

## *Meaning, Essence, and Necessity*

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### 1.1 INTRODUCTION

The study of meaning, essence, and necessity is of ancient vintage. Its subject matter, in so far as it concerns natural kinds, can be defined by a set of questions:

(A) How is the meaning of linguistic terms such as ‘man’, ‘thunder’, ‘water’, ‘fish’, or ‘soul’ determined? What is the relation between the meaning of these terms and what the speaker understands by them? Is an account of the former also an account of the latter?

(B) Man, it is said, is essentially rational and necessarily capable of acquiring a culture. What, if anything, makes these claims true? Is their source to be found in us as thinkers or in the kinds themselves? Or are they, in some way, the joint product of ourselves and the world? What is the relation between essence and necessity?

(C) How can we know that kinds possess some features essentially and some necessarily? How is it possible for us, on the basis of our knowledge of the relevant term and of some truths about this world, to come to know that man is essentially rational?

Question (A) concerns linguistic terms and their meaning, (B) the metaphysics of necessity and essentiality, and (C) the epistemology of necessary and essential truths. Aristotle laid the foundations for subsequent work on each of these topics. My first aim is to understand his answers to these questions.<sup>1</sup>

<sup>1</sup> My concern in this book is primarily with the essences of kinds not of individuals. Thus, I shall focus on such claims as:

Man is essentially rational

or

Water is necessarily composed of hydrogen and oxygen

and not on:

Socrates is essentially a man

or

Aristotle's views on these issues are different from the ones widely accepted today. Discernment of these differences has scholarly value. But there will be further philosophical gains if his ideas constitute (as they sometimes do in this area) a live, and challenging, alternative to those currently in fashion. For, the study of his views may assist us in our continuing attempts to address these topics.

Philosophers who work on the history of their subject make such claims as these more often than they substantiate them. However, in this particular area such hopes are well-founded. In the early days of 'modern' philosophy, Locke and Hume doubted whether we could have knowledge of metaphysical necessities in nature. They argued that the source of all intelligible discourse about necessity must lie in our ideas and concepts. Their rejection of Aristotle's account was further developed by their successors, Kantian and positivist alike. For them, our understanding of necessity is grounded either in the preconditions of rational thought or in our freely chosen conventions and practices. Indeed, it is only in the past three decades, as a result of developments in the study of modal logic, that this longstanding, anti-Aristotelian orthodoxy has been challenged. Some recent writers have even claimed to defend 'good old-fashioned Aristotelian essentialism'.<sup>2</sup> So, it should not be surprising that we still have something to learn from Aristotle on these topics. For, he dedicated much of his life to their study.<sup>3</sup>

## 1.2 ONE FORM OF MODERN ESSENTIALISM

In recent years there has been a sustained attempt to devise a philosophical theory which engages with the three questions set out above. While certain aspects of this theory have not been fully worked out, Hilary Putnam and others have developed a programme which I shall call the

This is necessarily water.

With regard to the individual Socrates, my concern is with the issue of whether (e.g.) he, considered *as a man*, is essentially rational, rather than with that of whether he is essentially a man.

<sup>2</sup> For use of this (or related) terminology, see for instance R. B. Marcus, *Modalities* (Oxford 1993), 45–70, B. Brody, 'Why Settle for Anything Less Than Good Old-fashioned Aristotelian Essentialism?', *Nous* 7 (1973), 351–65. The term 'old-fashioned' comes from Quine.

<sup>3</sup> Aristotle's writings on particular topics in areas as diverse as biology, psychology, and physics are motivated by his search for a general theory which answers these three questions. In what follows I shall omit many of the details of his account of natural kinds in the hope of grasping its general outline.

*programme of modern essentialism*.<sup>4</sup> My first task is to set out the general outlines of this programme.<sup>5</sup> Since I shall seek to be explicit where its more cautious proponents remain uncommitted, I shall refer to the view presented here as that of 'my modern essentialist'.<sup>6</sup>

According to my modern essentialist, certain terms in natural language, such as 'water' or 'gold', are correlated with natural kinds with essences. This is because they were introduced in one of two ways. The first requires us to point to particular samples of water. Here, in learning the term 'water', we acquire the intention to count a liquid as water (roughly) as follows:

(1) For every possible world, *w*, and every individual, *x*, in *w*, *x* is water if and only if *x* in *w* is the same liquid as *this* (or *these*) samples.<sup>7</sup>

In (1) the demonstrative '*this*' refers to a particular sample of water, one situated within the speaker's visual field. We intend to count something as water in any possible world (situation) only if it is the same liquid as *this* sample before us. There is a second route to learn the term 'water', which may be characterized as the 'stereotypical' one. Here, we acquire the intention to count a liquid as water (roughly) as follows:

(1') For every possible world *w*, and every individual, *x*, in *w*, *x* is water if and only if *x* in *w* is a sample of the colourless, tasteless liquid that fills *these* lakes and rivers (or most of them).<sup>8</sup>

There is no need for a sample of water to be before us when we learn the term, provided that we refer to the liquid in our lakes and rivers, and intend to count something as water only if it is the same liquid as the one we find there. Of these formulations, (1) is the more basic. For, our grasp on the relevant liquid is grounded in our ability to pick out instances of it when confronted by it. We need to be able to distinguish water from other similar

<sup>4</sup> In my presentation of *modern essentialism* I derive my main inspiration from the writings of Hilary Putnam. Saul Kripke's work on these issues is marked by great caution on some of the questions which are central to our discussion.

<sup>5</sup> My concern is with those aspects of modern essentialism that are sometimes labelled 'non-trivial essentialism'. These are to be distinguished from trivial essentialist claims, such as those concerning the necessity of true identity statements involving genuine names. The latter, it appears, follow from the theory of reference alone. For this distinction, see N. Salmon, *Reference and Essence* (Oxford, 1982), 5.

<sup>6</sup> On some issues modern essentialists disagree. On others they have changed their views. My 'modern essentialist' is one who has been prepared to adapt his earlier formulations in the light of subsequent work. His position is, thus, something of an amalgam, although (I believe) a currently fashionable one. One version of this position is characterized by Penelope Mackie in her review of A. Sidelle, *Necessity, Essence and Individuation: A Defense of Conventionalism* (Ithaca, 1989), in *Mind* 99 (1990), 635.

<sup>7</sup> Putnam, *Philosophical Papers* ii. 232, 'Meaning and Reference', 128, in S. P. Schwartz (ed.), *Naming, Necessity and Natural Kinds* (Ithaca, 1977).

<sup>8</sup> Putnam, *Philosophical Papers*, ii. 229–30.

liquids in our lakes (or elsewhere). Thus, in what follows, I shall focus mainly on (1).

(1) and (1') depend on the notion of 'the same liquid'. For my modern essentialist, this is grounded in the intuition that a liquid can look and taste like water (resemble water in its superficial properties) without being water.<sup>9</sup> Thus, he envisages our agreeing not to count something as water if it has a different fundamental physical property from that of the water with which we are familiar in this world.<sup>10</sup> He notes: 'whether something is or is not the same liquid as this may take an indeterminate amount of scientific investigation to determine'.<sup>11</sup> Since we may discover by scientific investigation whether two samples are indeed of the same liquid, we intend our usage of 'water' to be sensitive to scientific discoveries about what *being the same liquid* consists in. The latter is a theoretical relation to be made more precise by an empirical investigation conducted by the relevant experts.

One example of this approach is offered by Hilary Putnam. He characterizes *being the same liquid* as follows: two samples of water are samples of the same liquid only if they possess the 'same important physical properties',<sup>12</sup> ones which constitute the underlying (non-superficial) 'composition of water'.<sup>13</sup> This account can (perhaps) be best summarized as follows: two samples of water are samples of water only if both have the same basic determining and underlying property, which is to be discovered by scientific means. Thus, we might characterize our grasp on the notion of being the *same liquid substance* as follows:

(2) A sample  $s_1$  in some possible world  $w_1$  is a sample of the same liquid substance as sample  $s_2$  in possible world  $w_2$  if and only if sample  $s_1$  in  $w_1$  has the same determining and basic scientific physical feature as  $s_2$  in  $w_2$ .

As things turned out, difference and similarity in micro-character constitute the relevant scientifically important differences and similarities. This was an a posteriori discovery. It took much scientific investigation to discover the fundamental scientific properties.<sup>14</sup> Still more may be needed.

<sup>9</sup> As Putnam notes in Schwartz (ed.), *Naming, Necessity and Natural Kinds*, 130.

<sup>10</sup> As Putnam suggests in Schwartz (ed.), *Naming, Necessity and Natural Kinds*, 129 (final four lines) and 130 (top twelve lines).

<sup>11</sup> As Putnam remarks in Schwartz (ed.), *Naming, Necessity and Natural Kinds*, 122–3.

<sup>12</sup> Schwartz (ed.), *Naming, Necessity and Natural Kinds*, 129, l. 20. Putnam is not always clear as to the precise interpretation of *being the same liquid*. Sometimes he writes as if he is assuming that possession of the same fundamental chemical properties (or 'micro-structure') is the important feature at issue. Nathan Salmon (*Reference and Essence*, 185–6) understands him in the latter way. I have preferred his more cautious formulation, which allows that it is (possibly) a discovery that micro-structural features are the basic scientific ones.

<sup>13</sup> Putnam, 'Realism and Reason', in *Philosophical Papers* (1983), iii. 63, ll. 1–5.

<sup>14</sup> We are interested both in fundamental properties and in how such properties are structured. See *Naming, Necessity and Natural Kinds*, 122 (final three lines).

Thus, while in (2) we grasp a priori what it is for  $s_1$  and  $s_2$  to be members of the same kind, empirical research is required to specify what the determining physical features are.

(1) represents my modern essentialist's account of the way in which we fix the reference of the term 'water'. We know a priori that something is a sample of water if and only if it is a sample of the same liquid substance as *these* samples (pointing to instances of water). (2) explicates the ordinary thinker's a priori grasp on the idea of being the same liquid substance. It too is grounded in our positive reflections, conjectures, and thought experiments about what it is to be the same liquid. (2) goes beyond (1) because it introduces the idea of a scientifically based, theoretical, sameness relation. However, both are grounded a priori in the understanding of the ordinary speaker of the language.

(1) and (2) together explain certain features of our practice in using natural-kind terms. It should be no surprise that, given (1) and (2), the ordinary thinker defers to the scientist about what things are (e.g.) water. For, the former accepts that water has some determining physical feature of a type which it is up to the latter to discover. The pre-scientific thinker's use of these terms will march in step with that of the scientist because the former has ceded to the latter authority in determining what water is. Indeed, the term 'water' was introduced with the aim of correlating it with a natural kind whose essence the scientist is best placed to discover.

My modern essentialist's account allows that different people may use the term 'water' in the same way even though they disagree about many of the properties of water (including its fundamental one). Provided that they are all in contact with the same liquid and believe (at least implicitly) that the liquid has an (as yet possibly unknown) scientifically basic, determining feature, they can use the term with the same sense even if they hold differing beliefs. The scientist who knows that water has certain scientific properties unknown to (or falsely diagnosed by) the pre-scientific thinker can use the word with the same sense as his pre-scientific colleague. People with importantly different beliefs about water can be using the term 'water' with the same meaning.<sup>15</sup>

(1) and (2) have, it is claimed, 'startling consequences for the theory of necessary truth'.<sup>16</sup> If one adds the further premiss:

(3) Water, in this world, has as its fundamental physical feature being composed of hydrogen and oxygen,

it appears to follow that water, in any possible world in which it exists, must

<sup>15</sup> This applies at least to all who agree that (e.g.) water has a fundamental physical constitution and one which it must possess in all possible situations in which it exists. Both these features cause difficulties which are discussed below.

<sup>16</sup> As Putnam notes in Schwartz (ed.), *Naming, Necessity and Natural Kinds*, 128–9.

have that fundamental physical feature. Thus, we may conclude from (1), (2), and (3) that:

(4) If water is composed of hydrogen and oxygen in this world, it is necessarily composed of hydrogen and oxygen.<sup>17</sup>

My modern essentialist locates the source of necessity in (4) in our semantically deep pre-scientific referential intentions (especially as in (2)). At the outset, we agreed to attach the term 'water' to the liquid with the same scientific determining feature as this liquid in the actual world. We would count nothing as water if it lacked that determining feature. Thus, we assumed that water possesses a scientifically discoverable, determining physical feature, and that possession of that feature determines whether something is water in any possible world in which that liquid exists. There is no possibility of something being water and lacking this property because (in our view, as reflected by the referential intentions noted above) nothing could be correctly referred to as 'water' if it differed in this way from the water we encounter. Thus, the source of the necessity of such claims as:

Water is composed of hydrogen and oxygen

is to be found in the practices we follow in introducing the term 'water'. For these convert empirical truths about the actual structure of water (3) into necessary truths about how water has to be.<sup>18</sup>

According to my modern essentialist, no distinctive modal facts in reality are required to make (4) true. The injection of a modal element comes from us and our conventions and not from reality itself. As Putnam himself notes, the modern essentialist's proposal should not seem 'so very metaphysical':

<sup>17</sup> I interpret this claim as the following one:

$\Box \forall x [x \text{ is water } x \rightarrow x \text{ is composed of hydrogen and oxygen}]$ .

and not the far stronger:

$\forall x [x \text{ is water } x \rightarrow \Box x \text{ is composed of hydrogen and oxygen}]$ .

The former concerns the essences of kinds, the latter the essences of individuals. One can only derive the latter claim from the former by adding as a further premiss:

$\forall x [x \text{ is water } \rightarrow \Box x \text{ is water}]$ .

This premiss requires further support from an account of the essence of individuals. My present concern is with the essences of kinds.

<sup>18</sup> While this claim locates the source of the necessity of such statements as:

Water is H<sub>2</sub>O.

in our linguistic conventions, it does not follow that such statements are about our linguistic conventions. They are about the world which we understand as we do in virtue of our possessing the conventions we do.

Rather [such a theory] seems to me to be what Carnap would have called an explication, a convention which has some intuitive appeal and which enables us to systematize our pre-analytic use of modal notions.<sup>19</sup>

Sentences such as (4) will be true solely in virtue of non-modal facts about this world and our acceptance of certain linguistic conventions.

My modern essentialist holds (1) and (2) as a priori truths grasped by ordinary thinkers, and adopts an explicitly conventionalist approach to (2). He has a near relative who agrees that both (1) and (2) are grasped a priori by pre-scientific thinkers, but denies that (2) is to be understood in a purely conventionalist fashion. The latter will interpret (2) as expressing our grasp on (e.g.) certain principles of possibility, understood as essential ingredients in any understanding of the world. In such an account, the a priori status of (2) rests on the preconditions of any thought about an intelligible world.<sup>20</sup> It is not appropriate to ask whether the source of such world-defining conditions lies solely in us or in the world. Indeed, there will be no priority as between our contribution and that of the world. Both are governed by one set of principles, which simultaneously determine our thought and the world about which we think.

Despite the important differences between this approach and that of my modern essentialist, both share the assumption (definitive, in my view, of modern essentialism) that the basis for (4) lies in the pre-scientific, implicit, a priori knowledge of ordinary thinkers (such as is involved in their grasp of the kind terms). They differ in that the latter group (whom I shall call 'democratic Kantians')<sup>21</sup> do not accord the ordinary thinker's assumptions a purely conventional status.

These accounts are taken to explain how we come to have knowledge of necessary properties of water. At the outset, we know, in grasping the relevant term, that water has some (as yet unspecified) scientifically fun-

<sup>19</sup> Putnam, *Philosophical Papers*, iii. 65. In this context Putnam is speaking of Saul Kripke's account of individual essences. But the point applies equally to their account of the essences of natural kinds. Indeed, Putnam represents himself in contrast to Kripke as adopting this conventionalist account of the matter in his own later writings: 'If I am right, then, *given these referential intentions*, it was always impossible for a liquid other than H<sub>2</sub>O to be water . . . But the "essence" of water in this sense is a product of our use of the word, the kinds of referential intentions we have: this sort of essence is not "built into this world"'. (*Philosophical Papers* iii. 221, top 10 lines.)

<sup>20</sup> This second type of account goes further towards legitimizing our modal discourse than the first, purely conventionalist, one. It would be compatible with the first that we are in error in making the semantically deep assumptions noted in Putnam's account of these issues. Locke and Hume both argued that while people believe that there are objective modal connections in reality, they are mistaken to do so. In this they suggested what John Mackie has called in another context 'an error theory' of necessary connections and real essences. (See his *Ethics: Inventing Right and Wrong* (New York, 1977), Ch. 1.)

<sup>21</sup> Democratic Kantians are to be distinguished from élitist Kantians, who take the grounding for (4) to lie in the a priori knowledge of the élitist thinker, whether scientist or metaphysician. In the first part of this book my concern is with the question of whether Aristotle is a conventionalist or a democratic Kantian. It is only in Chapter 13 that I consider whether he is an élitist Kantian.

damental property. When we discover by ordinary scientific means that in the actual world this is the property of being H<sub>2</sub>O, we know that this is the relevant necessary property of water. We upgrade the results of respectably empirical science into necessary truths because of the commitments we accepted in grasping the relevant terms. There is no need for any special form of metaphysical speculation to explain how we come to have knowledge of necessities in nature. We can be essentialists without countenancing natural kinds, as classically conceived, possessed of their own essential properties quite independently of how we describe them.<sup>22</sup> Nor do we need a special faculty of intuition, or any distinctive epistemological capacity, to grasp them.

### 1.3 PROBLEMS AND ALTERNATIVES

Both forms of modern essentialist represent ordinary thinkers as assuming that:

(1) Water has an (as yet unknown) fundamental feature, of a type grasped by scientists, which determines its other features,<sup>23</sup>

(2) Water has one and the same feature in all possible worlds in which it exists which fixes the identity of the kind,

and

(3) The (as yet unknown) fundamental scientific feature (specified in (1)) is the feature (mentioned in (2)) which fixes the identity of water in all possible worlds in which it exists.

According to my modern essentialist, these assumptions have the status of a convention. According to his Kantian cousin, they are required for any rational thought about kinds. Either way, they are something grasped by all pre-scientific thinkers who understand the meaning of 'water'.

Many will object that ordinary thinkers do not make these three deep assumptions in understanding the term 'water'. We can certainly tell stories in which we appear to understand this term (as a kind term) without making these assumptions.

*Story 1: The Cautious.* Some may assume that water has a physically fundamental scientific feature in this world (assumption (1)) and believe that there are some properties which water must have if it is to exist

<sup>22</sup> The point is made by Putnam in *Philosophical Papers*, iii. 220. In this passage, Putnam (tentatively) represents himself as preferring the 'conventionalist' approach, and contrasts his account with Kripke's (*Philosophical Papers*, iii. 221).

<sup>23</sup> Ordinary thinkers need not assume that the particular feature in question can be discovered by scientists. It is enough that they believe that there is a kind-unifying feature of a type some of whose instances can be discovered by scientists.

(assumption(2)). But they may still remain agnostic as to whether the identity of the kind in all possible worlds rests on its possession of that fundamental scientific feature (assumption(3)). Perhaps they have never given the matter a moment's thought and would not know whether to accept assumption (3), if asked. They might think even that other necessary features of the kind are as important for its identity, or prefer to remain agnostic on this controversial topic. But, nonetheless, they use the term 'water' to refer to the relevant natural kind.<sup>24</sup>

*Story 2: The Unsophisticated.* Others may have no view as to whether water has a fundamental scientific physical feature (as required by assumption (1)), even though they think that water does have some properties in all worlds in which it exists which determine its identity (as is required by assumption (2)). They may be confident that there are some properties which water must have to be water, but not believe that these are the scientifically fundamental ones. They may think of water as having the same important properties as these samples, but regard as important only those intrinsic properties which are relevant to their skills, not those which feature in a master physical science.<sup>25</sup> They may have no view as to whether the remaining properties of water flow from one fundamental scientific feature. Indeed, they may not have grasped the idea of a determining physical feature of the type a physical scientist might uncover. But, nonetheless, they may accept that water is a kind, and that as such it must possess certain properties whenever it exists. In this way, more primitive people may succeed in grasping genuine kinds, and using terms to refer to them. Such kinds may indeed have fundamental scientific features, but they are of no interest to the people who introduce the term.

Both stories attribute to ordinary thinkers, using natural-kind terms, assumptions semantically shallower than those required by my modern essentialist. Of course, confident and sophisticated thinkers may often make the latter assumptions in using natural-kind terms. But this cannot by itself show that all ordinary thinkers who master natural-kind terms always make assumptions of this type. Indeed, as the two stories suggest, we can (it appears) grasp these terms without them.<sup>26</sup>

Many, favouring modern essentialism, will wish to reject the conventionalist interpretation of (2). But what alternative basis can be provided

<sup>24</sup> For consideration of related issues, see Graeme Forbes's *The Metaphysics of Modality* (Oxford, 1985), 193 ff.

<sup>25</sup> For a view of this type, see David Wiggins's 'Putnam's Doctrine of Natural Kind Words' in P. Clark and B. Hale (eds.), *Reading Putnam* (Oxford, 1994), 203.

<sup>26</sup> Nor is the issue altered if one invokes the idea of a pre-scientific thinker's reliance (via some deference mechanism) on his experts. For, there is no reason to assume (1) that his experts are scientists rather than craftsmen, or (2) that he has ceded authority to them over matters in remote possible worlds. He need never have considered the latter question at all.

for this claim? Nathan Salmon once characterized (2) as ‘irreducibly metaphysical’, and ‘if knowable at all, knowable a priori’, ‘the product of a *sui generis* branch of philosophy’.<sup>27</sup> But these formulations, despite their salutary caution, offer little insight into the metaphysical basis or knowability of (2). If (2) is to be understood in ways other than those proposed by my modern conventionalist, its basis and knowability need to be explained.

At this point, some have emphasized the primitive and irreducible nature of necessity.<sup>28</sup> But this move by itself is unsatisfactory, because it is itself compatible with a wide variety of distinct metaphysical theories. Thus, my modern essentialist could agree that necessity is irreducible. So too could Plato, opting for a rich metaphysical theory in which necessities and essences are real independent features of the natural world. The same is true for the Kantian, whether democratic or elitist.<sup>29</sup> Irreducible necessary truths could be based on the a priori convictions of the ordinary thinker (as in my modern essentialist’s account), or on some yet to be specified metaphysical picture. As theorists, we need to know which of these options is to be preferred.<sup>30</sup>

Some modal realists seem to think that we (or some of us) have a special sort of intuition which allows us to detect what must be the case, a form of privileged access to the metaphysical grid which binds this world and all other possible worlds.<sup>31</sup> In their view, there are natural kinds with their own essential features existing independently of us, and we are aware of them by intuition or some other special epistemological faculty. However, this form of Platonism can only be successful if it can resist the objections brought by Locke and other empiricist writers. For, they challenged the very coherence of this position on epistemological grounds.

Some modern writers have been attracted to the view that (2) is knowable a posteriori, ‘the product of scientific discovery, of scientific theories’.<sup>32</sup> Thus, Saul Kripke once wrote:

<sup>27</sup> Salmon, *Reference and Essence*, 263 f.

<sup>28</sup> As Kripke does in *Naming and Necessity*, 18–19, esp. n. 18.

<sup>29</sup> An élitist Kantian is one who, like his democratic cousin (introduced in the previous section), believes that the source of necessity does not lie either in us or in the world, but in a set of principles which simultaneously define both together. The élitist Kantian holds that this insight is the result of philosophical investigation, not one immediately accessible to all concept users.

<sup>30</sup> This issue is acute if one follows Salmon in separating trivial and non-trivial essentialism (*Reference and Essence*, 5). (See n. 5 above.) For, one needs to know the basis for non-trivial essentialist claims.

<sup>31</sup> This type of view is criticized by Saul Kripke in *Naming and Necessity*, 43–5. It is sometimes (perhaps implausibly) associated with the writings of David Lewis (e.g. ‘Counterpart Theory and Quantified Modal Logic’ *JP* 65 (1968), 113–26).

<sup>32</sup> Keith Donnellan, ‘Rigid Designators, Natural Kinds, and Individuals’ (unpublished, 1974). This paper, originally read at a UCLA Philosophy Colloquium, is cited by Salmon, *Reference and Essence*, 165.

Science attempts, by investigating basic structural traits, to find the nature and thus the essence (in the philosophical sense) of a kind.<sup>33</sup>

Indeed, he went so far as to comment that his views:

suggest that a good deal of what contemporary philosophy regards as mere physical necessity is actually necessity *tout court*.<sup>34</sup>

However, he did not endorse this proposal, cautiously concluding that he was uncertain as to 'how far this line can be pushed'. His caution was fully justified. For, to sustain his suggestion, he would need to show how scientific theory could give us knowledge of what is the case not merely in this world, but in all possible worlds. One would need to know how (if at all) physical necessity is converted into metaphysical necessity. These fundamental questions would need to be resolved before Kripke's suggestion could be vindicated.<sup>35</sup>

Contemporary debate on these issues has two poles. At one, the foundations for talk of necessity lie in our conventions, in the deep a priori assumptions chosen by ordinary thinkers. At the other, they are the product of a substantive metaphysical theory. The first option makes great, apparently implausible, demands on the ordinary thinker. The second presupposes an (as yet to be developed) metaphysical theory of how the world has to be, and an epistemological account of how we can grasp that this is so. But little has been done to make good these latter presuppositions.

#### 1.4 ARISTOTLE'S ESSENTIALISM INTRODUCED

We seem to oscillate between three traditional options. All essentialists may agree that:

(\*) F is an essential feature of kind K if and only if F is the feature selected when we define K.<sup>36</sup>

But this bi-conditional claim can be interpreted in several ways. For my modern essentialist, essential features are made such because we have a set of definitional procedures. These definitional procedures are conventional, and embedded in our grasp of natural-kind terms. Metaphysical priority is given to the right-hand side of (\*). For the Platonist, by contrast, essential features are there to be seen, graspable by anyone capable of

<sup>33</sup> Kripke, *Naming and Necessity*, 138.

<sup>34</sup> Kripke, *Naming and Necessity*, 164.

<sup>35</sup> As Salmon notes, *Reference and Essence*, 264.

<sup>36</sup> For some parallel distinctions, see my 'Aristotle and Modern Moral Realism' in R. Heinaman (ed.), *Aristotle and Modern Realism* (London, 1995).

reason-based intuition. For him, priority is given to the left-hand side of (\*). The Kantian denies that priority should be given to either side of (\*). In his view, our definitional practices cannot be understood without reference to essential features of objects, but the latter cannot be understood without reference to our definitional practices. It is already a mistake to ask which side of (\*) is prior.

Are these the only alternatives? Is there a form of metaphysical account, distinct from those just sketched above, which is immune to traditional empiricist criticisms?

Aristotle, I shall argue, sought to devise just such an account. His writings, far from adopting (ahead of his time) any form of the modern essentialist programme, constitute a well-defended attempt to vindicate the claims of traditional metaphysics without attributing to the ordinary thinker the deep a priori assumptions invoked by my modern essentialist. Further, his metaphysical account differs in fundamental ways from the Platonist and Kantian options introduced above.<sup>37</sup> Thus, his views cannot be assimilated to any of the three options just outlined.<sup>38</sup>

Aristotle (as I shall argue in Part I) developed an account of the meaning and understanding of natural-kind terms which does not require us, as users, to have intentions with the degree of semantic depth presupposed by my modern essentialist. According to his account, one can understand the term 'water' as a natural-kind term without having any views as to whether water possesses a fundamental scientific feature. Nor need one intend to defer to scientific specialists who have such knowledge. For Aristotle, it is the craftsman not the scientist who is the key to understanding terms for natural kinds. The craftsman can grasp terms for natural kinds without making the semantically deep assumptions implicit in my modern essentialist's account.

If this is correct, Aristotle cannot have sought to explain the source and nature of necessity of claims such as (4) on the basis of our pre-scientific linguistic intentions.<sup>39</sup> Their status has to be explained independently of

<sup>37</sup> Platonism, so characterized, does not necessarily involve either of the two following theses:

- (a) The world is composed fundamentally of universals, conceived as necessary entities.
- (b) The fundamental components of reality can be known a priori.

Thesis (b) is labelled 'epistemological Platonism' in Chapter 10 Section 6. If Plato held some version of (a) and (b), his views would represent one species within the broader genus of Platonism (as I have defined it).

<sup>38</sup> Of the options previously considered, Aristotle's views approximate most closely to Kripke's (cautious and unendorsed) suggestion that science uncovers metaphysical necessities. But Aristotle's view of science, as it will emerge, is one permeated by essentialist thinking.

<sup>39</sup> It is not merely that appeal to pre-scientific intuitions is insufficient to account for the source and nature of the necessity of claims such as (4). Aristotle, as I understand him, also rejects the necessity of any appeal to such intuitions.

resources drawn from the philosophy of language or an account of pre-scientific thought. If so, Aristotle needed to develop the type of metaphysical and epistemological theory required by any who are drawn to essentialism but wish to reject my modern essentialist's programme. I shall argue (in Part II) that in doing so he proposed an account distinct from and preferable to the three traditional metaphysical options set out above.

### 1.5 EXISTENCE: FURTHER DIFFERENCES BETWEEN ARISTOTLE AND MY MODERN ESSENTIALIST

In my modern essentialist's account, (1) requires the ordinary thinker to use particular examples to fix the extension of the term 'water'. Instances of water are counted as such because they are related in an appropriate way to this sample of water. Further, if the term 'water' refers to a kind, its reference is fixed by the expression 'the kind of which these are instances'. This is how we grasp the reference of the phrase 'that kind'. The ordinary thinker is accredited with a mechanism for fixing the reference of the term 'water' which essentially involves the use of examples. His grasp of these is (partially) constitutive of his grasp of the term.

My modern essentialist is explicitly committed to the ordinary thinker's using examples in this way.<sup>40</sup> He makes the following assumption:

*Existence Assumption:* If one understands the term 'water', one must therein know that the kind has instances.

For, it is a constitutive condition of understanding 'water' (on this account) that one knows of certain instances that they are (in fact) instances of water (or is in contact with someone who does). In one version, one who understands the term must be able to discriminate instances of water from instances of other kinds (or is prepared to defer to someone who can). More cautiously, at the centre of the relevant practice, there must be someone who knows that the relevant kind is instantiated and which kind it is (viz. the one instantiated by (some of) those examples). In another version, to master the term one must stand in some less demanding form of epistemically reliable connection with actual instances of water (one which does not require anyone to be able to distinguish them from samples of certain other kinds).

<sup>40</sup> It should be noted, however, that Kripke's own writings suggest a marked degree of caution about the use of reference-fixing devices of this type. (See *Naming and Necessity*, 121 ff, 136.)

Both versions of modern essentialism require one who understands the term 'water' to have knowledge of certain instances of water (or be dependent on someone who does), although they disagree about the precise conditions required for such knowledge. Both would reject the view that one can understand 'water' without having any knowledge (either directly or derivatively via one's experts) of any of its instances.<sup>41</sup> Thus, my modern essentialist accepts (first) that one element of the meaning of a natural-kind term is determined by its referent and (second) that one understands its meaning by having knowledge (either directly or indirectly) of its instances as instances of that kind.<sup>42</sup> He must reject the possibility of our distinguishing (e.g.) in the earlier stages of scientific investigation between:

(i) knowing the meaning of a natural kind term;

and

(ii) knowing that there is a kind referred to by this term.

In his account, there can be no determinate grasp on the meaning of such a term without knowing (derivatively or directly) that the kind in question is instantiated (by certain cases). For, one cannot understand the term 'water' without knowing that water is in fact instantiated by certain specific examples.

While some find this aspect of modern essentialism problematic,<sup>43</sup> my modern essentialist aims to show that our grasp of kind terms essentially involves knowledge of the existence of relevant instances.<sup>44</sup> For

<sup>41</sup> One could perhaps use the term 'water' without being able even derivatively to identify its instances. But, for my modern essentialist, in such a case one would not understand the term, but merely 'parrot' it.

<sup>42</sup> See, e.g. Putnam's remarks in Clark and Hale (eds.), *Reading Putnam*, 282–3. Here, he insists that the mind is to be conceived in terms of 'a system of object-and-quality involving abilities', such that to possess the relevant concept of (e.g.) gold is to have 'the beginnings of an identificatory ability'. The required ability is one which cannot be fully explained without reference to the objects (or kinds) one is able to identify (perhaps with the aid of one's experts). Thus, to master the relevant term requires one to have an identificatory ability which essentially involves actual cases of the kind. While Putnam's views on these topics may have altered over the years, my modern essentialist is one for whom (as Evans and McDowell have insisted) mastery of a natural-kind term involves the ability (at least with assistance) to identify actual instances of that kind. Thus, my modern essentialist is not a proponent of the 'dual component account' in which one can master a term without the relevant ability. (In earlier days, Putnam was sometimes taken to be just such a dual-component theorist. See McDowell's 'Putnam on Mind and Meaning', *Philosophical Topics* 20 (1992), 35–48, and C. McGinn's 'The Structure of Content', in A. Woodfield (ed.), *Thought and Object* (Oxford, 1982).)

<sup>43</sup> See, e.g. Paul Boghossian's 'What the Externalist Can Know A Priori', *PAS* 97 (1997), 161–75.

<sup>44</sup> See, e.g. Bill Brewer's *Perception and Reason* (Oxford, 1999), 262 ff.

Aristotle, by contrast, knowledge of the meaning of a kind-term need not involve anyone's having knowledge of the existence of instances of the kind. I shall argue that he separates these two stages of enquiry, and thus rejects my modern essentialist's Existence Assumption. The challenge he faces is that of showing that one can determinately grasp natural-kind terms without knowing (even derivatively) of some cases that they are instances of that kind.<sup>45</sup> My modern essentialist thinks that it cannot be done. In Part I I shall examine Aristotle's (complicated) attempt to show that it can.

### 1.6 NECESSITY, AND ESSENTIALITY

There is one further issue on which Aristotle and my modern essentialist differ. In Aristotle's account not all necessary properties of a kind are essential to it. Thus, he thought that:

'Man is a rational animal'

expresses an essential truth, while

'Man is a humorous animal'

or

'Man is capable of acquiring a culture'

are only necessary truths. For my modern essentialist, by contrast, 'essentialism' consists solely in the belief that objects or kinds have certain properties necessarily, or (as he would say) in all possible worlds.<sup>46</sup> This is quite different from Aristotle's view, since it fails to respect his central distinction between necessary and essential features,<sup>47</sup> both of which are possessed by a kind in all possible worlds in which it exists.

At this point Aristotle faces two challenges. He must show how the distinction between necessary and essential features can be maintained. It cannot be enough to point to the fact that we have intuitions about essences distinct from (and more demanding than) those concerning merely necessary properties.<sup>48</sup> He needs to establish that these intuitions

<sup>45</sup> If examples are involved in Aristotle's account of the acquisition of natural-kind terms, they must play a role different from that envisaged by my modern essentialist.

<sup>46</sup> This understanding is captured in both (1) and (2).

<sup>47</sup> This point was emphasized by Joan Kung in 'Aristotle on Essence and Explanation', *PS* 31 (1977), 361–83.

<sup>48</sup> These points have been made recently by Kit Fine in a series of important papers. See, e.g. 'Essence and Modality', *Philosophical Perspectives: Logic and Language* 8 (1994), 1–16. Fine appears to base his claims on shared intuition. He has not (so far) been concerned to support them on the basis of a more general metaphysical or epistemological theory.

are metaphysically well grounded. Further, he must indicate how we are to make sense of the logical grammar of claims involving necessary and essential features without referring to possible worlds.

## 1.7 OUTLINE OF WHAT FOLLOWS

In the first part of this book (Chapters 2–6) I shall argue that, for Aristotle, the meaning of natural-kind terms is semantically shallow and can be grasped even if no one has knowledge of the existence of the kind. Thus, Aristotle (or so I shall argue) rejects two of my modern essentialist's central assumptions, those which concern *semantic depth* and *existence*. His views (or so I shall claim) constitute an interesting and defensible alternative to these (and other) modern orthodoxies.

My investigation begins with an analysis of Aristotle's discussion of definition in *Posterior Analytics* B. Chapters 2 and 3 argue that (in his account) one begins scientific enquiry with a grasp of what the term signifies, which does not require one to have knowledge of the existence of the kind. At this stage one need not know anything of the existence or of the essence of the kind. In Chapters 4–6 I shall argue that (notwithstanding initial appearances to the contrary) his view of the significance of names and of the content of thought is consistent with this account. In Chapter 6 I shall attempt to assess the strengths and weaknesses of Aristotle's proposal.

Aristotle needs to vindicate claims concerning necessity and essence without relying on the assistance of the pre-scientific thinker. I shall examine his attempts to do this in Chapters 7–12. In the final chapter, I shall argue that his views constitute a distinctive and attractive theory of these issues, a high-grade alternative to those currently in fashion (Chapter 13).

