rightarrow Mx) \wedge (p \rightarrow (p \rightarrow p))$$

or

$$\text{JB: } \forall x (Hx \rightarrow Mx) \wedge ((\exists x C^*x) \rightarrow \forall x (C^*x)),$$

where  $C^*$  stands for ‘being accompanied by something else’, it is implausible that those logical form expresses the same proposition as the ordinary sentence expresses, even though their truth-value are actually the same, since John does not have to be familiar with those logical tautologies.

The last idea one might propose is that self-identity is the best we can do to fulfil the position of a blank predicate. However it is not clear why self-identity is the best choice even if we do need something not mentioned in ‘something exists’. As discussed before, all predicates can fulfil the position just by using a disjunction. Indeed, the sentence could be translated as

$$\forall \Phi \exists x (\Phi x \vee \neg \Phi x),$$

where  $\Phi$  stands for a variable of properties. This proposition is way more than what we ordinarily mean to say. Moreover, we can have properties such as ‘being accompanied by oneself’, ‘has a mass’, ‘has no distance from itself’, and so on. And there seem to me as no precise reason why we should chose self-identity over them. On the other hand, the very situation that we need to fulfil the position of a blank predicate with a non-existential property indicates that something went viciously wrong in this logical translation. The need of a non-existential and irrelevant predicate in a sentence that is centred on existence gives us very good reason to think that classical logic adopted by mainstream ontology does not work well in expressing some ontological sentences.<sup>62</sup> Therefore, we need a new logical system of quantification at least for those propositions in ontological discourse.

## 2.5 Proposing logical forms for ontological propositions

Instead of fulfilling the predicate place with an irrelevant and non-existential property, I suggest that we should have an ontologically neutral quantifier in the logical forms of the ontological propositions, by eliminating ontological commitment from quantifiers in classical logic. We start with substituting the existential quantifier, ‘ $\exists$ ’, which represents ‘there is at

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<sup>62</sup> More of those sentences perhaps include ‘Santa Claus does not exist’ or ‘God does not exist’, and ‘Sherlock Holmes lives at 211b Baker Street.’

least one...’, with an ontologically neutral quantifier, ‘ $\exists^*$ ’, which represents ‘at least one...’. Consequently, the logical form

$$\exists^*x Gx$$

represents ‘At least one thing is G’, while the logical form

$$\exists x Gx$$

represents ‘There is at least one thing such that it is G’. ‘ $\exists^*x Gx$ ’ does not commit to the existence of G’s: ‘at least one thing...’ does not commit to the existence of a ‘thing’.

It might be suggested that the predicate ‘being a thing’ already commits to the existence of the certain sort of thing. However, as our ontologically neutral quantifier ‘ $\exists^*$ ’ does not represent the concept of existence, the notion ‘thing’ represented by the variable  $x$  here is just a linguistic matter, like ‘something’ used in ‘there is something’. Its concept has nothing to do with any property, including existence. Moreover, the notion of ‘thing’ is not necessary to carry the concept of existing, as we will have a distinct predicate for ‘exist’.

As we did with the existential quantifier, we replace the universal quantifier, ‘ $\forall$ ’, which represents ‘for all existing...’, with an ontologically neutral universal quantifier, ‘ $\forall^*$ ’, which represents ‘for all...’. Hence, the logical form

$$\forall^*x (Gx \rightarrow Fx)$$

represents ‘For all things, if it is G, it is F’, while the logical form

$$\forall x (Gx \rightarrow Fx)$$

normally represents ‘For all existing things, if it is G, then it is F’.<sup>63</sup> In the same way, we replace the quantifier ‘ $\exists!$ ’, which represents ‘there is one and only one...’, with ‘ $\exists!^*$ ’, which represents ‘one and only one...’. Moreover, as we need, we can replace other existential quantifiers without a regular logical notion, such as ‘there are many...’, ‘there is more than one...’, and ‘there are exactly 5...’, with corresponding ontologically neutral quantifiers: ‘many...’, ‘more than one...’, ‘exactly 5...’, and so on.

To translate ontological propositions into logical forms, we need a notion to represent ‘exist’. My suggestion is to simply introduce a distinct predicate ‘exists’, represented by ‘E’, into our

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<sup>63</sup> It might be suggested that ‘ $\forall x (Gx \rightarrow Fx)$ ’ represents ‘All Gs are Fs’. But many believe that the correct logical form for ‘All Fs are Gs’ in classical logic is ‘ $\forall x (Gx \rightarrow Fx) \& \exists x Gx$ ’, which means ‘For all existing things, if it is G, then it is F, and there are at least one thing such that it is G.’

logical system. In this way, we treat existence as a property that is held by something and is not held by others.

With those logical notions, we can easily translate the original ontological statement ‘something exists’ into the logical form

$$\exists^*x Ex,$$

with ‘exists’ stand in the place of predicate and we invoke no properties or relations other than existence. The negation of the statement is correctly represented by

$$\neg\exists^*x Ex,$$

such that ‘it is not the case that something exists’, or ‘nothing exists’, or ‘the world is empty’.

To translate ontological propositions with one or more predicate mentioned, we need a conjunction to represent the idea of something existing and holding a certain property at the same time. For example, the translation of ‘there are some tables’ is

$$\exists^*x (Tx \wedge Ex),$$

where ‘T’ stands for ‘being a table’. And the translation of ‘Santa Claus does not exist’ is

$$\neg Esc,$$

where ‘sc’ stands for the name of ‘Santa Claus’, or if you would prefer ‘being Santa Claus’ to be a property, then the translation can be

$$\exists!^*x (SCx \wedge \neg Ex).$$

Similarly, ‘God does not exist’ is translated to

$$\neg Eg,$$

if you think ‘God’ is a name, and

$$\exists!^*x (Gx \wedge \neg Ex),$$

if you think ‘being God’ is a property.

The logical form of ‘the King of France is bald’ is thus

$$\exists!^*x (KFx \wedge Bx),$$

nothing about existence is mentioned in the logical form as nothing about existence is mentioned in the original sentence.

It might be suggested that since existence is out of the picture, the truth-value of the proposition is hard to decide. My position is that to simply decide the truth-value of ‘the King of France is bald’ is false just because France has no King seems implausible. One might hold that it is a category mistake to think that something that does not exist can hold a property that

can only be held by existing things. But the position that category mistake makes the truth-value of a proposition false leads us to the radical conclusion that statements about non-existing things, such as fictional characters, or universals, or even numbers, are all false. This position seems to gloss over the distinction between different types or reasons for falsity. For example, if Santa Claus does not exist, then ‘Santa Claus has white beard’ and ‘Santa Claus does not have white beard’ are both false. But intuitively ‘Santa Claus has a white beard’ is true according to particular myth, even if it involves some sort of mistake, and it should not be treated as false the same way as we treat ‘Santa Claus has a black beard’. I think that non-existential propositions about non-existing things are not as plainly false as many believe; the truth-value of those propositions should be undecidable as long as there is no determinate evidence to justify or falsify them.

However, the existentially neutral quantifier does not necessarily commit one to a Meinongian theory of existence. First of all, the quantifier is not an alternative to talk about existence, it does not represent existence-related quantification such as ‘there is’. The logic thus does not commit to any sort of existential quantification variance. Second, the neutral quantifier simply aims to provide an option to correctly and precisely translate ontological propositions into logical forms, some of which are difficult to translate in the classic logic adopted by mainstream ontology, such as ‘something exists’ and ‘John believes Santa Claus has a white beard and there is not really a Santa Claus’. To quantify over a variable or a name does not necessarily commit to any sort of existence of values of that variable or to a referent of that name so long as the quantifier is existentially neutral. Third, the logical system that adopts an existentially neutral quantifier and treats existence as a predicate simply works more efficiently in translating many ontological statements, without committing an ontologist to objects that she does not believe to exist.

## **2.6 The Assessment of Ontological Discourses**

Now we have seen how an ontologically neutral quantifier with existence as a predicate works better than the existential quantifier in analysing some ontological propositions by translating them into logical forms. But what should we call this ontologically neutral quantifier? For other quantifiers, such as the universal quantifier, the one and only one quantifier, we can simply call them with an ‘ontologically neutral’ ahead of their names, so we have ontologically neutral universal quantifier, ontologically neutral one and only one

quantifier and so on. But if we call the existential quantifier this way, that name will look bizarre, since ‘ontologically neutral ontological quantifier’ does not seem to make any sense.

I believe this difficulty is generated from the misunderstanding of the ‘existential quantifier’ as a quantifier that has some real commitment to existence. In section 2.2, I have argued that the meaning of a quantifier is the combination of its semantics and the domain over which it ranges. In mainstream ontology, many believe that the domain over which the existential quantifier ranges is the domain of existing objects. And if we choose to use an ontologically neutral quantifier, the domain has to be unrestricted. Just as we do with other quantifiers, we need to use the semantics of the existential quantifier to name the new one, namely ‘at least one’. Hence, the ontologically neutral quantifier should be named ‘ontologically neutral at least one quantifier’, and simultaneously, the original quantifier should be named as the ‘at least one quantifier’, without mentioning ‘existence’. Indeed, its semantics do not commit us to anything about existence.

This misunderstanding has generated more than one problem. In meta-ontology, many believe that the problem of mainstream ontology is closely related to the existential quantifier. The deflationists think that ontological disagreement would disappear if the concept of existential quantifier was unified. The anti-realists think that there is no objective matter of fact in an ontological statement, since the existential quantifier does not yield a determinate concept. The realists think that ontological disagreements are substantive since the concept of ontological quantifier is univocal. None of those theories gives us a conclusive and satisfactory account of the objectivity of ontology. The reason, I believe, is that the so-called ‘existential quantifier’ does not have any direct connection with existence. The quantifier only means ‘at least one’, and the domain over which it quantifies could be the existing objects (so it will be the classic ‘at least one quantifier’), or it could be the unrestricted domain (so it will be the classic ‘ontologically neutral at least one quantifier’). The concept of the ‘at least one quantifier’ does not determine the meaning of existence in either of these concepts. Therefore, any attempt aims to give a conclusive and satisfactory account of the objectivity of ontology must fail if it only focuses on quantification.<sup>64 65</sup>

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<sup>64</sup> One interesting example is from Chalmers argument on mereology (p. 103). Chalmers believes we do not miss any information about the two things in a domain if we know everything about them except whether they make a fusion. And it therefore seems that the question of how many things in the domain is trivial. However, the problem is not about quantification. The information one would miss if she believes there are only two things in the domain is not about the number of things in the domain, but the relevant information about the third thing, namely the mass, colour, structure and other properties of that fusion.

Therefore, we must find another way to give an account of the objectivity of ontology. My suggestion is that we take ontology as a discourse, and assess it against criteria for objectivity.

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<sup>65</sup> The idea of existentially neutral quantifier and existence as a predicate is due to theories of 'free logic', although the motivations to adopt a new logical system are quite distinct (as free logic is aimed to give accounts for modality and non-existent objects). See Parsons, *Nonexistent Objects*, 1980, and Zalta, *Abstract Objects. An Introduction to Axiomatic Metaphysics*, 1983. For the most similar theory that 'there is' and 'exists' are synonyms and the non-existentially loaded quantifier should be interpreted as 'for some  $x$ , ... $x$ ...' see Graham Priest, 2005.

## Chapter 3 A Positive Proposal

This chapter introduces some basic tools used in the evaluation of the objectivity of discourses. Those tools include the definition of ‘discourses’, the distinction between *a priori* and *a posteriori*, the definition of objectivity, and a set of criteria of objectivity. Detailed discussions will be focused on the criteria of objectivity.

### 3.1 Discourse

The fact that in meta-theoretical discussions, propositions such as ‘abstract objects exist’ are often referred to as ontological propositions, and propositions such as ‘it is wrong to torture infants’ are often referred to as moral or ethical propositions and so on, seems to imply that it is generally received that propositions can be categorised in separated discourses. In general, the term ‘discourse’ is used to designate the forms of representation, conventions and habits of a language that produces culturally and historically located meanings. In philosophical discussion, a discourse designates an area of discussion in a more general sense. There are several features that could be used to approach a description of a discourse.

First of all, it might be suggested that a proposition that  $p$  belongs to a  $D$  just in case predicates that belong to  $D$  are used in canonical expression of the proposition that  $p$ . For example, in a mathematical proposition, “ $2+2=4$ ”, one might maintain that the proposition says a truth of the subject ‘2’, that ‘2’ has the property of ‘being equal to four when added to 2’. The predicate ‘being equal to four when added to 2’ legitimately applies to numerical entities in mathematical discourses, whether truly or falsely; but it seems to be meaningless<sup>66</sup>

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<sup>66</sup> Here I mean by ‘meaningless’ being false in a way that is more ridiculous than literally being false. It has been suggested that a proposition like ‘Kripke+2=4’ is simply false rather than meaningless, as its meaning indeed refers to something – the truth-value of false. One of the rationales for this suggestion is that if theoretical simplicity is to be maintained, there is no obvious reason why we should distinguish between false and meaningless propositions.

to apply this predicate to other subjects, such as Kripke or qualia, in discourses other than math. In that sense, in mathematical discourse, mathematical predicates are legitimately used to attribute properties or features to mathematical entities. Perhaps, one might object that to divide areas of discussions by predicates is neither exhaustive nor exclusive, since there are propositions containing predicates belonging to different legitimate discourses. For example, it seems to be hard to decide to which discourse the proposition, ‘there are two hundred electrons in our galaxy according to that scientific fiction’, belongs by appealing to the predicate approach: propositions expressed using ‘mixed’ predicates cannot be assigned to a single discourse using the ‘predicate’ approach. Of course, discourses can overlap, and propositions can be taken to belong to multiple discourses. But that does not entail that it is implausible to characterize discourses by looking at the legitimate uses of predicates, since the predicate approach only aims to describe one feature of discourses. It is not necessary or maybe even not possible, that an approach to categorizing propositions must draw a sharp boundary between discourses.

The second approach concerns the truth conditions of an area of discussion. For a proposition to be true in a particular discourse, normally there are restrictions on the nature of its truth. For example, in some *a posteriori* discourses, a proposition’s truth is normally based on its correspondence with facts. In some *a priori* discourses, a proposition’s truth is normally based in its correspondence with concepts established in that discourse. It needs to be noted that this approach does not require an immoderate pluralism about truth: a minimal sense of a common principle of truth is not ruled out *a priori*. However, it is important to observe that a major difference between discourses concerns how truths are grounded and justified. Such

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My answer to this suggestion is that although reasons might not be obvious, and although it might give rise to more complications, we do want to distinguish between ‘ $3+2=4$ ’ and ‘Kripke+2=4’, because they seem to be wrong in different ways. First of all, to judge the truth-value of an arithmetical proposition, actual calculations or quasi-calculations or at least a cognitive process engaged with actual arithmetic axioms is normally involved. As an example, for the predicate ‘being equal to four when plus two’ to describe something truly for ‘3’, we need to actually calculate ‘ $3+2$ ’ with the additional function. On the other hand, we can immediately judge that ‘being equal to four when plus two’ by no means describes a property true of ‘Kripke’ without any real arithmetical toil, for the term ‘Kripke’ is not truly described by any genuine arithmetical predicate. Second, we can differentiate between the ways of being wrong of ‘ $3+2=4$ ’ and ‘Kripke+2=4’ by pointing out that ‘ $3+2=4$ ’ is an arithmetical mistake whereas ‘Kripke+2=4’ is a categorical mistake. Although it might be claimed that the two propositions are both false because we can characterize them as mistakes, I suggest we ought to be clear about the identified differences, especially when we are discussing truth and falsity within a region of a discourse where the majority of propositions are true, or aim to be true, in the same way.

differences can even be used to distinguish two groups of propositions using almost the same predicates. For example, propositions in theoretical physics are sometimes mistakenly classified as purely mathematical or even *a priori*, as those propositions are constructed by the same predicates that are used in mathematics. Nonetheless, according to our second way of distinguishing discourses, this characterisation is implausible, as their truth conditions correspond with facts of reality, rather than with purely conceptual establishments.

The last approach is to look at ontological commitments shared by propositions of a discourse. Although there are ontological disputes in most discourses, the truth of propositions in a discourse often has a strong dependence upon presupposed ontological commitments. For example, the truths of most mathematical propositions seem to be justified only if there is ontological commitment to numbers. By contrast, in *a posteriori* propositions where numbers are used as methods to describe reality, we do not require strong ontological commitment to numbers in order to secure truth, because numbers can be given a fictionalist or constructionist interpretation in these cases. In other words, the third approach supposes that one has to maintain an at least moderate realist view of a certain discourse to get sincerely engaged discussion about the truth or falsity of propositions in that discourse, and such a realist view normally involves certain ontological commitments. For example, if an agent wants to sincerely engage in discussion of the truth-value of moral propositions, she has to accept the ontological commitments of some moral entities such as goodness and wrongness. Without those commitments, even if it is possible for her to discuss the validity of some moral arguments based on conceptual knowledge or intuitions she might have held pre-theoretically or gained from other discourses (such as logic), she will not be able to sincerely recognize the grounding of the truth-values of those moral propositions.

To sum up, there are at least three mutually supporting approaches to the individuation of discourses involving (a) legitimate predicates, (b) truth conditions, and (c) presupposed ontological commitments.

### **3.2 *A priori* and *A posteriori* Knowledge**

One of the most general ways to divide discourses into different camps appeals to the distinction between the *a priori* and the *a posteriori*. A description of this distinction that has

been widely received among philosophers for a long time is that *a priori* knowledge can be grasped by reason alone, whereas *a posteriori* knowledge has to be grasped with the help of empirical observation. Accordingly, we may define *a priori* discourse as: discourse whose objective is to pursue *a priori* knowledge; and we may define *a posteriori* discourse as: discourse whose objective is to pursue *a posteriori* knowledge.

It might be suggested that to some extent, to acquire knowledge by pure reason is impossible. Most general *a priori* concepts appear to be learned on the basis of empirical instances. For example, as pure abstract entities, numbers are always learned with the help of empirical experience. Although it does not matter which particular categories of empirical experience are needed to initialize the idea of numbers, some of them have to go with the learning. Once the idea has been initialized with several beginning numbers, other numbers, or even more complicated mathematical abstracts, such as sets, functions and tensors can be learned by reason alone.

Similar considerations apply to different learning process for other abstracta: colors, shapes, relations, and other universals. Moreover, theories of *a priori* concepts are much clearer, and therefore much easier to grasp, when they are explicated with examples of empirical instances. Although all theories trying to solve the problem of universals express themselves by giving general accounts of the existence of universals; nonetheless, in the details of arguments, philosophers always try to show how their theories deal with specific cases to make convincing and efficient arguments, where theoretical premises, reasons and empirical instances are all involved. Hence, it seems to be unsatisfactory to define *a priori* discourse as knowledge that can be acquired by pure reason, since it might turn out there can be no instance of this modal claim.

Nonetheless, a point to be noted is that all of those observations are about human cognitive capacity. It is obvious that for us, empirical experience is helpful and sometimes even necessary at certain stages of the grasping of *a priori* knowledge. However, the limitation of human cognitive capacity does not by itself eliminate the possibility of acquiring *a priori* knowledge by reason alone. It is imaginable that some highly intellectual species can acquire all *a priori* knowledge using advanced cognitive capacities.

The point is that, even though it is often the case that empirical experience actually helps us in the acquisition of *a priori* knowledge, the distinction between *a priori* and *a posteriori*

knowledge concerns what can be grasped by agents with unlimited cognitive capacities, in the absence of experience.

Furthermore, even if we restrict our attention to the cognitive capacities of ordinary human beings<sup>67</sup>, there are other determinants of the distinction between *a priori* and *a posteriori* discourses. One consideration is the difference in the role played by empirical evidence. As discussed, it is not the case that empirical evidence has nothing to do with *a priori* knowledge; experience may be significant at various stages of explicating and learning. Nonetheless, after the initialization of the idea of primary *a priori* concepts, subsequent knowledge does not always need to be acquired on the basis of empirical evidence.

More importantly, *a priori* knowledge is based on concepts and intuitions, which means that any *a priori* proposition can be justified by pure reason. Even though it might be suggested that some *a priori* justified truths can be overthrown by empirical observations, it is still plausible to believe that purely *a priori* truths are not threatened by empirical counter-examples. Indeed, there could never be counter-examples from empirical observations; for purely *a priori* knowledge is already completely justified by reason. Hence, empirical evidence has nothing to do with *a priori* knowledge at the stage of justification.

On the other hand, empirical evidence is essential to *a posteriori* knowledge at all stages. After all, one of the essential aims of *a posteriori* investigation is to explain empirical experience. *A posteriori* knowledge makes huge advances when new evidence is found and new observational methods are established; and putative knowledge is defeated when empirical counter-examples appear. Hence, a partial and negative definition of the distinction between *a priori* and *a posteriori* discourse can be established: empirical evidence does not play an essential rule in developing and justifying *a priori* knowledge, but it is essential to *a posteriori* discourses at all stages. That putative *a priori* truths appear vulnerable to empirical counter-examples only shows that those so-called ‘*a priori* truths’ are either not true or not *a priori*.

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<sup>67</sup> It is conceivable that there are people with much better cognitive intuitions and insights than others in many discourses.

To conclude, the definitions that *a priori* knowledge that can be grasped by reason alone, whereas *a posteriori* knowledge has to be grasped with the help of empirical observation are plausible definitions.

### 3.3 Objectivity of Discourses

Go back to the debate between realism and anti-realism. In most meta-theoretical debates, the question of whether a discourse is objective seems to be considered a yes-or-no question. Discussion regarding the objectivity of mainstream ontology is one of the typical examples. Mainstream ontology is centred on the question ‘What exists?’, whereas meta-theoretical discussion of mainstream ontology is centred on the question ‘are there objective answers to the question “what exists?”?’ or ‘are there objective truths in ontological assertions?’. As discussed in chapter 1, the most popular views in the modern literature on ontology are (a) the claim that the truth of ontological propositions is not objective (ontological antirealism), and (b) the claim that the objectivity of ontological propositions is trivial (ontological lightweight realism/pluralism). Defenders of mainstream ontology argue that the truths of ontological propositions are objective, and that this objectivity is based in mind-independent facts about the world (ontological realism). Agnostics about mainstream ontology argue that it is impossible to decide the objectivity of truths of ontological propositions, as the meanings of terms – including both predicates and quantifiers – used in ontological propositions are never determined (ontological indeterminism).

It seems that most modern scholars see meta-ontological discussions of the objectivity of ontological propositions as answering yes-or-no questions. When lightweight realists/pluralists say that the truths of ontological propositions are trivial, it is not the case that they are assuming that ‘trivially objective’ is a different level of ‘objective’ between ‘purely objective’ and ‘purely non-objective’. Rather, what they say is that if an internal ontological proposition is true in a language according to a particular ‘ontological framework’ adopted in that language, then the truth of this proposition is determined objectively by the framework. It is true not based on empirical facts, but on the inner coherence of an arbitrary linguistic system. Similarly, indeterminists argue that it is never determinate whether the answer is yes-or-no, but not that the objectivity of the answer is indeterminate. Realists and

antirealists, on the other hand, argue that the truth of ontological propositions is objective/non-objective.

However, it is not clear that objectivity has to be a two-value condition. Although it is sometimes hard to decide whether two particular discourses are objective, it is often clear that one is more objective than the other. For example, in the philosophical literature, there are many meta-discussions of morality and colours, but there has not been a collective settlement of the objectivity of discourses about morality and colour. However, the level of objectivity of theories of moral and colours seems not equal. A straightforward approach to this sort of comparison is to assess the disagreements about those subject matters. Consider two disagreements in each subject, such that one pair of agents disagrees about whether some behaviour is good and another pair of agents disagrees about whether something is red. Consider first the disagreement about redness. Suppose that both agents are familiar with all the conceptual and empirical information concerning redness, that both are able to perceive colours as well as any human being can, and that both of them are sincere and epistemically responsible for their propositions in the disagreements. Then it is predictable that, at the end of the day, they will converge on their judgement about whether that thing is red or not. Now consider the disagreement about goodness. Suppose that both agents are also familiar with all the conceptual and empirical information about goodness, and that both are capable of making responsible decisions about whether certain behaviour is good based on that information. It is hard to believe that they are bound to converge on one truth-value, as information and rationale do not help much in choosing a criterion of good in moral debate. In this case, I believe, it is plausible to argue that the objectivity of propositions made about colours is greater than the objectivity of propositions made about moral values.

Nevertheless, it is not thereby demonstrated that propositions about colours are purely objective while propositions about moral values are purely non-objective. In the case of colours, suppose that there is another intelligent species whose members perceive light in a way highly different from the way in which humans perceive light. Even though they might trivially agree that something is or is not red, based on conceptual information (like Mary in the black-white room), it will be hard for them to believe that the truth of colour propositions are purely objective, since it is based on subjective perceptions of human alone. On the other hand, in the case of morality, suppose the proposition about good is widely accepted among societies and communities, and the acceptance of the proposition has significant beneficial consequence. It then seems implausible to judge that moral propositions are non-objective, since they are based on objective conventions and have empirical consequences.

It is plausible to think that there might be levels of objectivity. If a spectrum is drawn to display the objectivity of different subjects, near the purely objective end, we might pin down physics and some other empirical sciences; near the purely non-objective end, we might pin down aesthetics, humour and gourmet taste; in the middle of the spectrum, there might be space for most *a priori* subjects, such as mathematics (which may be near the objective end), colours, morality, modality, and so on, and so forth. The approach of meta-theories should then be focused on where should we pin down particular discourses and what criteria we use in assessing the objectivity of discourses, rather than pursuing a plain and straight forward answer for the question ‘is this discourse objective?’.

If there really are levels of objectivity, the most important task to pin down a discourse in the ‘objective spectrum’ is to set reasonable criteria for evaluating the objectivity of ontology. However, traditionally the criterion of objectivity is surprisingly distinctive for different thinkers. There are two main directions of assessing the objectivity of a discourse. One is that since truth in an objective discourse is mind-independent, there is no reason to think that the current best theory in that discourse is necessarily true. True theory has to be the best but not *vice versa*. Let us call this direction *independence*. Another is that since truth in that discourse is true to all participants, perfect rational agents with sufficient relevant information will converge on the truth-value of a proposition. Many believe that this also requires that all truth in an objective discourse is knowable. Let us call this direction *convergence*.<sup>68</sup>

Philosophers have long debated which of *independence* and *convergence* is to be taken as the legitimate criterion of objectivity. However, it seems that this debate can be resolved if we believe that objectivity comes in degrees. Both *independence* and *convergence* can be taken as criteria in a more comprehensive consideration of objectivity. The first attempt to construct a set of criteria for objectivity is due to Crispin Wright. According to Wright, the default setting is complete lack of objectivity: discourses ‘gain’ objectivity by exhibiting features that are ‘marks’ of objectivity.<sup>69</sup> In *Truth and Objectivity*, Wright presents four major features of a discourse that can take its truth predicate beyond minimal truth (into objective truth):

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<sup>68</sup> In many philosophical discussions, *independence* is often referred to as realism, and *convergence* is often referred to as anti-realism. I use those different terms in this paper to avoid confusion with ontological realism and ontological anti-realism.

<sup>69</sup> Cited in S. Shapiro and W. Taschek, ‘Institutionism, Pluralism, and Cognitive Command’, *The Journal of Philosophy*, Vol. 93, No. 2 (Feb., 1996), p. 75.

- (1) Epistemic Constraint: There is no unknowable truth in a discourse.
- (2) Euthyphro Contrast: In a discourse that exhibits Epistemic Constraint, when a proposition is true, it is the best opinion because it is true (and it is not true merely because it is the best opinion).
- (3) Cognitive Command: It is *a priori* that cognitively flawless disagreement is ruled out in a discourse.
- (4) Explanatory Depth: Explanation of truth involves deep facts about the structure of the world, not just correspondence with minimal truth aptitude of the discourse.<sup>70</sup>

We shall start our consideration of criteria of objectivity by analysing Wright's list.

### 3.4 Epistemic Constraint

Epistemic Constraint requires that in an objective discourse, any truth must be knowable. It is arguable that whether or not this feature brings a discourse closer to the objective end is essential to the disagreement between *independence* and *convergence*. Hence, Epistemic Constraint is probably the most controversial criterion in Wright's list. In this section, I will discuss some serious objections to Epistemic Constraint.

#### 3.4.1 Problems for Epistemic Constraint

Epistemic Constraint presumes that a discourse is more objective if unknowable truths are ruled out. Some might think this is exactly wrong: a discourse is more objective if there are unknowable truths. Epistemic Constraint can be characterised as a criterion which represents the *convergence* direction of assessing objectivity, since if every relevant truth is knowable in a discourse, perfect rational agents will be much more likely to converge on the truth-value of

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<sup>70</sup> Cited in Shapiro and Taschek, 1996, pp. 75 – 76.

a proposition.<sup>71</sup> However, for a theorist who tends to assess objectivity in the direction of *independence*, it seems that the existence of unknowable knowledge in a discourse does not jeopardise the objectivity of that discourse. By contrast, the independence of truths will be strengthened if there are some truths which we can never know, as it follows that the current best theory can always be false, and truth does not always require verification.

The *independence* position may be held for three reasons. First, we can always expect new information of the world to contribute to our knowledge. What if, however, there is some information about the world that is so deep that we cannot grasp it with limited human capacity and limited instruments of perception and detection? It is obvious that current empirical studies do not exhaust empirical data; and it is not unreasonable to think we should expect that empirical studies will never exhaust empirical data. If this is so, then it is very plausible to think that unknowable truth cannot be ruled out in objective discourses such as physics. Second, uncertainty and indeterminacy of information is an intrinsic part of current scientific studies. In physics, it is received that certain information is both empirically and rationally beyond our grasp. Since the intrinsically unknowable information is also part of the structure of the world, unknowable truth is not ruled out *a priori* in an intuitively objective discourse such as physics. Third, an intuitively plausible thought behind the *independence* idea is that the current best theory could always be wrong in an objective discourse. Theories of objective discourses establish mind-independent truths about reality; but, since the mind can only have limited engagement with reality, there must be room for truths that lie beyond our best theories. Hence, it seems that for an *a posteriori* discourse, not exhibiting Epistemic Constraint does not necessarily weaken its objectivity.

People who hold the *convergence* position might argue that it is not clear that we can generalize this conclusion to *a priori* discourses. Even if unknowable truths do not weaken the objectivity of *a posteriori* discourses, it is difficult to maintain the same case for all *a priori* discourses. Consider the studies of the existence of numbers. It has been debated for more than two thousand years whether numbers really exist. And not surprisingly, the evidence modern philosophers of mathematics have is no more accurate or substantial than what ancient philosophers had. It is also not arbitrary to judge that there may be no new evidence that bears on the existence of numbers in the future if the methodology of

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<sup>71</sup> Indeed, the exhibition of Cognitive Command is a logical entailment of the exhibition of Epistemic Constraint; this relation will be discussed further in section 3.6.2.

philosophy of mathematics is not changed, for what essentially we need to answer the question by those methods are *a priori* concepts and intuitions. And if there is any unknowable truth in this discourse, it will be the indeterminacy of our concepts, which in some sense weakens its objectivity.

However, even if Epistemic Constraint is an objective feature for *a priori* discourses, the difficulty of maintaining Epistemic Constraint as an objective feature of *a posteriori* discourses alone gives us enough reason to doubt Epistemic Constraint is a legitimate criterion for objectivity.

Furthermore, although Epistemic Constraint seems to be a simple and straightforward criterion, it is difficult to identify any mainstream discourses in which it holds. For *a posteriori* discourses, on the one hand, it is arguable that we can always expect that there is information about the world that currently expresses our knowledge, some of which may – for all we know – be beyond human capacity to know. And, on the other hand, it is also arguable that we can always expect technical progress of observation and measurement which is beyond our current imagination. Of course the concept of ‘knowable’ in *a posteriori* discourses significantly varies in different stages of human history; however those two considerations about the limits of *a posteriori* knowledge may possibly be taken to hold at any time.

In *a priori* discourses, sometimes we face similar problems determining the exhibition of Epistemic Constraint. First of all, there can always be ungraspable regress of implications of analytic – or even logical – truths. Second, there might be ungraspable regresses of refinements to be made to the concepts that we currently possess. On the other hand, it is not clear that there can be cognitively unknowable in such regression, since *a priori* truths can be grasped by reason alone.

These (at least apparent) difficulties in deciding whether there are unknowable truths in both *a posteriori* and *a priori* discourses suggests that Epistemic Constraint is not a criterion that is very easy to apply.

To sum up, Epistemic Constraint faces at least two problems: first, it is not an acceptable feature for both *independence* and *convergence* discourses; and second, even if it is often acceptable, it is difficult to apply in assessing the objectivity of *a posteriori* and *a priori* discourses. But this is not the full story.

### 3.4.2 Fitch's Argument

In his 'A Logical Analysis of Some Value Concepts', Fitch presents a famous derivation of the truth that, if all truths are knowable, then all truths are known.<sup>72</sup> In other words, if a discourse exhibits Epistemic Constraint, there will be no truth in that discourse that is unknown.

The argument starts with two principles:

- (1) It is necessary that if a proposition is known, then it is true (the epistemological principle of fact).
- (2) It is necessary that if a conjunction is known, then each conjunct is known (the logical principle of distribution).

Let  $K$  be 'is known';  $p$  and  $q$  are arbitrary propositions. We have this proof (presented in what is essentially Lemmon's natural deduction system):

(Dependence)		(Justification)
1	(1) $\forall p \Box(Kp \rightarrow p)$	Principle of fact
2	(2) $\forall p \forall q \Box(K(p \wedge q) \rightarrow (Kp \wedge Kq))$	Principle of distribution
1	(3) $\Box(K\neg Ka \rightarrow \neg Ka)$	1 Universal Elimination
2	(4) $\Box(K(a \wedge \neg Ka) \rightarrow (Ka \wedge K\neg Ka))$	2 Universal Elimination
5	(5) $K(a \wedge \neg Ka)$	Assumption
2, 5	(6) $\Box(Ka \wedge K\neg Ka)$	4,5 Modus Ponens

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<sup>72</sup> F. Fitch., 'A Logical Analysis of some Value Concepts', in *the Journal of Symbolic Logic*, Vol. 28, No. 2 (Jun. 1963), pp. 135 – 142.

2,5	(7)	$\Box K \neg K a$	6 'And' Elimination
1, 2, 5	(8)	$\Box \neg K a$	3,7 Modus Ponens
1, 2	(9)	$\Box K a$	6 'And' Elimination
1,2, 5	(10)	$\Box K a \wedge \Box \neg K a$	8, 9 'And' Introduction
1,2	(11)	$\Box \neg K(a \wedge \neg K a)$	5 – 10 Reductio Ad Absurdum
1, 2	(12)	$\forall p \neg \Diamond K(p \wedge \neg K p)$	11 Universal Introduction
13	(13)	$\forall p (p \rightarrow \Diamond K p)$	Assumption: All truths are knowable
13	(14)	$(b \wedge \neg K b) \rightarrow \Diamond K(b \wedge \neg K b)$	13 Universal Elimination
1, 2	(15)	$\neg \Diamond K(b \wedge \neg K b)$	12 Universal Elimination
1, 2, 13	(16)	$\neg(b \wedge \neg K b)$	14, 15 Modus Tollens
1, 2, 13	(17)	$b \rightarrow \neg K b$	16 $\rightarrow$ Definition
1, 2, 13	(18)	$\forall p (p \rightarrow K p)$	17 Universal Introduction: All truths are known
1, 2	(19)	$\forall p (p \rightarrow \Diamond K p) \rightarrow \forall p (p \rightarrow K p)$	13 – 18 Conditional Proof

We can observe that nothing is presumed apart from basic logical rules. The conclusion is that if all truths are knowable in a discourse, then all truths are known. This conditional depends only on the epistemological principle of fact and the logical truth of distribution. To be precise, when some true proposition is unknown in a discourse, the unknowable truth is 'that proposition is true and it is not known that that proposition is true', as line (12) shows, since it is necessarily a contradiction that it is known that that proposition is true and that it is known that that proposition is unknown.

The most famous critique of Fitch's argument is presented by Edgington in her paper 'The Paradox of Knowability' and supported in detail in her paper 'Possible Knowledge of Unknowable Truth'. Edgington argues for a counter-example to (12)  $\forall p \neg \Diamond K(p \wedge \neg K p)$ : it is

possible to know something in the form of ‘ $p$  is true and  $p$  is unknown’, when  $p$  is a true proposition in a counter-factual possible world. As  $p$  is a counter-factual truth about a counter-factual possible world, it is possible that an agent in the real world can rationally grasp its truth if she takes truth about counter-factual possible worlds seriously. Therefore, while  $p$  being true in a particular counter-factual possible world, ‘ $p$  is true and  $p$  is unknown (in that possible world)’ is knowable to an agent in the real world.<sup>73</sup>

A compelling response to Edgington’s objection is developed by Williamson in his book *Knowledge and its Limits*. Williamson argues that there cannot be substantive knowledge in the form of ‘ $p$  is true and  $p$  is unknown’ of any counter-factual possible worlds by arguing that all of those propositions are trivial given the standard that knowing something true involves at least fit with data of one kind or another.<sup>74</sup> Edgington replies that knowing something of a counter-factual possible world could be non-trivial since there are non-trivial connections between possible worlds and the actual world.<sup>75</sup> However, connections between possible worlds and the actual worlds do not necessarily justify that proposition like ‘ $p$  is true and  $p$  is unknown in possible world  $a$ ’ is non-trivial knowledge in the actual world. Firstly, for any information of a possible world to be non-trivially meaningful to us, that possible world must be one of the possibilities for how the actual world could be, in other words, that information must be at least logically possibly true in the actual world. But it is not possible that ‘ $p$  is true and  $p$  is unknown’ is true the actual world. Secondly, even if ‘ $p$  is true and  $p$  is unknown in possible world  $a$ ’ is true, it is hard to believe that anyone in the actual world holding that proposition in fact knows it, since there can be no justification for that believing. Therefore, knowledge of a proposition which is impossibly true in the actual world is either trivial or not knowledge at all.

Moreover, what Edgington proves is that ‘it is possible to know that “it is possible that  $p$  is true and  $p$  is unknown”’, when ‘in a possible world that ...’ is converted to its semantic equivalence ‘it is possible that ...’, in logical form:

$$\exists p \diamond K \diamond (p \wedge \neg K p)$$

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<sup>73</sup> D. Edgington, ‘Possible Knowledge of Unknown Truth’, in *Synthese*, 2010, (1)173, pp. 42 – 43.

<sup>74</sup> T. Williamson, *Knowledge and its Limits*. Oxford: Oxford University Press, 2000, pp. 291 – 294.

<sup>75</sup> Edgington, 2010, pp. 46 – 47.

However this is not a counter-example to (12)  $\forall p \neg \diamond K(p \wedge \neg Kp)$ . For example, even if  $\neg \diamond Ka$  is true, it may still be physically possible that  $\diamond K \diamond a$  is also true; even if a proposition is unknowable, it is still possible to know that it is possibly the case that this proposition is true. If it is actually the case that it did not rain yesterday, then it will not be possible for anyone to know that it rained yesterday. But it is possible that someone knows that it could have been the case that it rained yesterday, since whether it did rain yesterday is contingent. Hence, for either reason, Edgington's objection does not work.

One implication of Fitch's argument is that Epistemic Constraint is not exhibited in most discourses. Generally speaking, the subjects of most discourses are about, or at least related to, facts about the actual world. This is obviously so for mainstream discourses: empirical science, theology, ontology and so on. Since it is obvious that there are unknown truths about the actual world in these discourses, by Fitch's argument, we know that there are unknowable truths about the actual world in these discourses. Since our discussion of the objectivity of discourse mainly focuses on assessing discourses about the actual world, it is plausible to assume the validity and soundness of Fitch's argument in our discussion.

If Fitch's argument about unknowability is sound, then it is plausible to argue that in any discourse where there are unknown truths, there will be unknowable truths. Since there are unknown truths in most discourses about the actual world where disagreements might happen, there are unknowable truths in most discourses. In this sense Epistemic Constraint can hardly be exhibited in any discourse which is dedicated to discover unknown truths. By contrast, discourses that exhibit Epistemic Constraint are inevitably trivial at a certain level because there are no interesting questions if all truths are already known. An example of such discourse is the  $u$  and non- $u$  discourse – an imaginary discourse in which everything is either  $u$  or non- $u$ , according to the stipulations of a governing authority. In that case, all truths about  $u$  and non- $u$  are known, yet hardly any interesting questions or arguments can be raised, and the discourse seems intuitively non-objective.

To give a brief summary of section 3.4: Epistemic Constraint cannot be held to be a criterion of objectivity if we want both *independence* and *convergence*. Apart from the apparent difficulty involved in applying Epistemic Constraint to the assessment of the objectivity of discourses, it seems that Epistemic Constraint tells us nothing about the relative objectivity of discourses. So we should not include Epistemic Constraint on our list of criteria. But Epistemic Constraint is essential to Wright's list. For one thing, Epistemic Constraint is presumed in the exhibition of Euthyphro Contrast; for another thing, Epistemic Constraint and

Cognitive Command are criteria representing the *convergence* direction of assessing objectivity. If Epistemic Constraint is to be dismissed from the list of features of objectivity for the mentioned reasons, we must first explain why the exhibition of Euthyphro Contrast is not dependent upon satisfaction of Epistemic Constraint; and, second, we must show that Cognitive Command is a sufficient, independent representation of *convergence*. I will address these issues in the following sections on Euthyphro Contrast and Cognitive Command.

### **3.5 Euthyphro Contrast**

Wright's Euthyphro Contrast, requires that, in a discourse that exhibits Epistemic Constraint: (a) a proposition is the best opinion in virtue of being true; and (b) it is not case that a proposition is true merely in virtue of being the best opinion. In this section, I will analyse Euthyphro Contrast and discuss the relation between Euthyphro Contrast and Epistemic Constraint. Then I will try to re-characterise Euthyphro Contrast as a criterion that represents the *independence* direction of assessing objectivity.

#### **3.5.1 Analysis of Euthyphro Contrast**

The original referent of 'the Euthyphro dilemma' is the ethical and theological dilemma posed by the question 'Is what is morally good commanded by God because it is morally good, or is it morally good because it is commanded by God?'. Wright uses the term 'Euthyphro Contrast' in his discussion of objectivity to designate the criterion that in an objective discourse, being the best opinion does not makes an opinion true; by contrast, what makes an opinion the best is because that opinion is true in the first place.<sup>76</sup>

Now what makes an opinion the best opinion in a discourse? I believe that there are a bunch of criteria that we can assess candidate opinions against, and that the opinion/opinions that exhibit most of these criteria to a greater extent are the best opinion/opinions. The activity of assessing and determining the best opinion among candidate opinions is the process of theory-

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<sup>76</sup> C. Wright, *Truth and Objectivity*, Cambridge: Harvard University Press, 1994, p. 108 – 111.

choice in a discourse; and criteria for theory choice are theoretical virtues such as simplicity, explanatory power, coherence, consistency with theories in other fields, fit with data, and so on and so forth.

And what makes an opinion the true opinion in a discourse? Often we do not have independent access to truth. Moreover, the concept of truth may vary dramatically in different discourses. Nonetheless, I believe that if we are going to distinguish between ‘being true’ and ‘being the best’, the most plausible way to go is to take ‘being true’ as one of the criteria we use to evaluate opinions in a discourse. And no matter which virtue it is, in an objective discourse, it must concern external facts.

Hence, the first half of Euthyphro Contrast – (a) a proposition is the best opinion in virtue of being true – can be interpreted as (a\*): one of the criteria (or one of the theoretical virtues) is a trump in the process of theory choice, and this criterion (or theoretical virtue) is concerned with external facts. And the second half of Euthyphro Contrast – (b) it is not case that a proposition is true merely in virtue of being the best opinion – can be interpreted as (b\*): the best exhibition of theoretical virtues in general does not necessarily make an opinion true. The idea of Euthyphro Contrast is that when a choice needs to be made between a theory which exhibits a theoretical virtue that concerns external facts, such as fit with data in physics, and a theory which is merely simple, self-coherent, concise, and consistent with other fields and so on, in an objective discourse we should always prefer the former one.

### **3.5.2 The Relation between Euthyphro Contrast and Epistemic Constraint**

Wright argues that a discourse must exhibit Epistemic Constraint before we can assess it by appeal to Euthyphro Contrast. According to Wright, if there is unknowable truth in a discourse, it is theoretically uninteresting whether a proposition is the best opinion in virtue of its truth, because there is no way to tell whether a proposition is the best opinion given there are always undiscovered truths that have not been taken into account.<sup>77</sup> By contrast, in a discourse exhibiting Epistemic Constraint, objectivity will be strengthened if what makes something the best opinion, given that it is true, is its truth. In this case, it is not merely being the best opinion that makes an opinion true.

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<sup>77</sup> Wright, 1994, pp. 92 – 94.

But what really happens in a discourse where all truths are knowable is this: the best opinion has to be true, because otherwise it won't be the best, given that the truth about a topic is knowable. It is impossible that one knows both a proposition and that proposition is not the best opinion. Moreover, truth about a topic has to be the best opinion, because there is no more to know that is relevant to that topic. Therefore, being the best opinion and being the truth are logically equivalent in a discourse that exhibits Epistemic Constraint. An immediate objection to Wright's conception of the Euthyphro Contrast is that there is no theoretical significance to the distinction between the best opinion and the truth. Theoretical virtues are exhibited together or not exhibited together, since it is both inapplicable and insignificant to assess the importance of different sets of virtues because there is indeed only one set of virtues, whichever theory exhibits one of them will exhibit all of them. And in that case, the theory that exhibits those virtues has to be both the best and the true proposition. Therefore Euthyphro Contrast is not really an independent constraint in a discourse that exhibits Epistemic Constraint.

Differently, if there are unknowable truths in a discourse, there will be real contrast between sets of theoretical virtues. We will never know whether the current best opinion is true or not, since there might always be further relevant information which has not been taken into account. The contrast concerns whether we count the current *best* theory as true theory merely because it is coherent, concise, and consistent with other fields, or whether we withhold our judgement until we have further information. In a discourse that exhibits Euthyphro Contrast, we do not take the current best opinion as being true just because it exhibits certain sets of theoretical virtues. And such exhibition brings that discourse to the objective end of the spectrum.

But what do we say to Wright's claim that the best opinion is undecidable in a discourse where there is unknowable truth? My suggestion is that, in a discourse where there is unknowable truth, we can still decide what the best opinion is *to us*, since once we recognize the limits of our knowledge we will recognize what is the best possible opinion about a certain topic within these limits. One might argue that we will never know what is unknowable, so that we will never know the best opinion within limits which cannot even be characterised. My answer is that on one hand, unknowability is a modal property, it requires that it is necessary that we do not have access to certain resource of knowledge, so we can at least partly characterise the limits of knowledge; in the other hand, we are at least entitled to decide the current limits of knowledge *to us*. Combining that information, it is possible that

we can legitimately decide the best opinion of certain topic in a discourse even if Epistemic Constraint is not exhibited.

Therefore, it is not clear that the exhibition of Epistemic Constraint should be taken as a restriction of exhibiting Euthyphro Contrast, as it makes more sense that a discourse is expected to be more objective if it exhibits Euthyphro Contrast while not exhibiting Epistemic Constraint. Therefore, we should reconceptualise Euthyphro Contrast by simply dropping the qualification:

Euthyphro Contrast: In an objective discourse, a true proposition is the best opinion because it is true; and it is not the case that the best opinion is true merely because it is the best.

Let K stands for known, B stands for being the best opinion, we have the exhibition of Euthyphro Contrast when it is true in a discourse that:

$$\forall p (Kp \rightarrow Bp) \ \& \ \neg \forall p (Bp \rightarrow p)$$

The second conjunct is equivalent to:

$$\exists p (Bp \ \& \ \neg p)$$

which means that there is some best opinion that is not true. If the best opinion in a discourse is not true, then we know that there is something that is unknown to us. If Fitch's argument about unknowability is sound – if it is not the case that everything is known, it is not the case that everything is knowable – then we have: in a discourse that exhibits Euthyphro Contrast, Epistemic Constraint is not exhibited. This conclusion is not very surprising, since our starting point is that Epistemic Constraint is a strong criterion representing the *convergence* direction of assessing objectivity; while Euthyphro Contrast represents the *independence* direction. And the long term debate between *convergence* and *independence* implies that many believe those theories are contrary (cannot be both true), and the criteria representing each of them cannot be both exhibited by the same discourse.

### 3.5.3 Re-characterizing Euthyphro Contrast

The language of Euthyphro Contrast still needs to be reformed. It is hard to apply a criterion with vague uses of ‘best’ and ‘true’ to evaluate the objectivity of a discourse. The essential requirement of the criterion is clear: (a\*) one theoretical virtue that concerns fact has to be a trump in the process of theory-choice; and (b\*) there is no necessary connection between being true and the best exhibition of theoretical virtues.

Indeed, (b\*) is an implication of (a\*). If one theoretical virtue trumps in the process of theory choice in a discourse, then preference of theories will depend on the exhibition of that single theoretical virtue instead of the best exhibition of a collection of general theoretical virtues. And therefore there cannot be necessary connection between best exhibition of theoretical virtues and truth.

That said, we might reconsider the language used in characterising Euthyphro Contrast for a better explanation of what is essentially required in an objective discourse. My suggestion is that, we may obtain a more readily applied criterion of objectivity if we focus on reasons rather than outcomes:

Euthyphro Contrast: In an objective discourse, a single theoretical virtue that concerns external facts (such as fit with data) is a trump in theory-choice.<sup>78</sup>

To sum up this section: exhibition of Euthyphro Contrast does not require exhibition of Epistemic Constraint. Indeed, if Fitch’s argument is sound, at least in most discourses the exhibition of Euthyphro Contrast entails that Epistemic Constraint is not exhibited. The criteria in Wright’s list are not independent of one another. Worse still, features representing *independence* and *convergence* contradict one another. If it is not possible for a discourse to exhibit features representing both *independence* and *convergence*, then a comprehensive consideration of objectivity is not substantively meaningful. I will address this issue after the analysis of another criterion representing *convergence*: Cognitive Command.

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<sup>78</sup> We use the collection ‘theoretical virtue that concerns external facts’ instead of specific theoretical virtue ‘fit with data’ in the criterion since that in some discourse this trumping theory might be slightly different from discourse to discourse. For example, one may think ‘has a valid proof’ is the equivalence in mathematics as a trumping criterion as ‘fit with data’ in physics.

### 3.6 Cognitive Command

Cognitive Command requires that in an objective discourse, cognitively flawless disagreement is ruled out *a priori*. Cognitive Command represents the *convergence* direction of assessing objectivity. But before we get into the controversy between *independence* and *convergence* related to Cognitive Command, we face an immediate objection: Cognitive Command is a trivial criterion.

In this section, I will clarify some concepts which are essential for characterizing Cognitive Command, especially flawless agent and flawless disagreement. Then I will discuss the logical relation between Cognitive Command and Epistemic Constraint. I argue that Cognitive Command is not a trivial criterion of objectivity for two reasons: first, Cognitive Command is not equivalent to Epistemic Constraint; second, Cognitive Command is much easier to apply than Epistemic Constraint.

#### 3.6.1 Concepts in Cognitive Command

‘Flawless disagreement’ is the most important term in the characterisation of Cognitive Command. In Wright’s formulation, ‘a discourse exerts Cognitive Command if and only if: it is *a priori* that differences of opinion formulated within the discourse ... will involve something which may properly be regarded as a cognitive shortcoming.’<sup>79</sup> Accordingly, being cognitively flawless means being innocent of any cognitive shortcoming. The definition of a flawless agent can be formulated as follows: an agent *A* is *cognitively flawless with respect to a proposition *p* made in a discourse *D** – i.e. *A* is fully competent in judging the truth-value of *p*, and discovering and judging the truth-value of all the implications of *p* – if and only if:

1. *A* is in perfect possession of all concepts in *D* which are relevant to asserting, and judging the truth-value, of *p*.

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<sup>79</sup> Wright, 1994, p. 144.

2. A is perfectly informed concerning all empirical information which is relevant to asserting, and judging the truth-value of  $p$ .
3. A is able to process all relevant information using all relevant concepts in order to judge the truth-value of  $p$ , and to detect its implications.
4. A is perfectly epistemically responsible, attentive, logical, rational, and sufficiently engaged in judging the truth-value of  $p$ .

If A is cognitively flawless with respect to a proposition  $p$  asserted in  $D$ , then it is not possible that A is cognitively at fault for the judgment she made about the truth-value of  $p$ .

A disagreement over  $p$  in  $D$  is said to be a cognitively flawless disagreement when there are two agents A and B, such that:

1. A and B are both flawless agents with respect to  $p$ .
2. A and B disagree on the truth-value of  $p$ .

Thus, if two agents are having a flawless disagreement, then it is not possible that either of them involves something which may properly be regarded as a cognitive shortcoming.

In both *a priori* and *a posteriori* cases, if an agent is said to be cognitively flawless with respect to a proposition, she is fully competent with respect to all concepts and terms used in the discourse in which the proposition is asserted. This could include different interpretations of predicates or quantifiers which might have multiple meanings in a certain language. For example, an ontological proposition ‘there is nothing on the table’ may have different meanings and truth-value as the predicate ‘thing’ can be interpreted differently in different languages. Suppose an agent checks with her unaided eyes and finds that there is nothing on the table. If ‘things’ means things that can be seen, as in daily language, she will judge that the truth-value of the proposition is true. But if ‘things’ means everything in general, as in some ontological discussions, she might judge that the truth-value of the proposition is false, as there are micro entities on the table that are not visible to unaided eyes. In this case, an agent is able to make flawless decisions about the proposition only if she is perfectly informed about all relevant interpretations of the predicate ‘thing’ used in asserting the proposition.

For empirical information, in *a priori* cases, an agent can be said to be logically perfectly informed concerning empirical information which is relevant to asserting a proposition and

judging its truth-value, when she is familiar with an appropriate amount of relevant empirical information. For instance, in mathematics, to flawlessly judge the truth-value of an ontological proposition ‘there is a prime number between 3 and 7’, besides conceptual information about numbers, an agent has to be familiar with natures, concepts and relevant empirical information (if any) concerning numbers that are relevant to decision of the truth-value of the proposition. In *a posteriori* cases, an agent can be said to be perfectly informed concerning empirical information that bears on a proposition only if she is familiar with all relevant empirical information. For example, in physics, in making a flawless judgment about the truth-value of the ontological proposition ‘there are six different kinds of quarks’, an agent has to be perfectly informed concerning all relevant physical facts about micro particles, even though this standard of ‘being perfectly informed’ might be far beyond human capacity for observation and experience. However, in some other cases, it seems that even limited information is enough for making flawless judgments. For example, an ontological proposition ‘there is at least one kind of quark’ can be flawlessly judged even if an agent is only fully informed about the existence and nature of one kind of quark. Being perfectly informed with all relevant empirical information seems to be unnecessary for an agent to be flawless. In that case, I believe, the ontological proposition in question is by nature flawlessly judged by limited empirical information. It is plausible to claim that in many cases, exhaustively relevant empirical information is required to make a judgment concerning the truth-value of an ontological proposition; but the competence of an agent to move from a proposition to a decision on its truth-value can vary from case to case in different discourses which assume different ontological frameworks/commitments.

For being flawless in judging a proposition, an agent also needs to be cognitively fully rational. Nevertheless, it seems that in some cases arational factors, such as personal taste, are inevitably involved in making a decision. For example, if one has to judge the truth-value of a proposition ‘there is a kind of fish which is tastier than salmon’, while in possession of all relevant conceptual and empirical information informed, one might still need to apply subjective factors to make a decision. In that case, however, an agent is said to be flawless with respect to the proposition even if some of her subjective factors are involved in the decision-making process, since the proposition itself is not a completely objective assertion. Nevertheless, being fully epistemically rational is intuitively an important matter in discussions that are dedicated to pursuing mind-independent truth.

A disagreement about the truth-value of a proposition between two flawless agents is not necessarily flawless. Besides being flawless with respect to the proposition, agents also have

to be fully imaginative, sincere and open-minded regarding their dispute.<sup>80</sup> Superficial agreements and disagreements are ruled out by the flawless agents' information concerning each other's terms and concepts. If disagreement still remains, it will be plausible to claim that the disagreement between those two flawless agents is flawless, and flawless disagreements must be non-trivial.

### 3.6.2 Logical Relation between Cognitive Command and Epistemic Constraint

Cognitive Command is believed to be trivial by Shapiro and Taschek (1996) because it is a logical implication of Epistemic Constraint. Shapiro and Taschek suggest that in a discourse that exhibits Epistemic Constraint, at least one of the disputants in a substantive disagreement must involve epistemic shortcoming, given not only that she believes something false, but also that evidence of the negation of what she believes is cognitively available.<sup>81</sup> It follows that in a discourse that exhibits Epistemic Constraint, Cognitive Command must be exhibited. Hence Cognitive Command is not an independent criterion. Shapiro and Taschek's argument runs as following:

1. For any proposition S, if S then S is knowable. (Epistemic Constraint) (Premise) [1]
2. Subject A sincerely believes P, subject B sincerely believes  $\neg P$ , and neither A nor B have any cognitive shortcomings, nor have they less than fully exercised their cognitive capacities. (Premise) [2]
3. Suppose P. (Assumption) [3]
4. It is knowable that P. From 1 & 3 [1, 3]
5. Subject B has come to believe something that is not only false but is the negation of something knowable. From 2 & 4 [1, 2, 3]

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<sup>80</sup> This requirement is especially important when two agents independently decided to use languages with different ontological frameworks in an ontological debate. In that case, for the disagreement to be flawless, both agents have to not only fully grasp the concepts and notions of the other's proposition to make a perfectly non-hostile translation (if possible) into their own language, but also have to try to do their best to present enough information about their proposition for the other to have a perfectly non-hostile translation.

<sup>81</sup> Shapiro and Taschek, 1996, p. 84 – 85.

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| 6. B has a cognitive shortcoming.  | From 5 [1, 2, 3]     |
| 7. Contradiction.  | From 2 & 6 [1, 2, 3] |
| 8. $\neg P$  | From 4-7 [1, 2]      |
| 9. It is knowable that $\neg P$ .  | From 1 & 8 [1, 2]    |
| 10. Subject A has come to believe some-<br>thing that is not only false but whose<br>negation is knowable. | From 2 & 9 [1, 2]    |
| 11. A has a cognitive shortcoming.   | From 10 [1, 2]       |
| 12. Contradiction  | From 2 & 11 [1, 2]   |
| 13. EC is inconsistent with the premises because of the failure of from 1-12.                              |                      |
- Therefore, Cognitive Command must be exhibited.<sup>82</sup>

One might reject this line of reasoning by emphasizing that Cognitive Command requires flawless disagreement to be ruled out *a priori*: showing that flawless disagreement is ruled out in a discourse that exhibits Epistemic Constraint does not necessarily mean that it is ruled out *a priori*. However, according to Shapiro and Taschek, there is no *a posteriori* factor in this argument. Premise one is Epistemic Constraint, premise two is an instance of a possible flawless disagreement in the presumed discourse. Excluded Middle is not presumed in the lines of reasoning. The argument presents that if Epistemic Constraint is exhibited in a discourse, Cognitive Command must be exhibited, no matter what conditions govern the exhibition of Epistemic Constraint.<sup>83</sup> That is how Shapiro and Taschek believe Cognitive Command can be trivialized.

However it does not follow that the exhibition of Cognitive Command is equivalent to the exhibition of Epistemic Constraint. Although the exhibition of Epistemic Constraint implies the exhibition of Cognitive Command, the exhibition of Cognitive Command does not imply the exhibition of Epistemic Constraint.

One consideration is that a discourse might exhibit Cognitive Command in virtue of not exhibiting Epistemic Constraint. Flawless agents are ruled out *a priori* in a discourse where for controversial propositions there is some relevant information that is unknowable. If there

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<sup>82</sup> Shapiro Taschek, 1996, p. 85.

<sup>83</sup> Shapiro Taschek, 1996, p. 86.

can be no flawless agent, there can be no flawless disagreement. Another more complex case is that flawless agents with respect to a proposition are possible but flawless disagreements on that proposition are ruled out. Suppose that in a discourse that exhibits Cognitive Command, there is a proposition,  $p$ , such that the truth-value of  $p$  is ‘determinately indeterminate’. It is only true to believe that  $p$  is neither true nor false, and it is false to believe either that  $p$  is true or that  $p$  is false, due to the lack of evidence or the lack of determinate reference of concepts to judge the truth-value of  $p$  in that discourse. Two cognitively flawless agents, A and B, will eventually converge on a certain truth-value of any assertion/proposition other than  $p$  of that discourse if that assertion/proposition is either determinately true or determinately false. Furthermore, given that nothing else would affect  $p$ ’s truth-value judgement other than insufficiency of information, A and B will also converge on the claim that the truth-value of  $p$  is determinately indeterminate, rather than disagreeing about  $p$ ’s truth-value because of the indeterminacy. It might be suggested that in many cases of *a priori* discourses, people dispute about the truth-value of a proposition because the concepts alone do not determine the truth-value of that proposition. It follows that when Epistemic Constraint is not exhibited, nor is Cognitive Command. This line of reasoning, I believe, although valid, does not support the claim that Cognitive Command is trivial. Exhibiting Cognitive Command requires flawless disagreements to be ruled out *a priori*. And being flawless with respect to a proposition requires an agent to be completely informed with all available concepts, implications and reasons of that proposition whichever is available in a discourse. Now, consider a flawless agent, A, who holds that  $p$  is true, and who is completely informed not only about her reasons for holding that  $p$ , but also her disputant B’s reason for holding that  $\neg p$ . Due to lack of available evidence, A cannot decide whether B’s reasons for holding  $\neg p$  are not true. However, since B is also a flawless agent, A can reasonably believe that B is no less well informed about all available concepts than she is, and that B makes no mistake in holding that  $\neg p$  on the basis of those concepts. Given all this, and supposing that caution is a theoretical virtue for the discourse – since divergence of intuitions is not part of the reason of indeterminacy – A will have good reasons to take an epistemic conciliationist view and withhold her original belief about  $p$ . And, as to the parallel epistemic standing of B, A and B will eventually reach agreement that the truth-value of  $p$  in the discourse is indeterminate.

The logical relation between Epistemic Constraint and Cognitive Command suggests that Cognitive Command does not imply Epistemic Constraint; therefore, it is not the case that all truth has to be known in a discourse that exhibits Cognitive Command. This is actually a relief for *convergence* since it indicates that an objective discourse in terms of *convergence* is not necessarily trivial. Moreover, given that exhibition of Cognitive Command is implied by

the exhibition of Epistemic Constraint, it follows that Cognitive Command is a stronger criterion of non-objectivity than Epistemic Constraint. If the anti-realist also has the burden of proof,<sup>84</sup> it surely indicates that a discourse is more non-objective by arguing it does not exhibit Cognitive Command than arguing it does not exhibit Epistemic Constraint.

### 3.6.3 Exhibition of Cognitive Command

Another reason for believing Cognitive Command is a useful criterion of objectivity is that Cognitive Command is comparatively more applicable in assessing the objectivity of discourses. As discussed in section 4, Epistemic Constraint is often hard to apply. By contrast, the exhibition and non-exhibition of Cognitive Command has a much clearer border. In this section, I will address this by presenting some examples of discourses exhibiting and not exhibiting Cognitive Command in both *a posteriori* and *a priori* cases.

The first category of cases where Cognitive Command is exhibited is discourses that exhibit Epistemic Constraint. In both *a posteriori* and *a priori* cases, a discourse can be forced to exhibit Cognitive Command when all truths are known. As shown in Shapiro and Taschek's argument, at least one of the participants in a disagreement about the truth-value of a proposition, where either it or its negation is known, must have cognitive shortcomings. Therefore flawless disagreements must be ruled out *a priori*. Since all truths are known in those discourses, their scope is often fairly limited. An example of an *a posteriori* discourse is a discussion about the question of how many chairs there are in the dining room, where the time and location of the dining room is designated and there is no ambiguity in concepts such as what is a chair. In this tiny discourse no truths are unknowable and unknown, flawless agents must agree on the truth-value of any proposition posed on the subject of the numbers of chairs in the dining room within the discourse. An example of an *a priori* discourse is as mentioned, a discussion on whether a thing is *u* or non-*u*. Nothing is unknown in that discourse as all truths are arbitrarily stipulated. Flawless disagreements are ruled out *a priori*

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<sup>84</sup> In *Truth and Objectivity*, Wright argues that discourses start from the anti-realist position and gain their objectivity by exhibit criteria. However, it is not so clear why we should not evaluate the objectivity of a discourse from a neutral start: a discourse moves towards the objective end by exhibiting some criteria, and moves to the non-objective end by exhibiting some other criteria. In this paper, I won't argue for this seemingly obvious but not-so-much-to-say position, as where we start does not really affect the final decision on where we pin down a discourse on the spectrum of objectivity.

since flawless agents cannot possibly disagree on whatever is decided to be truth within the limitation of discourse. Another example for *a priori* cases is a discourse in which the only subjects are truths presented in a fiction. The only truths are literally there in the fiction and hence are all known (ignoring the ‘importable’ truths – truths that are not explicitly stated in the fiction but are nonetheless taken to be true in the fiction, typically including logical truths, mathematical truths, metaphysical truths, some natural truths and so on). Again flawless agents can not disagree but the range of truths is narrow. Obviously, although those discourses exhibit Cognitive Command, the narrowness of the range of truths takes away from the significance of the resulting objectivity.

The second category of cases where Cognitive Command is exhibited is discourses that do not exhibit Epistemic Constraint. As discussed in the last section, a discourse may exhibit Cognitive Command when there can be no flawless agent due to the lack of relevant knowable information to judge the truth-value of propositions. This scenario normally happens in complex *a posteriori* discourses such as empirical science. Presumably there can always be deeper and unknown facts of reality which are seemingly indeterminate under the best observational technique at any given time. In that case, strictly speaking, an agent who disagrees with her epistemic peer does not have sufficient reason to believe that either she or her epistemic peer is flawless with respect to indeterminate propositions. Flawless disagreements are thus ruled out in this strict sense. Empirical sciences with unsolved questions might serve as examples for the purpose of explaining this kind of situation. In the debate about quantum mechanics, due to the lack of *a posteriori* evidence, empirical information is not completely available for a perfectly rational agent to make judgements on propositions concerning the nature of uncertainty. Hence, an agent cannot legitimately believe that she or her epistemic peer is flawless with respect to the proposition ‘uncertainty is part of the structure of reality’, even if he has acquired all available relevant conceptual and empirical information, is familiar with the relevant experimental processes, and understands the validity of the inference behind the theories, and so on. Thus, before the discovery of new expected empirical evidence, although neither of the two perfectly rational agents should suspend judgement on the truth-value of the proposition in question, Cognitive Command is not breached since neither of them is a flawless agent. Therefore flawless disagreements are ruled out *a priori* since flawless agents are ruled out *a priori*.

Another case is that a discourse may exhibit Cognitive Command when there can be flawless agents but flawless agents will reasonably withhold their beliefs when there are disagreements. This scenario often happens in complex *a priori* discourses, such as discourses under certain

subjects in mathematics, where epistemic conciliationism is reasonably held. In those cases, there can be a proposition with a ‘determinately indeterminate’ truth-value, and the indeterminacy is rooted in nothing but the *a priori* and necessary lack of evidence and references of concepts in that discourse. Two cognitively flawless agents, A and B, will eventually converge on the truth-value of that proposition. Convergence of disputing flawless agents to indeterminacy requires an epistemic conciliationist position, which requires an agent to suspend judgement when she has sufficient reason to believe her epistemic peer makes a judgement opposite of hers. Withholding judgment but converging on the indeterminacy of the Continuum Hypothesis in maths is one example of how a discourse may exhibit Cognitive Command in this case.

However, epistemic conciliationism is not a necessary theoretical virtue in a discourse that does not exhibit Epistemic Constraint. If an agent believes that her opponent disagrees because she lacks knowledge, and she also believes that knowledge is not unknowable, then she might legitimately continue holding her original belief until expected new knowledge becomes available. In other words, she is entitled to hold an epistemic steadfast position. This scenario often happens in *a priori* discourses which do not exhibit Cognitive Command. In an *a priori* discourse, Epistemic Constraint is not exhibited as there are unknowable conceptual truths which are needed for perfectly rational agents to judge the truth-values of some propositions. The only possibility for a perfect rational agent to be steadfast in her belief, when her epistemic peer disagrees with her, is that their disagreement is grounded in something more than just available conceptual knowledge. This ‘something’ might include intuitions, internal consistency with her other beliefs, external consistency with other fields that she is familiar with, and so on. Notice that relevant truths are not all available *a priori*; thus our perfect agent and her epistemic peer are both entitled to believe they are at least relatively cognitively flawless with respect to any proposition made within the discourse. Of course, it could be the case that the disagreement between them is just verbal, since concepts are not completely fixed due to the lack of conceptual truths. However, if the disagreement is not verbal, it is reasonable to believe that flawless disagreement is possible in that discourse. Hence Cognitive Command is not exhibited in an *a priori* discourse where Epistemic Constraint is not exhibited, when there are substantive disagreements between flawless agents.<sup>85</sup>

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<sup>85</sup> Potential examples for this scenario are discourse of morality, aesthetics, the comic, and so on.

There are other cases where Cognitive Command is exhibited or is not exhibited in both *a posteriori* and *a priori* discourses, and mostly the nature and intrinsic reasons of those exhibitions can be reasonably explained. Unlike Epistemic Constraint, Cognitive Command is applicable to most discourses and the exhibition of Cognitive Command represents *convergence* as a direction of assessing objectivity much better than Epistemic Constraint.

To summarise this section, Cognitive Command is introduced as a plausible criterion of objectivity. One weakness of Wright's list, observed by Stewart Shapiro and William Taschek, is that the exhibition of Cognitive Command in a discourse is a logical implication of the exhibition of Epistemic Constraint in that discourse. For a discourse to exhibit Epistemic Constraint, all truths are known; and if an agent is flawless, then the agent is able to grasp all relevant knowledge in such discourse. So, if two agents disagree about a particular proposition, one of them must lack possible knowledge. The disagreement is thus not cognitively flawless. Hence, cognitively flawless disagreement is ruled out *a priori* in any discourse that exhibits Epistemic Constraint.

However, Cognitive Command remains non-trivial for the reason that the exhibition of Cognitive Command does not imply the exhibition of Epistemic Constraint. First, it does not follow from Cognitive Command that all truths are known; Second, Cognitive Command is a stronger criterion for non-objectivity. Moreover, there are clear cases in which Cognitive Command is exhibited, and there are clear cases in which Cognitive Command is not exhibited. Finally, Cognitive Command is less controversial than Epistemic Constraint for expressing objectivity in the direction of *convergence*. Thus, even if it is inevitable that we have to give up on Epistemic Constraint (for whatever reasons), the direction of *convergence* will be safe for having Cognitive Command.

### **3.7 A Reasonably Comprehensive Consideration of Objectivity**

So far we have established two logical relations among criteria in Wright's list: First, the exhibition of Epistemic Constraint entails the exhibition of Cognitive Command; second, the exhibition of Euthyphro Contrast entails that Epistemic Constraint is not exhibited. One might suggest that those relations indicate that the two directions of assessing objectivity are contrary, as Epistemic Constraint has to be not exhibited in an objective discourse according

to *independence*, and Epistemic Constraint has to be exhibited in an objective discourse according to *convergence*. The logical relations among these three criteria show that no discourse can exhibit all of them. Therefore, there can be no comprehensive consideration of objectivity in that sense.

I argue that, nonetheless, a reasonably comprehensive and coherent consideration of objectivity is possible. This consideration may include criteria representing both *independence* and *convergence*; and it should include criteria representing both *independence* and *convergence*.

First, there is no actual logical contradiction between Cognitive Command and Euthyphro Contrast. The logical relations among Epistemic Constraint, Cognitive Command and Euthyphro Contrast can be conclusively characterised as follows:

- (1) Epistemic Constraint entails Cognitive Command and Euthyphro Contrast entails rejection of Epistemic Constraint.
- (2) Epistemic Constraint and Cognitive Command are not equivalent, since Cognitive Command does not entail Epistemic Constraint.
- (3) Euthyphro Contrast and denial of Epistemic Constraint are not equivalent, since rejection of Epistemic Constraint does not entail Euthyphro Contrast.

Hence, when Epistemic Constraint is exhibited in a discourse, the exhibitions of Euthyphro Contrast and Cognitive Command are contrary. In fact, Cognitive Command has to be exhibited and Euthyphro Contrast cannot be exhibited in that discourse. By contrast, when Epistemic Constraint is not exhibited in a discourse, there are various possibilities for the exhibition of Euthyphro Contrast and Cognitive Command. The following diagram shows the possibilities that a discourse exhibits or does not exhibit those three criteria:

	Exhibiting Epistemic Constraint	Exhibiting Euthyphro Contrast	Exhibiting Cognitive Command
Discourse 1	Yes	No	Yes
Discourse 2	No	Yes	Yes
Discourse 3	No	Yes	No
Discourse 4	No	No	Yes
Discourse 5	No	No	No

The diagram clearly shows that the exhibition of Euthyphro Contrast and the exhibition of Cognitive Command are not logically contradictory. Indeed, since Euthyphro Contrast and Cognitive Command can stand in all four possible sets of truth-values, it is plausible to argue that they are independent. One might suggest that this diagram shows that they are only independent under the circumstance that Epistemic Constraint is not exhibited in a discourse. But this is a mistake in understanding logical relations. Suppose we have a set of three propositions A, B and C, related in such a way that  $A \vdash B$ ,  $A \vdash \neg C$ , and  $\neg(B \vdash A)$ . It is possible that B and C are independent even though neither is independent of A. For example, let A be 'Everything is red', let B be 'Apples are red', and let C be 'Bananas are yellow'. Obviously, 'everything is red' entails that 'Apples are red', but 'Apples are red' does not entail that 'Everything is red'. And 'Everything is red' entails that it is not the case that 'Bananas are yellow'. However we do not say that the two contingent facts 'Apples are red' and 'Bananas are yellow' are independent only if it is not the case that 'Everything is red'. The logical relation between B and C is determined to be independent when all four possible combinations of truth-values can obtain, and it is a different story whether or not A does not hold.

Therefore, the exhibitions of criteria representing *independence* and *convergence* are logically independent in a discourse. It is possible and reasonable to have them both in a reasonably comprehensive consideration of assessing objectivity.

Second, a reasonably comprehensive consideration of objectivity should include both *independence* and *convergence*, since both *independence* and *convergence* are necessary for defining objectivity. Here I illuminate this necessity with some discourses that do not exhibit one of those criteria, and the non-exhibition of those criteria is the very reason that their objectivity is questioned. One case is the *u* and non-*u* discourse, in which the basic truths concern only whether things are *u* or non-*u*, where being *u* or non-*u* is a completely arbitrary stipulation. Euthyphro Contrast is not exhibited since there is no fact-related criterion in the process of theory-choice. There is no independent truth for the proposition 'black tea is a *u*-thing', as the only truth-maker is that an arbitrary stipulator announced in a noble round-table conference that black tea is a *u*-thing. However, what, if anything, is to prevent someone from questioning why this arbitrary stipulator's announcement about the *u* and non-*u* distinction is true? The best known suggestion is that the discourse is so narrow that the only discussion that is allowed is whether or not a thing is a *u*-thing, so no further question is to be asked. We have a strong intuition that *u* and non-*u* discourse is not very objective. The intrinsic reason that the discourse is not objective is that no independent truths exist in such a trivial discourse.

It then seems that a criterion that represents *independence* is necessary for the characterisation of objectivity.

Another case is the discourse of morality, in which Cognitive Command is not exhibited. The fact is that the discourse of morality has been criticised for making no progress for a long period. The main reason suggested is that people discussing morality have not and – probably will never – converge on any major topics, such as what are the moral concepts of right or wrong, what are the moral concepts of good or bad, and so on. People who believe that this gives us good reason to think the discourse of morality is trivial and/or non-objective are normally referred to as moral anti-realists. People who try to defend morality against this charge are normally referred to as moral realists. There is a huge literature on this topic. But what interests us is that both moral anti-realists and moral realists take the fact that there is barely any convergence about moral concepts in moral discourse very seriously. It actually indicates that, intuitively, convergence of rational participants is essential for the objectivity of a discourse. While there are moral realists who admit that moral discourse lacks convergence, and think that the lack of convergence does not necessarily makes the moral discourse trivial, they would also accept that exhibiting convergence is desirable for the moral discourse to be more objective. Therefore, a criterion that represents *convergence* is necessary for the characterisation of objectivity.

Therefore, a reasonable consideration of objectivity shall be comprehensive and include criteria in both directions.

Forming a reasonably comprehensive consideration including both independence and convergence is achievable. One way to do so is to give up Epistemic Constraint as a criterion of objectivity. In the proceeding discussion, we have shown that Epistemic Constraint is not a usable criterion for evaluating objectivity, especially when compared to Cognitive Command. Also, because it has its own problems – e.g. the triviality of discourses exhibiting Epistemic Constraint, as shown by Fitch’s argument – Epistemic Constraint does not seem to serve as an effective criterion even on the *convergence* side. Hence, it seems that a reasonable way to reach a comprehensive consideration of objectivity is for the *convergence* side to give up on Epistemic Constraint.

However, it might be suggested that Cognitive Command is insufficient to represent *convergence*. One might think that *convergence* requires not only flawless agents to reach agreement, but also that what flawless agents agree on is determinately true. If flawless agents

can agree on the truth-value of every proposition in a discourse, then there must be no unknowable truth in that discourse. I disagree with at least the premise of this argument, since reaching agreement does not require the subject to be determinately true. In many discourses, we take epistemic conciliation as a theoretical virtue. An agent disagreeing with her epistemic peer – who is no less rational and no less informed than her – has good reason to withhold her belief. In those discourses, it is possible for flawless agents to converge on determinacy of attitudes towards a proposition rather than on determinate truth-values, which leaves space for those discourses to exhibit Cognitive Command while not exhibiting Epistemic Constraint. If convergence does not have to go with determinacy, then Epistemic Constraint can be easily given up on the *convergence* side.

The conclusion we reach in this section is that a reasonable comprehensive consideration of objectivity is possible and demanded. A plausible way to achieve such a list of criteria is to give up on Epistemic Constraint.

### **3.8 Explanatory Depth, Wide Cosmological Role and Data Sensitivity**

Explanatory Depth requires that in an objective discourse, the explanation of truth involves facts about the deep structure of the world, and not just in correspondence with the minimal truth platitudes of that discourse. Explanatory Depth represents the consideration of objectivity that concerning deep facts of the actual world makes a discourse more objective; thus, the truth condition should not simply involve fact of semantic meanings but also facts of deep structure of reality.

In this section, I will discuss the virtues and some difficulties of Explanatory Depth and another consideration of objectivity that expresses the same intuition, namely Wide Cosmological Role. I will propose a new criterion of objectivity – Data Sensitivity –which expresses the virtue of Explanatory Depth and Wide Cosmological Role, but with better applicability. Finally I will discuss some merits of having Data Sensitivity in our criteria of objectivity.

### 3.8.1 Difficulties and Virtues of Explanatory Depth and Wide Cosmological Role

There seems to be difficulties in understanding the notion of ‘deep structure of the world’. Metaphysical realists tend to believe that the world must have a structure. For example, Sider argues that the world cannot be a structureless blob, and the aim of ontology is to describe that structure in detail, or in other words, ‘carve nature at the joints’.<sup>86</sup> But even if this is true, it is not clear what is to be counted as facts about the deep structure in this context. Are microcosmic facts ‘deeper’ than macrocosmic facts, so knowledge of matters on the nuclear level is deeper than knowledge of matters on the molecular level? Are common-sense linguistic facts ‘deeper’ than strange linguistic facts, so truth about blue and green expresses truth of ‘deeper’ structure of reality than the truth of ‘grue’ and ‘bleen’ expresses? Are empirical facts ‘deeper’ than semantic facts, so discourse about the truth-values of synthetic propositions is more substantial than discourse about the truth-values of analytic propositions?

Furthermore, it is often difficult to apply Explanatory Depth in evaluating the objectivity of a discourse when its propositions aim to concern facts about the deep structure of the world. For example, it is hard to deny that mathematics aims to explain deep structure, and it is also hard to deny that it goes far beyond minimal truth in its explanation of facts. However, it is doubtful that there are deep structural facts involved in mathematical explanations. A similar problem arises when we apply Explanatory Depth to most main-stream *a priori* discourses – such as logic and ethics – and even when we apply it to some *a posteriori* discourses – e.g. law, linguistics and social science. Do they fail to exhibit Explanatory Depth just because it is hard to decide whether the truths concerned in those discourses are deep enough? Or do they exhibit Explanatory Depth just because they are intended to explain something deep?

Despite those difficulties, Explanatory Depth does express one of the strongest intuitions about objectivity: discourses which concern empirical facts seem to give more respect to objective truths than discourses which concern analytical facts alone. In other words, if the truth-maker in a discourse substantively corresponds to what is real in the actual world, we seem to have good reason to believe that discourse is more objective than otherwise.

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<sup>86</sup> Sider, 2009, p. 418.

Another expression that Wright uses to express a similar point is ‘Wide Cosmological Role’. According to Wright, ‘the width of cosmological role of the subject matter of a discourse is measured by the extent to which citing the kinds of states of affairs with which it deals is potentially contributive to the explanation of things other than, or other than via, our being in attitudinal states which take such states of such affairs as object.’<sup>87</sup> Wide Cosmological Role requires that in an objective discourse, truths have to correspond with a wide range of external facts.

However the extent of citations does not seem to be a very good measurement of the objectivity of a discourse. First of all, the extent of citation does not necessarily decide how objective a discourse is; secondly, *ceteris paribus*, it is hard to say that the width of cosmological role will make a discourse more objective than another. For example, consider a comparison between astrophysics and astrology. Astrophysics is the study of the natures of the stars, planets, and other natural objects in space; while astrology is the study of the natures of the planets, sun, moon, and stars and the relation between their movement and what happens on the earth, e.g. in people’s lives. It seems that the extent of citation of astrology is of a wider range than what is taken into account in astrophysics, however, this does not grant astrology a higher degree of objectivity than astrophysics. It might be suggested that the propositions made in astrology are false, but that does not make the discourse necessarily less objective. In general, astrologists make two kinds of claims: those are evidently false; and those are unfalsifiable with external evidence. A significant reason for the intuition that astrophysics is much more objective than astrology is that even though the extent of citation is wider in astrology, the truth of theories in astrology is not sensitive to the extent of citation the discourse concerns. Therefore, being concerned with a wider domain of states of affairs does not necessarily make one discourse more objective than another.

Nonetheless, Wide Cosmological Role represents a plausible intuition about objectivity in that discourses which advert to many empirical facts seem to give more respect to objective truths than discourses which advert to very few facts. In other words, if the truth-maker for a discourse substantively corresponds to massive facts in the actual world, we seem to have good reason to believe that discourse is more objective than the discourse which has a truth-value that substantively adverts to very few facts in the actual world.

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<sup>87</sup> Wright, 1994, p. 196.

To sum up: Explanatory Depth and Wide Cosmological role respectively express plausible intuitions about objectivity. Explanatory Depth focuses on correspondence to empirical facts while Wide Cosmological Rule focuses on correspondence to many kinds of facts. However, neither of these characterizations provides enough precision to yield a criterion for assessing the objectivity of a discourse. We need a criterion that captures the spirit of both Explanatory and Wide Cosmological role and that is practically applicable.

### **3.8.2 Data Sensitivity**

To meet this demand, I propose a new criterion to replace Explanatory Depth in Wright's list:

- (3) Data Sensitivity: In an objective discourse, truths are sensitive to wide range of empirical data.

Obviously 'being sensitive to empirical data' is the most important notion that needs to be explained in this characterization. One requirement on truth in a discourse, if it is sensitive to empirical data, is that explanation of truths in that discourse adverts to empirical facts. Another requirement is that a theory in a discourse can make predictions that are testable against empirical data; in other words, theories are at least falsifiable by empirical data. Furthermore, a significant feature that needs to be mentioned is that being sensitive to empirical data is not a yes-or-no criterion; discourses exhibit it in terms of levels. Sensitivity to empirical data of a discourse can be assessed in terms of the proportion of empirical data to which explanation of truths adverts, and the width of empirical of data to which predictions of a theory can be tested against.

There are three major benefits of adding Data Sensitivity to our list of criteria of objectivity. Firstly, Data Sensitivity captures the intuitions about objectivity that are essential to Explanatory Depth and Wide Cosmological Role. Secondly, Data Sensitivity is an applicable criterion for evaluating discourses. Thirdly, unlike the criteria we considered to be plausible so far – namely Euthyphro Contrast and Cognitive Command – Data Sensitivity brings degrees of exhibition into the account of objectivity, which corresponds to our demand of a set of criteria for degrees of objectivity at the first place. I shall address each of these benefits in turn.

To begin with, we have already noted that the intuition expressed in Explanatory Depth is that in an objective discourse, the explanation of truth corresponds to empirical facts; and we have already noted that the intuition expressed in Wide Cosmological Role is that in an objective discourse, the range of empirical data of that correspondence is wide. If we take a discourse that exhibits Data Sensitivity to a high level, truth in that discourse is required to be sensitive to wide range of empirical data. It is thus the case that in that discourse, the explanations of truths correspond to a significant range of empirical facts, and theories in that discourse can make predictions that are testable against wide range of empirical data, which exactly expresses the intuitions behind Explanatory Depth and Wide Cosmological Role. On the other hand, if we take a discourse that exhibits Data Sensitivity to a low level (or barely exhibits, if at all), the explanations of truth in that discourse will have little connection to empirical data, and theories in that discourse will either be testable against very limited empirical data or theories in that discourse will not be testable against any empirical data at all. One might suggest that in the characterisation of Data Sensitivity, the two requirements we mentioned are in a conjunctive relation, and that when Data Sensitivity is not exhibited, only one requirement needs to be violated. However, as the exhibition of Data Sensitivity is not a yes-or-no factor, to say a discourse barely exhibits Data Sensitivity is to say that discourse barely meets either of the requirements. If a discourse meets one requirement highly and meet the other poorly, we say its exhibition of Data Sensitivity is medium.

Data Sensitivity is a feasible criterion to apply in assessing objectivity. For example, it is obvious that the explanations of truths in scientific discourses draw more heavily on empirical data than explanation of truths in mathematics. And it is also obvious that theories in astrophysics are much more open to testing against empirical data than theories in astrology. Data Sensitivity distinguishes different levels of objectivity in more complex cases. For example, physical and ontological theories are both supposed to be consistent with current empirical data; however, the sensitivity of physics and ontology with respect to empirical data can be differentiated. In physics, a theory that predicts the movement of electrons is said to be highly sensitive to empirical data, since contradictory experimental facts will directly falsify the theory. By contrary, in ontology, a theory that describes the structure of the empirical world is often not very sensitive to empirical data, since it may not be possible for it to be falsified by any new empirical discoveries, as ontological theories barely have any distinctive empirical consequences.

Finally, according to the characterisations, Cognitive Command is a universal statement and Euthyphro Contrast is an existential statement, which means both of them can only be either

fully exhibited or fully not exhibited, with no middle ground. Although multiple criteria already make different levels of objectivity possible, criteria like Cognitive Command and Euthyphro Contrast provide very limited space for distinctive levels. By contrast, proportion and width of empirical data in the characterisation of Data Sensitivity provides a considerable range of variation in degrees of satisfaction. Those degrees are so fine such that even two discourses have almost the same major topic, objects, basic methodology, subject matters, and so on – for example, astrology and astrophysics – can be awarded different levels of objectivity via appeal to Data Sensitivity.

To conclude: Explanatory Depth and Cosmological Role are criteria which plausibly express foundational intuitions of objectivity, but both are hard to explain and to apply. Data Sensitivity should be adopted to the list of criteria of objectivity since it not only captures the intuitions behind Explanatory Depth and Cosmological Role, but also is more practical to apply and grounds desirable degrees of objectivity.

### 3.9 Conclusion

Given our discussions of different features of the characterisations of discourses, and of the distinction between *a priori* and *a posteriori* discourses, it seems plausible to argue that meta-discussion of a certain set of propositions is just discussion of the objectivity of an *a priori/a posteriori* discourse to which those propositions belong. However, it seems wrong to maintain that it is a yes-or-no question whether discourses are objective, since it might be that, while one discourse D1, is more objective than a second discourse D2, neither D1 nor D2 can be clearly labelled ‘objective’ or ‘non-objective’. I suggest that that, instead of being exclusively divided into two camps, discourses may spread in a spectrum or a continuum of objectivity.

It is legitimate to evaluate the objectivity of discourses using multiple criteria. There are two seemingly contrary directions to the assessment of objectivity: *independence* and *convergence*. *Independence* is the intuition that truths are independent from what we think in an objective discourse, and *convergence* is the intuition that perfectly rational minds should converge in an objective discourse. We have analysed the first attempt at a comprehensive consideration of criteria for objectivity, namely Crispin Wright’s list in *Truth and Objectivity*: Epistemic Constraint, Cognitive Command, Euthyphro Contrast, and Explanatory Depth.

After characterizing these criteria, we addressed a range of important issues of them. Some considerations – including Fitch’s argument – suggest that Epistemic Constraint should not be taken as a legitimate criterion of objectivity, for lack of applicability. Other considerations establish that Euthyphro Contrast need not presume exhibition Epistemic Constraint. Further considerations show that the fact that the exhibition of Epistemic Constraint entails the exhibition of Cognitive Command in a discourse does not necessarily trivialise Cognitive Command. A final set of consideration establishes that Explanatory Depth and Wide Cosmological Role have their virtues, but cannot serve as plausible criteria for objectivity.

We propose changing Wright’s list, establishing a new set of criteria of objectivity:

- (1) Euthyphro Contrast: In an objective discourse, a single theoretical virtue that concerns external facts (such as fit with data) is trumping in theory-choice.
- (2) Cognitive Command: In an objective discourse, cognitively flawless disagreement is ruled out *a priori*.
- (3) Data Sensitivity: In an objective discourse, truths are sensitive to a wide range of empirical data.

Criteria (1) and (2) correspondingly represent the *independence* and *convergence* directions of assessing objectivity, while maintaining a completely independent logical relation, which means a discourse may stand on all four possible conditions of the exhibitions of those criteria. Hence our new list is a reasonably comprehensive consideration of objectivity. Criterion (3) represents the intuition that truth in an objective discourse should correspond to wide range of empirical facts, it also brings degrees of objectivity into consideration.

With those plausible assumptions – and our systematic consideration of them – we are now entitled to claim that we are well armed to enter the philosophical meta-disputes about the objectivity of most discourses, including, in particular, ontological discourse.

## Chapter 4 Application

This chapter aims to apply the criteria of objectivity which we considered in the last chapter to assess ontology as a discourse. The chapter will first discuss whether ontology can be taken as a discourse, and will then go on to discuss ontological discourse in terms of Euthyphro Contrast, Cognitive Command and Data Sensitivity.

### 4.1 Ontology is a Distinctive *A priori* Discourse

Contemporary ontology, or at least contemporary mainstream ontology, is a collective term for metaphysical studies that address ontological questions. Questions about the existence of abstract entities, questions about the existence of mereological sums, and question of the existence of logically or metaphysically possible worlds and entities are representative ontological questions. Of course, there are important ontological questions – and some of them are crucial – in other fields. For example, questions about the existence of God in philosophy of religion, questions about the existence of moral goodness in ethics, and so on. However, generally speaking, in philosophy when we talk about ontology we talk about ontological questions that belong to metaphysics. Hence, discussion and assessment in this chapter will focus on those questions. And when we use the term ‘ontology’, it means contemporary mainstream discussion of those questions.

#### 4.1.1 Ontology is a distinctive discourse

In this section, I would like to discuss the possibility of assessing ontology as a single discourse. In section 3.1, we have discussed some features that can be checked when we attempt to decide if an area of discussion constitutes a single discourse. These features are: (a) legitimate predicates, (b) truth conditions, and (c) presupposed ontological commitments. We can now check those features for ontology.

First, since ontological discussions are mainly about metaphysical issues, predicates that are legitimate in metaphysics are generally legitimate in ontology. However, in many cases, while one side of an ontological dispute believes that a predicate is legitimate, the other side of the dispute may disagree. For example, one might deny the legitimacy of the use of the predicate ‘composite’ if one does not believe that there are fusions. To take another example: while one group of ontologists advert to subsistence as well as to existence, their opponents believe that talk about subsistence is incoherent. While ‘subsist’ is legitimate for the first group of ontologists, it is not legitimate for the second group. Although there are differences in opinion about which predicates are legitimate, I shall suppose that different groups communicate with one another: if a group thinks that ‘... is F’ is not a legitimate predicate, then members of that group will (e.g.) reject all inferences of ‘a is F’.

Second, truth conditions in mainstream ontology are distinctive. According to Quinean definition, the methodology of ontology is to formulate the best theory of the structure of the world using the best canonical notation. Therefore, for a proposition to be true in ontological discussions, there are at least three conditions that must be satisfied: first, it has to be at least consistent with the best theory about the structure of the world; second, it has to be formulated in the best canonical notation; third, it has to express something meaningful. Roughly, those are also the requirements of a true metaphysical proposition.

Third, presupposed ontological commitment in ontology is distinctive. Unlike almost all other discourses, in ontological discussions there is no special presupposed ontological commitment. The task of ontological discussion is to say what exists, and thus a collective theory of what exists should never be presumed in any form of ontological discussions. It might be suggested that at least the existence of the world or something in the world – such that the world is not empty – has to be presumed in ontology. But nihilism is a candidate ontological theory, wherein the existence of objects is entirely denied. If someone believes that nihilism is inconsistent or false for other reasons, she has to set out those reasons in order to land a blow on nihilism. It is question-begging to argue against nihilism by simply saying that it is against the presupposed ontological commitment of ontology.

Furthermore, there are other reasons for thinking that we can take ontology to be a single, distinctive discourse. One reason is that the task of ontological discussions is unique – to say what exists. And in general, to say what exists in ontology is to say what category of

individuals exists, which makes ontology even more distinctive.<sup>88</sup> Another is that theory-choosing method is similar – a bunch of theoretical virtues, e.g. coherence, simplicity, consistence with other field, unification, explanatory power, and so on, are the most important feature to consider when chose the best theory.

To sum up, ontological discussions exhibit all the three approaches to the individuation of discourses. It is plausible to assess the objectivity of ontology as a distinctive discourse.

#### 4.1.2 Ontological discourse is an *a priori* discourse

In section 3.2 we have defended a general definition of the distinction between *a priori* and *a posteriori* knowledge: *a priori* knowledge can be grasped by reason alone, whereas *a posteriori* knowledge has to be grasped with the help of empirical observation. We define *a priori* discourse as: discourse that pursues *a priori* knowledge; and we define *a posteriori* discourse as: discourse that pursues *a posteriori* knowledge.

A difficulty for the distinction between *a priori* and *a posteriori* discourses is confusion between (a) stating the objective of a discourse in terms of what kind of knowledge that discourse professes to pursue and (b) stating the objective of a discourse in focus of what kind of knowledge that discourse in fact pursues. I will illustrate this confusion with a simple example.

John and Mary are having a discussion about the question whether the world is fundamentally continuous or discrete. Since John and Mary are both mathematicians and they both believe that the world is fundamentally numerical, they decide to address the question by having a debate about whether numbers form a continuum. The discussion they have is purely mathematical and no empirical data is involved. Now what should we say about the discourse John and Mary have? At first glance, the discourse pursues *a posteriori* knowledge since it is obvious that knowledge about the fundamental structure of the world cannot be grasped by

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<sup>88</sup> Ontological discussions almost never focus on the existence of one particular individual. The major questions concerning the existence of numbers, universals, fictional characters, possible worlds and so on, are all about the whole categories of things. To the opposite, in many other discourses, we focus on the existence of a special individual or separate individuals. Philosophy of religion is one example; another is discourse about the existence of the Loch Ness Monster.

reason alone. However, anyone who has adequately relevant mathematical knowledge will understand John and Mary's discussion without the help of any empirical observation. And since it is possible that mathematical knowledge can be grasped by reason alone, the discourse John and Mary have does not necessarily concern anything *a posteriori*. Therefore, the knowledge actually pursued in John and Mary's discourse is *a priori*. And the discourse they have is an *a priori* discourse.

One may object by suggesting that the discourse John and Mary have can never really pursue any knowledge, since the assumption that the world is fundamentally numerical is false. And if a discourse cannot really pursue any knowledge, according to our definition, it is neither *a priori* nor *a posteriori*. I do not believe this is so. As a matter of fact, we do not have a conclusive answer to questions about the structure of the world. The assumption John and Mary make are contingent. Let us give considerations on both sides.

Suppose that the assumption that the world is fundamentally numerical is true. It is obvious that John and Mary are pursuing knowledge about the fundamental structure of the world in their discourse. But in that case, knowledge about the structure of the world – and in particular, whether or not the world is fundamentally continuous – is *a priori*, since one can grasp the knowledge by reason alone. The discourse John and Mary have is an *a priori* discourse. Suppose that the assumption that the world is fundamentally numerical is false. It seems like John and Mary will never successfully obtain the knowledge that their discussion means to pursue. However, the result does not affect that the motivation and behaviour of John and Mary's discourse. Even though the discourse will not succeed, it actually pursues the answer to the question whether the world is fundamentally continuous. And since the methodology and relevant knowledge John and Mary used in their discourse are *a priori*, the knowledge the discourse *could* pursue is *a priori*, and therefore it is an *a priori* discourse. Therefore, either way the discourse John and Mary have is an *a priori* discourse.

I believe ontological discourse is very similar to the discourse John and Mary have to some extent. According to many philosophers, ontology concerns not only conceptual knowledge. It is a discipline that combines scientific theories, language, logic, and the deep structure of the world. However, this definition of ontology is so vague that it barely shows anything accurate about the purpose, methodology and appealed criteria of ontology. Indeed, modern metaphysicians do have a much more specified definition of what they do. A tradition is started by the famous debate between Quine and Carnap on the question whether ontological questions are meaningful. As a result of the debate, most of philosophers today accept a

Quinean definition of the purpose, methodology and criteria of ontology.<sup>89</sup> To be precise, the task of ontology is to address what exists, i.e. what belongs to the domain of the quantifiers. And the method to achieve such a task is to extract existence commitments from our best theory. According to Quinean definition, the stages of pursuing the right list of beings by this method are: first, identify the best theory and canonical notation; second, translate the best theory into canonical notations; third, identify what is in the domain of the quantifier if the best theory is true.

Although such a methodology is claimed to be quasi-scientific, the essential work a metaphysician does is completely *a priori*. First, to identify the best theory describing the structure of the world and canonical logic, one must appeal to a meta-theoretical criterion. The criterion needs to be completely neutral concerning all ontological and logical commitments, but able to decide between competing theories of the structure of the world. But how do we decide such a criterion? The question is generally answered by presenting a bunch of theoretical virtues, such as coherence, simplicity, unification and so on. However, those theoretical virtues are neither directly nor indirectly related to empirical observation, which means that they are all *a priori*. Moreover, the second and third stages of Quinean method are completely analytical. Hence, at least according to Quine's definition of ontology, ontological discourse pursues *a priori* knowledge. Therefore ontological discourse is an *a priori* discourse.

To sum up this section, contemporary mainstream ontology is a distinctive discourse, as it has distinctive legitimate predicates, truth conditions and presupposed ontological commitments. And contemporary mainstream ontological is an *a priori* discourse, as the knowledge it pursues and the methodology adopted to pursue the knowledge are *a priori*. Therefore, it is plausible that we shall evaluate the objectivity of ontology with the criteria established in Chapter 3.

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<sup>89</sup> Many metaphysicians who do not accept Quinean definition of metaphysics claim that ontology is comparatively trivial and that the essence of metaphysics is about something else – the foundation of substances, the order of significance of existence, how the ways of different beings relate to each other, and so on. Although those thoughts are worth serious consideration, I will not discuss them in this paper, since I am here concerned with anti-realist intuitions about ontology itself.

## 4.2 Assessing ontological discourse with Euthyphro Contrast

In section 3.5, we redefined Wright's Euthyphro Contrast intension for assessing the objectivity of a discourse:

Euthyphro Contrast: In an objective discourse, a single theoretical virtue that concerns external facts (such as fit with data) is a trump in theory-choice.

In ontological discourse, the process of theory-choice obviously involves more than one theoretical virtue. By and large, the marks for theory-choice in ontology are clear: fit with data, simplicity, unification, explanatory power, predictive power, consistency with other fields, self-coherence, and others. However, the metric by which we implement trade-off is less clear. As Karen Bennett suggests, in many cases ontological debates come to permanent impasses since the theory picked by each group has theoretical virtues which the others do not have, and there is no conclusive rule by which we can decide how to weigh the competing privileges of virtues.

This situation does not indicate whether any theoretical virtue is more important than other in theory-choice of ontological discourse. However, it does provide a plausible case that can be compared with other discourse in which a theoretical virtue that concerns external facts clearly outweighs other theoretical virtues, such as in physics. In this section, I will make up a scenario of theory-choice in each discourse, namely ontology and physics, for the purpose of determining whether the theory-choice processes in those discourses are similar.

Suppose that we have to choose between two competing physical theories,  $T_1$  and  $T_2$ .  $T_1$  provides an elaborate account of data in a limited area, with good marks on simplicity, explanatory power, self-coherence, unification, consistency with contemporary theories in other physical areas, and almost all other theoretical virtues.  $T_2$ , on the other hand, provides an intricate account of data in that area. It is written with complicated mathematical language, difficult for world-class physicists to understand, and incapable of translation into ordinary language. It is self-coherent, but not completely consistent with contemporary theories in other physical areas. The only advantage of  $T_2$  is that it makes substantially more accurate predictions in that limited area than  $T_1$ . This advantage is so small that even the best instruments can barely detect it, but has been universally identified in all of the many experiments carried out so far.

The theory-choice of such situation in physics seems to be obvious. No matter how many more marks  $T_1$  has over  $T_2$  in exhibiting other theoretical virtues, as long as  $T_2$  makes more accurate predictions on empirical data, it is impossible to choose  $T_1$  over  $T_2$ . So long as further experiments keep confirming  $T_2$ 's predictions, more and more physicists just have to swallow the bitter part of  $T_2$ , even the inconsistency with contemporary physical theories in other areas. Therefore, this situation clearly shows that fit with data is much more important than any other theoretical virtues in the discourse of physics.

Now let us consider a similar situation in ontology. Suppose we have to choose between two ontological theories,  $T_a$  and  $T_b$ .  $T_a$  provides an account of a problem of the existence of a particular category of entities, with good marks on simplicity, explanatory power, self-coherence, unification, consistency with contemporary theories in other metaphysical areas, and almost all other theoretical virtues.  $T_b$ , on the other hand, provides an intricate account of the same problem. It is written in complicated logical language, hard for world-class metaphysicians to understand, and cannot be translated into ordinary language. It is self-coherent, but not completely consistent with contemporary theories in other metaphysical areas. The only advantage of  $T_b$  is that the account it gives corresponds to the existence of a kind of matter newly discovered. The link is so vague that accepting  $T_b$  does not necessarily imply the existence of the matter, but the link is so novel such that no previous ontological theory has been about to explain the existence of the matter.

The theory-choice process of this situation in ontology seems to be obvious too. Most theorists will think the trade-off of one theoretical virtue over all other theoretical virtues is irrational. A candidate theory that gives better explanations of data and makes more accurate predictions, while being hard to explain and understand, much more complicated than other candidate theories, and inconsistent with other theories in the field will not have obvious advantages against its competitors.

However this comparison can hardly suggest that no theoretical virtue that concerns external facts is more important than other theoretical virtues in the theory-choice of ontology. For that purpose, we have to modify it. Suppose that  $T_b$  is better than  $T_a$  not only in terms of giving a novel account on some new discovered matter, but also in terms of being more unifying and having more explanatory power.  $T_a$  is better than  $T_b$  in terms of presuming less entities and assumptions, being more consistent with other theories in the field, being more evidently self-coherent, and so on. Then the theory-choice seems to be very hard. It might be suggested that

novel explanation of the new matter could be the final mark for  $T_b$  to beat  $T_a$ . However, notice that ontological discourse is not typically about concrete objects: in most cases, scientific discoveries cannot conclusively justify or falsify an ontological hypothesis. Very likely, the theory-choice will reach permanent impasse, just as in many real cases, due to the lack of a method for weighing theoretical virtues.

It is now clear that no theoretical virtue that concerns external facts plays the most significant role in theory-choice in ontology. Unlike in scientific fields such as physics, each theoretical virtue seems to have more or less the same power on influencing a decision in ontology, so there is no single theoretical virtue that is a trump in the process of theory-choice in ontology. Sometimes theories that fare worse when it comes to theoretical virtues such as fit with data can still win the battle by having advantages on other theoretical virtues. Hence, we can conclude that in ontological discourse, no single theoretical virtue that concerns external facts is a trump in theory-choice. And therefore ontological discourse does not exhibit Euthyphro Contrast.

### **4.3 Assessing ontological discourse with Cognitive Command**

In section 3.5, we defined Cognitive Command as a criterion for assessing the objectivity of a discourse:

Cognitive Command: In an objective discourse, cognitively flawless disagreement is ruled out *a priori*.

We define flawless disagreements as disagreements about the truth-value of a proposition in a discourse between flawless agents.

In this section, I will provide two major reasons for thinking that ontological discourse does not exhibit Cognitive Command: first, disagreements between serious participants in ontological discourse are substantive; second, substantive disagreements remain when neither side has cognitive shortcoming, in other words, disputants having a substantive disagreement in ontological discourse can be flawless agents.

### 4.3.1 Disagreements in ontological discourse are substantive

As discussed in section 1.5, realists have presented strong responses to terminological indeterminacy by showing that the disagreements between serious ontologists are substantive for two reasons: first, the disagreements remain when all the referents of concepts in the discourse are fixed; second, there is no satisfactory translating function between languages in which different ontological concepts are adopted.

A widely shared idea is that the referents of concepts in use in *a priori* discourses can always be settled by stipulation. Since there is no observation-related indeterminacy of any kind that affects the reference of concepts in *a priori* discourses, meanings can all be determined by conventions. If indeterminacy of predicates used in ontological statements can be dispelled, then disagreements are not caused by ambiguity, since disputants do not simply talk past each other.

Moreover, although there has not yet been agreed on absolute meanings for quantifiers, it may not be that ontologists disagree simply because they assign different meanings to their quantifiers. As Sider points out, there can be no satisfactory translation function that can preserve the meanings of an ontological statement when we translate it to other language which adopts completely different concepts of quantifiers.<sup>90</sup>

A less technical but more natural reason to believe that disagreements between ontologists are substantive is that the intuitions and intentions behind their statements are opposed and cannot be verified by fixing meanings and referents. For example, in the debate about the problem of universals, Platonists do not want to argue merely that universals are essential to human knowledge; they also want to argue that universals exist in just the same sense that concrete objects exist. And the Nominalists do not want to argue that universals are not essential to human knowledge and that there are other substitutes to fulfil the needs of the process of human understanding; they also want to argue that universals simply do not exist. The intuition of Platonists should not be taken to be only that existence is a much looser notion to which abstract entities can fit, but also that their existence is so obvious that if we have to define existing objects, we must include universals. The intuition of nominalists should not be

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<sup>90</sup> Sider, 2009, p. 396.

taken to be only that the notion of existence is so strict that nothing but concrete objects exist, but also as that the idea of the existence of abstract objects is so bizarre that we should simply reject it. The very contrary intuitions and intentions behind the ontological statements of Platonists and Nominalists determine that meaning-preserving translation will always be hostile. The disagreement between Platonists and Nominalists is substantive. Situations are similar in most mainstream ontological debates.

#### **4.3.2 Disputants in ontological discourse can be flawless agents**

The second reason for that ontological discourse does not exhibit Cognitive Command is that ontological disagreements can be flawless disagreements; in other words, substantive disagreements can occur even when disputants in ontological discourse are flawless agents.

In section 3.6.1, we define flawless agents as follows: an agent *A* is *cognitively flawless with respect to a proposition *p* made in a discourse *D** – i.e. *A* is fully competent in judging the truth-value of *p*, and discovering and judging the truth-value of all the implications of *p* – if and only if:

1. *A* is in perfect possession of all concepts in *D* which are relevant to asserting, and judging the truth-value, of *p*.
2. *A* is perfectly informed concerning all empirical information which is relevant to asserting, and judging the truth-value of *p*.
3. *A* is able to process all relevant information using all relevant concepts in order to judge the truth-value of *p*, and to detect its implications.
4. *A* is perfectly epistemically responsible, attentive, logical, rational, and sufficiently engaged in judging the truth-value of *p*.

In this section, I will argue that it is possible that disputants in ontological discourse are flawless agents and substantive disagreements persist among those flawless agents.

From criteria 1, 2 and 3, a flawless agent must be in perfect possession of all concepts and empirical information which are relevant to asserting, and judging the truth-value, of the proposition in debate in an ontological discourse. At first glance, some might suspect that no one could ever be in perfect possession of all concepts that are relevant to all ontological problems, since there seems to be an infinite number of relevant facts in any major

ontological problem. For example, in the debate over the existence of universals, there are infinitely many universals that might be said to exist. However, the point is that those alleged relevant facts of universals are actually not essential to the problem of universals. In other words, ontological problems do not deal with empirical observations, and no empirical observation can serve as satisfactory evidence for any of those ‘unsolvable’ problems. Moreover, there are not an infinite number of essential relevant facts and concepts in ontology. When someone, who satisfies the qualities of being fully imaginative, sincere, attentive, logical, and so on, is familiar with sufficiently many samples of the concepts of particular universals and their instances, she will be consequently familiar with the concept of universals in general, and similarly in other discourses. Since all concepts in ontological discourses can be described using analytical techniques, and there are only finitely many relevant concepts, it is reasonable to believe that it is possible for an agent to be in perfect possession of all relevant concepts and facts.

Moreover, if a fully rational agent has complete conceptual knowledge with respect to an *a priori* discourse, and is familiar with the inferential methodology used in getting those concepts, and is familiar with the relevant logical and mathematical systems used in analysing them, and has strong justifications for believing all of the relevant information, then it is reasonable for her to believe in her omniscience concerning the topic at hand. Therefore, it is possible for there to be flawless agents in ontological discourses.

For criteria 4, it is obvious that in the serious modern academic environment, being epistemically responsible, attentive, logical, rational, and sufficiently engaged are qualities of ideal participants. Although sometimes it is practically difficult to determine whether or not certain participants really satisfy those qualities, it seems possible for our ontologists to have them.

However, none of those qualities required for being a flawless agent suffices to guarantee convergence to a unique answer in an ontological discussion. As was noted earlier, being in perfect possession of relevant concepts only settles the meanings of notions in a discourse, but substantive disagreements remain after that. Moreover, we do have reasons to believe that most serious ontologists can be fully imaginative, sincere, attentive, logical, not swayed by irrelevant factors, and so on. Hence, substantive disagreements will also exist between flawless agents. Mainstream ontological discourses, therefore, do not exhibit Cognitive Command.

To conclude, since the disagreements between serious ontologists are substantive, and the participants of those substantive disagreements can be flawless agents, ontological discourse does not exhibit Cognitive Command.

#### **4.4 Assessing ontological discourse with Data Sensitivity**

In section 3.8.2, we define Data Sensitivity as a criterion for assessing the objectivity of a discourse:

Data Sensitivity: In an objective discourse, truths are sensitive to wide range of empirical data.

We also mentioned that there are two aspects for a discourse to strongly exhibit Data Sensitivity. The first aspect is that the discourse needs to concern a wide range of empirical data. The second aspect is that the truths in the discourse are sensitive to the empirical data the discourse concerns. In this section, I will discuss whether ontological discourse meets each of those requirements

##### **4.4.1 Ontological discourse concerns a wide range of empirical data**

Participants in ontological discourse question the existence of *everything*. The central question asked in ontological discourse is ‘What exists?’, and this question puts the existence of *everything* on the table. Of course, there are other discourses where ontological questions arise. For example, ‘whether god exists?’ is a central question of philosophy of religion, and ‘whether absolute moral good exists?’ is a central question of philosophy of morality. However, the difference between ontological discourse and other discourses is that ontological discourse concerns the existence of ontological categories – such as abstract entities, concrete entities, entities of the past, and so on – rather than particular objects.

Arguably, ontological discourse concerns a wide range of facts: the existence of everything in the world. Therefore, it is plausible to claim that ontological discourse concerns all the empirical data – if any – that are relevant to those facts. And apparently, there are empirical

data that are relevant to those facts. For example, that there is a desk in my room is an empirical datum that is relevant to the fact that there are desks and that there are concrete objects.

One might argue that there are some questions in ontological discourse that do not concern any empirical data, such as the question of the existence of universals and the question of the existence of numbers. The reason for this claim is that there are no empirical data that is relevant to the existence of those entities. However, I believe this claim is not plausible, since the very fact that universals and numbers do not exist as concrete objects is relevant empirical data to those questions. Therefore sub-discourse about those questions concern a certain range of empirical data as well.

Given those considerations, we shall conclude that ontological discourse concerns a very wide range of empirical data.

#### **4.4.2 Truths in ontological discourse are not strongly sensitive to the empirical data the discourse concerns**

As discussed in section 3.8.2, there are two requirements to be met for a discourse to be strongly sensitive to the empirical data it concerns. One requirement is that explanation of a true proposition in an objective discourse corresponds to empirical data. The other requirement is that a theory in a discourse can make predictions that are testable against empirical data; in other words, theories are at least falsifiable by empirical data.

Consider the first requirement. What makes a proposition true in ontological discourse? As discussed earlier in this chapter, there are at least several theoretical virtues that a true proposition must have. Correspondence with empirical facts seems to be one of them. However, it is not so obvious that the truth of true propositions in ontological discourse can be explained by empirical data. First, although ontological propositions explain the existence of various categories of entities, their truths do not depend themselves on the existence of any single and specific object. For example, the truth of the proposition that 'tables exist' does not depend on the empirical data that the specific table in my room exists. Indeed, it does not depend on the existence of any specific table. Second, for propositions concerning the existence of abstract entities, it is implausible to think that the truth of 'numbers exist' can be justified by any empirical data; it is also implausible to think that the truth of 'numbers do not

exist' can be justified by any empirical data either, even it is true that numbers are not concrete objects.

Consider the second requirement. It seems obvious that theories in ontological discourse make predictions that are testable against empirical data. If an ontological theory claims that a category of entities exist, then it predicts the existence of every single entity of that category, and therefore it is testable against empirical data that are relevant to its predictions.

I believe this is an illusion shared by many ontologists. Theories in ontological discourse do not truly make any novel predictions that can be tested by empirical data.

First, categorical ontological claims do not predict the existence of single and specific entities. Although the existence of single and specific entities is a logical implication of categorical claims, it is not the case that the existential status of a specific entity is unknown, and ontological theories predict it. For example, realism of numbers does not actually predict the existence of numbers by saying that 'according to this theory, we will find existing numbers'. And theories that deny the existence of a mereological sums do not actually predict the non-existence of tables by saying that 'according to this theory, we will not find any existing tables'.

Second, even those logical implications of theories in ontological discourse are not testable with empirical data. This reason is easy to explain: no empirical data can falsify mainstream ontological theories. One might think this is ridiculous, since the very table in front of me can falsify the theory that mereological sums such as tables exist. However, empirical data falsifies a theory if and only it contradicts that theory. But the theory does not end with 'tables do not exist', it also says 'tables are simples arranged tablewise'. The existence of the object in front of you does not falsify the theory, since the empirical data does not contradict the theory that mereological sums such as simples arranged tablewise exist. Similarly, the fact that there is no number in the world does not falsify the theory that numbers exist. The theory must say 'numbers exist, however not concretely'. Therefore the empirical data that we cannot find any number in the world does not necessarily contradict the theory. In fact, theories in ontological discourse always have ways to be immune to falsifiability by empirical data, due to one of the essential feature of ontological discourse – ontological discourse is an *a priori* discourse.

To conclude, ontological discourse concerns a very wide range of empirical data; and given that explanation of a true proposition in that discourse does not correspond to empirical data, and theories in ontological discourse do not make novel predictions that are falsifiable with empirical data, truths in ontological discourse are not sensitive to the empirical data the discourse concerns. Therefore, ontological discourse does not strongly exhibit Data Sensitivity.

## 4.5 Conclusion

In this chapter, we have applied our criteria of objectivity on the assessment of mainstream ontology. We first examined whether ontology can be treated as a separate and distinctive discourse, the conclusion is that at least according to Quinean definition, mainstream ontology is a distinctive and *a priori* discourse. Then we assess ontological discourse with three criteria established in the last chapter – Euthyphro Contrast, Cognitive Command and Data Sensitivity.

The outcome is straightforward: ontological discourse does not exhibit Euthyphro Contrast, since no theoretical virtue that concerns external facts plays the most significant role in theory-choice in ontology; ontological discourse does not exhibit Cognitive Command, since disagreements between serious ontologists are substantive, and the participants of those substantive disagreements can be flawless agents; and ontological discourse does not strongly exhibit Data Sensitivity, since although ontological discourse concerns a very wide range of empirical data, truths in ontological discourse are not sensitive to the empirical data the discourse concerns.

Therefore, it is plausible to conclude that the objectivity of ontological discourse is weak. In other words, the objectivity of the truth of ontological statements is very weak.

It has to be noted that this conclusion does not necessarily imply that truths in ontological discourse are ‘trivial’, or ontological discourse is a ‘shallow’ discourse. This conclusion says that according to a comprehensive consideration of objectivity, ontological discourse is not strongly objective. If we arrange mainstream discourses – physics, chemistry, logic, mathematics, ethics, etc. – in a line according to their objectivity, ontology will be put in a

spot that is quite far away from the 'objective end'. The conclusion also shows that truths pursued in ontological discourse do not strongly reflect the objective facts of the world. However, the conclusion does not necessarily suggest that works in ontological discourse are thus trivial or meaningless. For one reason, those works might help us to realise how big the gap is between scientific description of the world and our understandings. For another reason, those works might help us to know better the way or ways of our understanding and intuitions of the world.

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