

# **On the Necessity and Sufficiency of Universals**

Andrea Borghini

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## ABSTRACT

### **On the Necessity and Sufficiency of Universals**

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In this dissertation, I argue for the thesis that the sole denizens of reality are extrinsic universals, that is, repeatable entities with a qualitative character, each of which depends for its existence on some other universal. Although figures such as Plato and Russell upheld analogous theses, nowadays, this is a rather unpopular and controversial view. I believe this view can shed some new light on an old, and undeservedly forgotten, metaphysical picture, which is best suited to accommodate the way in which we gain knowledge of reality. My goal in the dissertation is to draw this picture using the tools of contemporary metaphysics and semantics. I begin by arguing that properties are necessary in order to do ontology. I then examine and reject the various criteria for singling out individuals via their properties. Thus, although we do have evidence for the existence of properties, we find it problematic to bind them to individuals. It is here that I propose to dispense with individuals altogether. I argue for the existence of a specific type of property, i.e., universals. Moreover, in light of some arguments I offer against the existence of intrinsic properties, I suggest that all universals are extrinsic. Hence, the name of my view: *Extrinsic Universalism*.

# **On the Necessity and Sufficiency of Universals**

Andrea Borghini

Department of Philosophy, Columbia University, New York

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In the following pages, two arguments, among others, are defended: the first entails that, metaphysically speaking, there are no people; the second has it that every quality depends for its existence on some other quality. Thus, there are no people to thank for the existence of the work (not even its author), and the existence of this work depends on the existence of several clusters of qualities that, at one point or other, in this or that way, helped producing it. Those clusters, for whose existence I am extremely thankful, go, or have gone, under the following names: "Elena Borghini", "Guido Borghini", "Alexia Innis", "Ave Marabotti", "Luca Morena", "Massimo Mugnai", "Dione Rábago", "Cristiano Salutini", "Matthew Slater", "Vera Tripodi", and "Neil Williams". Also, I am in great debt, and deep appreciation, to the clusters of qualities that go under the names of "John Collins" and "Christia Mercer." The final version of this work also benefited from the insightful comments of the clusters that go under the names of "Gyula Klima" and "Jan Westerhoff." Finally, if this work came to be, it is largely because of the numerous philosophical and human qualities that go under the name of "Achille Varzi." That all these clusters may persist for a long time.

*On the Necessity and Sufficiency of Universals,*  
A. Borghini  
"Table of Contents"

*To any simple, wise, hard-headed Annita that*  
*Till the end, like many others,*  
*Honored life*

## INTRODUCTION

That the human spirit will ever give up metaphysical researches is as little to be expected as that we should prefer to give up breathing altogether, in order to avoid inhaling impure air (Kant 2001: 101).

Talking of a beautiful girl, a beautiful landscape, a beautiful picture, I certainly have very different things in mind. What is common to all of them – "beauty" – is neither a mysterious entity, nor a mysterious word. On the contrary, nothing is perhaps more directly and clearly experienced than the appearance of "beauty" in various beautiful objects (Marcuse, 1991: 210).

### I. The Sufficiency of Properties

This work centers on a thesis: that the sole denizens of reality are extrinsic properties, that is repeatable entities with a qualitative character. Although figures such as Plato and Russell supported theses analogous to this, nowadays, this is a rather unpopular and controversial view, about which Peter Strawson once said: "This is a project which I leave to anyone whose taste for exercising ingenuity for its own sake is greater than mine."<sup>1</sup> Luckily, I read Strawson's remark only in the latter part of the project. In the meantime, I had come to believe that the project was worth being taken seriously. Indeed I believe that this project can shed some new light on an old, and

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<sup>1</sup> (Strawson, 1959: 221).

undeservedly forgotten, metaphysical picture, and that this picture is best suited to accommodate the way in which we gain knowledge of reality. My goal is to draw this picture using the tools of contemporary metaphysics and semantics.

Let me first introduce the fundamental notions embedded in the thesis. When I say that a property is repeatable I mean that a property can be instantiated more than once. What I take instantiation to be will be explained in Chapter 4. For the time being, we can use the intuitive idea that a property can repeat not only in time, but also in space. *Being a dog* was here yesterday and today; it is here in New York, but it is also there in New Jersey. Perhaps there are also properties which are not in space and time, such as *Being a perfect square* or *Being generous*. If so, they are repeatable as well; but repeatability will have to be explained here in other terms, for example by appealing to mental states (for example: *Being square* can be the object of thought at different times; also, you can conceive of it twice in the same thought). Because of its repeatability, a property has a multiplicity; on the other hand, it has also a unity – it is *a certain* property. This duality is one of the most mysterious aspects of properties, which I will discuss in Chapter 3.

As I shall argue in Chapter 3, repeatability by itself does not suffice to define a property. There are some repeatable entities – that is, individuals – that are not properties. Properties have a qualitative character, while some repeatable entities lack such character. Qualitative character accounts for what something is like. Properties such as *Being a dog*, *Being brown*, *Being loud* all give character to the world. One way to

illustrate what character is starts from our experience. When I watch Fido the dog, the three properties listed above are those which explain what my experience is of: it is of a dog, it is of brown, and it is of noise. The properties explain the content of the experience. Possibly, not all properties make a difference in our experience. What we experience is a character of reality, what reality is like. Properties are what provide reality with *that* character, whether we are capable of grasping it or not.

That a property is extrinsic means that the property cannot exist unless some other properties do exist. In other words, I hold that the existence of each property depends on the existence of some other ones. Why I endorse this position will be clarified in Chapter 2, while in Chapter 5 I will expose the different relations of ontological dependence.

Traditionally, properties have been opposed to individuals. Although I will eventually argue that individuals are unnecessary to explain reality, I will go to a great length to discuss the supposed role of individuals in metaphysics. As the term itself suggests, individuals are those entities which cannot be divided and which lack qualitative character. Individuals have tended to occupy the center stage in the metaphysical and ontological traditions of western thought.

Whether individuals exist or not, in our everyday interaction we *behave* as if there are individuals. It is common understanding that, when I am cooking, walking on a street, or looking out of a window, I divide the world into distinct individuals: this red peach; George the cat; the cherry tree in the backyard. Look in front of you:

you will be tempted to think that you are experiencing a plurality of individuals, and if I asked you to count them you would probably not hesitate for a second before doing so.

The way we use language also implies that individuals are somehow prior, more salient than properties. If someone's speech suggests that you are unique, then you will end up having a prominent spot in her ontology. That person, that molecule, this check are examples of entities that most of us would want to classify as individuals of some sort. Each of us is unique. Each check is unique. It has to be. Finance (to mention just one example) depends on such uniqueness. But what makes a person or a check distinct from their surroundings? How do we count individuals? It is my conviction that, until a good answer has been given to these questions, our scientific, social, ethical, and political discourse will not be on solid ground. In this respect, the following discussion is of interest to society at large.

As I shall argue in Part I, however, there is no satisfying answer to the question "Why did you count that way?" The main difficulty rests on two results that I will argue for in this work: (i) the fact that one has to appeal to properties in order to count individuals, and (ii) the fact that properties are all extrinsic, that is each property requires the existence of other properties in order to exist. It was by reflecting on this impasse that I came to entertain the thought that individuals are not necessary to account for reality; properties suffice.

## II. Numbering the World and Singling Out Individuals

My reasons for coming to this bold and rather unpopular metaphysical view stem from an examination of what I take to be the challenge in any attempt to make sense of the world around us. The challenge starts when we notice our inexorable, compulsive ability for *numbering the world*. Whenever we make an assertion about the world, we are involved in a counting of some sort: "Twenty-four new planets were observed." "There will be three protagonists." "You owe me fifty dollars." "Take three eggs, two-hundred grams of flour, and fifty grams of sugar ..., " and so on. Each of us constantly numbers the world, regardless of her bent for mathematics, and regardless of the activity in which she engages. Although evident and familiar, the reasons for this are far from clear. So, here is the challenge: Why is numbering compelling and how can we conciliate numbering with our metaphysical views?

Numbering the world involves numbers, some agent(s), and that which is counted. Here I do not intend to study the nature or the ontological status of numbers. Whether numbering essentially involves numbers, sets, functions or whatever is therefore something I will not be discussing. If, as it has been argued most notably by Harty Field in *Science Without Numbers* (Field, 1980) and by John Burgess and Gideon Rosen in *A Subject With No Object* (Burgess, 1997), any empirical use of mathematics is dispensable, that does not mean that there is no numbering the world. Numbering is a simpler and more fundamental matter than using numbers to talk about the empirical world. Any time we use a determinative or indeterminative article,

"a" or "the," we are numbering the world. We might not be referring to the entity "1," if you will, but we are still counting. In this sense, even if you are a fictionalist (like Burgess and Rosen) or nominalist (like Field) about numbers you will still admit that we do count. Thus, it is important not to be deceived by the use of the term "numbering." It does not imply the existence of numbers, but rather the act of counting. I might have used "counting;" but, "counting the world" does not sound good. Thus, to avoid unnecessary and cumbersome phrases, in the sequel I will employ numbers in some of my examples; but this should not be construed as a commitment, on my part, to a certain nature and ontological status of the entities we use for counting.

We are thus left with the agent of numbering and the domain. I will not investigate the former either, although in the *Conclusions* I will gesture at some of the issues entangled with it. The present work is instead concerned with the domain-part of counting, on how a domain can justify or prompt a certain count. In particular, the domain I will concentrate upon from now on is the spatio-temporal reality.

As I see it, we count individuals or properties. In the first case, I say that an individual has been "singled out;" in the latter, I say that a property has been "numbered." Intuitively, to single out an individual is to commit to its existence, namely to its being part of a domain such as the spatio-temporal reality. To number a property is instead to conceive it through a certain number; *Being a biped* or *Being three*

*kilograms* are conceived, respectively, through the number two and the number three. My claim (elaborated in Chapter 6) is that no property can avoid being predicated of reality if not through a certain number, although numbers might not be part of reality. Some further explanation is needed, however, to explain what singling out is. In order to do so, it is important to distinguish between two readings of the question: "Why did you count that way?" when referring to individuals.

In a sense, every possible object of thought is an individual. Consider this sweet red apple in front of me on the table. You can ask me to focus on a portion of it, a portion of your choice, and to consider that exclusively. So, first consider the whole apple only. Now only its left half. Now only its skin. Now only that tiny, more yellow spot on the bottom right ... Each time the object of your attention could be regarded as an individual, in some sense of this word. And the same is valid also for more abstract aspects of the apple. First consider the redness only. Now only the sweetness. Now only the weight. And so on .... "You are focusing on one thing at a time. That's what I call an individual" – one might even say. Hence, if it would be the existence of *those* individuals that we are after when we do ontology, the answer to the question "How many individuals are there in front of you now?" would be at the same time obvious and infinitely complex. There are as many as you think to be able to direct your attention to.

On the other hand, the question about how many individuals are there can be read as asking about the existence of *real individuals*. If ontology has to deliver *a* world

view – be it subjective, inter-subjective or objective; sharp or vague; pluralist or monist – "individual" has to mean something more than "object of thought." Individuals have to be "the denizens of our world." And it does not matter whether the denizens are subjective, inter-subjective or objective; sharp or vague; pluralist or monist. They just have to be the denizens of our world, however this is characterized. It is in this sense that individuals have to be *real*. Not because there is a real, mind-independent, world to which they belong. In fact, one could be an idealist and still believe that there is a non-trivial question about how many individuals are there in her ontology. Even for an idealist, an apple will somehow be more salient than its middle third. And also the idealist will have to account why this is so.

If singling out is the act of committing to the existence of a *real* individual, *the Problem of Singling Out Individuals* can hence be formulated thus:

*POS*: Under what circumstances can one commit to the existence of an individual?

*POS* is an epistemic problem relevant to ontology, in that it demands one's ontological commitment in order to answer it. As I see it, the problem derives from the conjunction of two distinct Metaphysical problems which were central to the Scholastic and Early Modern traditions. One of them is *The Problem of Individuation*.

Assume that God created a world full of individuals; what is it about each individual that makes it different from the other ones? Or, in other words:

*POI*: What differentiates one individual from the others?

In order to single out an individual, however, you need not only differentiate it from the others; in order to know that there is *one thing* which is different from the others you also need to have a criterion for telling what makes one thing a unity. You could believe that what makes Fido the dog one is also what makes it different from Lilly the cat, George the owner, and anything else there is. But perhaps what makes an individual a unity has to do with its internal structure: for example, the fact that its parts all cooperate to the same ends, like the players on a team. Thus we have another problem, *The Problem of Unity*:

*POU*: What is it about an individual which makes it *one*?

As I see it, *POS* asks for an epistemic justification of our answers to both *POU* and *POI*. In order to count an individual, you need to commit to its unity, and to its difference from other individuals.

The reason why I place so much importance on the epistemic side of those fundamental metaphysical questions is that one cannot honestly do metaphysics

without providing a non-arbitrary justification for its starting point. It is futile to spend so much time in rational argumentation while operating an arbitrary foundation. By "arbitrary" here I do not mean just "irrational," rather "dependent on one's will." A foundation based on sense data (if you regard them as irrational) or well-founded and largely shared feelings would be acceptable. I would accept also a feeling that there is a supernatural power, call it "God," which individualizes everything. But, I do not accept that individuals are assigned to a domain following one's will, like dotting a surface with an airbrush.<sup>2</sup> For this reason, at the outset of this work lies an epistemic concern, perhaps of an empiricist flavor.

### **III. Empiricism**

It is because of (i) and (ii) above (that is, because there is no way to single out individuals without appealing to their properties, and because properties are all extrinsic) that I will argue that there is no satisfying criterion to single out individuals. But, my reasons for subscribing to (i) and (ii), as well as for embracing the thesis that the sole denizens of reality are individuals, might be seen to ultimately rest on the kind of epistemic approach I have to ontology.

You could call my stance "empiricist." After all, for me, the denizens of reality have a qualitative character, and this is best understood in connection to our

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<sup>2</sup> This is not to say that I deny the possibility of there being chaos in the world. What I deny is an arbitrary count of individuals. This is compatible with the thesis that those individuals behave in a chaotic way.

experience, through which we discover what something is like. As I noted above, however, I do not maintain that only data gained from direct experience should count as the fabric out of which to knit reality. I am not a phenomenalist, nor do I hold a form of naïve empiricism like Berkeley's. I believe that knowledge about reality is obtained not only through our senses, but also through meditation and rational argumentation. Thus, we could come to believe that there are some denizens, with a qualitative character, that we cannot be acquainted with. Those, however, we will only encounter or through inference or analogy from that which we came to know through our senses. It is in this sense that I am an empiricist: I believe that our ontology should be guided by what we know through our senses. And this suggests that (i), (ii), and the thesis that properties are the only denizens of reality, are true. Unlike most empiricists, however, I believe that the fabric is made of repeatable pieces: they are the pieces that give quality to our experiences; that figure as causal powers in our theories; and that cover theoretical roles in our meditations.

Clearly, those are more programmatic assertions, rather than statements that I can exhaustively defend at present. The dissertation is a metaphysical inquiry, and the epistemic stance that I bring to such inquiry is merely a motivation for its starting point, not the inquiry itself. Thus, here is a brief outline of my main argument in favor of my empiricism, which proceeds as follows:

- (i) We know something only to the extent that the entities of which we have knowledge are similar to others that we came to know at an earlier time;
- (ii) Two entities can be similar only if there is another entity – a general one – they have in common;
- (iii) From (i) and (ii), we know something only to the extent that there are general entities;
- (iv) General entities are the only entities which are required to possess some knowledge;
- (v) We know something;
- (vi) Thus there are general entities, and they are the only things required in order to know something.

(i) That knowledge requires similarity is due to the fact that what we are seeking when we observe the world, as well as when we do science, are repeatable patterns. The eggs in the recipe have to be eggs always, they have to be entities of a certain kind, that is, similar in structure or behavior, or both. That salt dissolves in water is an interesting statement to the extent that salt and water are repeatable. It makes sense to study only to the extent that some of the problems we will face will, at least partially, repeat. And so on, and so forth.

(ii) That similarity entails sharing of properties is given in the very idea of similarity. Some people argued for the existence of a relation of primitive similarity, i.e. a relation of similarity that does not need an explanatory fact (that is, the existence of a general entity which the purported similar entities share) in order to be predicated. As I argue at great length in Chapter 3, I find the idea of primitive similarity to be a contradiction in terms: how can two things be similar but share nothing? What would make *them* similar? From this and (i), (iii) follows.

(iv) If general entities, by themselves, can explain why we do know what we know, why add other entities? This is the rationale of (iv), which will be defended in Part II. Of course you could disagree that to make true several of our statements, such as those about Fido the dog, we need individuals as well. I will deny this. As I explain in Chapter 6, I believe our statements can be accepted as true without the need to postulate individuals at all.

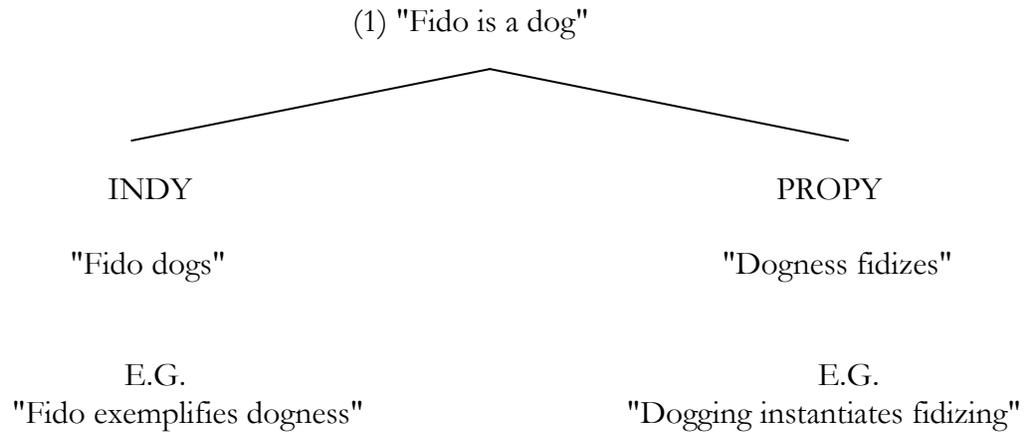
(v) I am not sure that (v) is true. I hope it is. I do believe that there are some Moorean facts, facts of which we cannot have any doubt. I know that I now have the impression of being writing. I am not sure I am really writing; but I wouldn't agree with anybody who would try and convince me that now I am not having such an impression. I don't know if we can justify theoretical knowledge as well. I do hope so. I hold that my ontological view is compatible also with idealism, and with an extreme

form of empiricism (there are only sense data). In both cases, the world would be made out of repeatable entities: thoughts and sense data respectively. Finally, (vi) follows from (iv) and (v).

The view that properties are the sole denizens of reality is also fruitful when it comes to numbering. Indeed, with that view in place we avoid problems such as the Problem of the Many (since at time  $t_1$  it is possible that at time  $t_2$  George the cat will lose one of its many parts,  $P_i$ , while still being George, is at  $t_1$  George-without- $P_i$  also a cat? If so, how many cats are there, at  $t_1$ , there where George is?); or the Problem of the Statue and the Clay (is this statue identical to the lump of clay that composes it?) In both cases, it is not debated which properties exist. What is at issue is how many individuals are there. Hence the numbering is applied directly to the properties. Sometimes, as in the case of proper names, it is applied to variables ranging over clusters of properties.

#### **IV. The Thesis in a Nutshell**

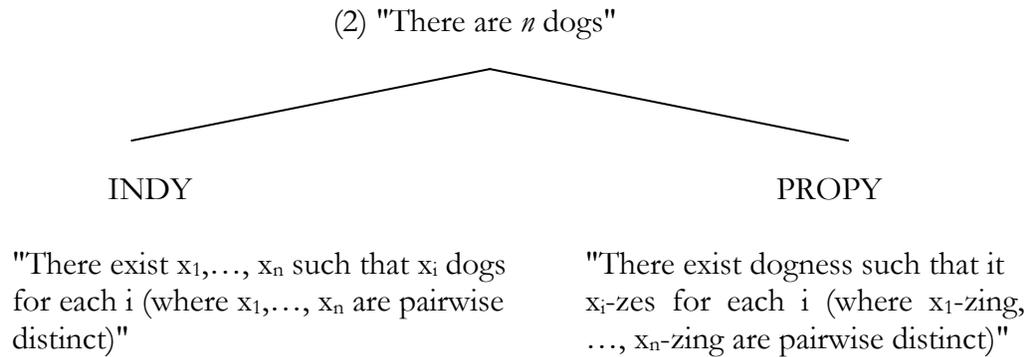
In the end, the package I will give you boils down to the following reconfiguration of the analysis of predication, where "Indy" stands for the metaphysical view centered on individuals, while "Propy" on the view centered on properties. Consider the predication:



All traditional metaphysics of instantiation and *Nominalism* (the view that sole denizens of reality are individuals) aim to explain what "dogging" amounts to. The exemplification relation is the theoretical notion proposed by those who believe that both individuals and properties exist; via that relation they explain the tie between the two kinds of entities.

On the other hand, to date there is only one account of the *Propy* version of (1), given by *Trope Theory*, the view that the sole denizens of reality are non-repeatable and have a qualitative character (more on Trope Theory in Chapter 5). I will develop an alternative to *Trope Theory* for the ally of *Propy*, in Chapters 5, 6, and 7. There I will explain what "dogness" is, and I will devote Chapter 8 to the explanation of how to interpret predicating something of it.

On the other hand, consider the following predication:



If (1) captures my metaphysical view, (2) captures the thesis about numbering the world I am defending. I will devote Chapters 1-4 to the analysis of the interpretation *Indy* gives of (2), in particular to the *Problem of Singling Out*. In Chapter 8, instead, I will argue that numbering the world concerns properties, not individuals.

## V. Two Terminological Notes

The dissertation is divided in two parts, one in which I analyze the views of those who believe that individuals are necessary for doing ontology; and the other in which I offer an ontology with no individuals. In the first part, I stick to the terminology employed by the authors I discuss. In the second part, I introduce the terminology which is required to explain my view. This could create some terminological confusion, of which I warn the reader now. In particular, there are two potential confusions which should be noted.

- (i) "*Properties*" and "*universals*." In the first part I use the word "property" as mostly used in contemporary metaphysics, that is as a neutral term standing for

whatever is capable of satisfying a predicate. Such use is compatible with any metaphysical view: *Nominalism*, *Universalism*, *Tropism*, and so on. In the second part, however, I pass to define the main metaphysical views in such a way that the concept of a property does not play any role in the definition. Still, I continue to use the term "property", and as a synonym of "universal", not as a neutral term. It should be clear, then, that "property" is used neutrally in the first part but not in the second.

- (ii) "*Denotes*", "*picks out*", and "*refers to*." Throughout the whole work I use the three verbs "denotes," "picks out," and "refers to" as synonyms. This is especially relevant in the second part, where I make an extensive use of these verbs.

## **VI. Synopsis**

The dissertation is divided in two parts. In the first, I analyze and criticize the five main ways to single out individuals; in Part II, I defend the thesis that properties are the sole denizens of reality, and discuss how numbering the world can be explained in *lieu* of this thesis.

In particular, in *Chapters 1-2*, I review those methods of singling out which regard individuals as the subjects of the numbering. The five main ways to single out an individual are discussed: via the so-called Principle of the Indiscernibility of Identicals; via individual *haecceities*; via essences (in two ways); via intrinsic properties. I

discuss and reject each in turn, devoting more attention to intrinsic properties – the most novel and favored option.

In *Chapters 3-5*, I argue in favor of the metaphysical thesis supporting (1). I do so by first arguing that our knowledge is knowledge of properties, not of individuals. I then provide an interpretation of language which fits with this picture.

In *Chapter 6*, I argue in favor of the thesis supporting (2). I first address some further questions concerning the impossibility of talking about the world without committing to individuals. Then, I defend the view according to which assigning numbers to a domain of discourse is but assigning numbers to properties within the domain. In particular, I argue that singular terms, sometimes alleged to single out individuals, should be interpreted as ranging over clusters of properties.

## A DIALOGUE

During one of his daily strolls in the small town, young Mike stumbles and hits his head. Still sore and confused, he somehow finds the clarity to test his senses. He stands up, looks for a few seconds in front of him, then says:

(1) There is a cherry tree now in front of me.

While Mike is carrying on his tests, two strange figures gather round him. Yet instead of helping Mike, the two pause, listening with particular attention to what he is saying ...

*Indy:* "Yes, my friend," looking at Mike, "what you see is an individual which exists now in front of you. The individual has many properties, but your assertion picked out one of them, the property *Being a cherry tree*. This property is rather complex; but let's keep things simple for the moment, and set aside the details."

*Propy:* "Pardon me," interrupts the other, "How do you know there is one individual, and not two, twenty-five, or none at all, here in front of us?"

*Indy:* "Don't rush! All I claimed thus far is that in front of us there is *at least* one individual. But I leave it open that the total exact number is higher."

*Propy:* "I see. Your claim is of the form: «There is something there now – perhaps a plurality of things – which is individual-like, and has the property *Being a cherry tree*.» And, tell me, is the exact number of individuals that are there now in front of you arbitrary, or do you have some means to determine it?"

*Indy:* "It cannot be arbitrary – on pain of my entire ontology being arbitrary. And I could not go about thinking that my work is really serious if I were to believe that it rests on arbitrariness. The way I go about counting individuals is by looking at the properties at hand. In this case, *Being a cherry tree* occurs only once and – let's stipulate for the moment – it is a monadic property, one that needs the existence of one individual only in order to exist. Hence, one individual is all that is needed in the present case. And, I never want to claim that there are more individuals than those that are needed to justify the properties we have at hand. So, I can conclude that in front of us there is one, *and only one*, individual."

*Propy:* "Right. So, if *Being a cherry tree* occurs only once and it is – say – triadic (one that requires the existence of three individuals in order to exist) – then you would claim that there are three, and only three, individuals. Is this correct?"

*Indy:* "Not really. Here things are a bit trickier. What I would say is that there are at least three individuals. To tell the exact number we would have to specify a few more things. So, say the names of our three individuals are One, Two, and Three. What complicates our discussion is that, besides them, some fusions of them might exist too. For example, there might be an additional individual, Four, which is the individual which overlaps all and only One and Two. Four is what we would call a fusion of two individuals. And if we accept its existence, we would have to include it too in our count. And as you could include Four, you might want also to include Five, the fusion of One, Two, and Three; or Six, the fusion of One and Three; and so on. The moral is: in order to determine the final amount of individuals that exist I would have to specify which fusions I do or do not accept."<sup>3</sup>

*Propy:* "And how would you go about doing that? Would you search for some properties of the fusion?"

*Indy:* "I heard some of those who share my view saying that they do not need to look at any property to establish whether a fusion exists. They just *assume* that it does or it does not. But that seems to me too radical an answer to be plausible. Isn't all the business of intellectual activity based on rational

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<sup>3</sup> For an introductory exposition to fusions, as well as other mereological and topological relations (that is, relations occurring, respectively, between parts and holes, and between spatial regions), cfr. (Simons, 1987) and (Casati and Varzi, 1999).

argumentation? How could we then accept to base our entire worldview on mere arbitrariness?"

*Propy:* "Yes, it is indeed a bit dishonest to claim that something exists just because you say so. But perhaps there are reasons that can be given to justify this method of inquiry, reasons that do not appeal to properties."

*Indy:* "Yes. Some indeed claim they do not need to look at properties, but at certain features of the whole count they provide. For example, you might deny the existence of any fusion in name of a higher overall ontological parsimony of the count, whilst maintaining that a world where there is a multiplicity of individuals better fits with our pre-theoretical ontological intuitions. You will hence have an ontology with a multiplicity of atomic individuals. Parsimony and fitness with pre-theoretical intuitions are features of the overall count, not properties of the individuals to be counted. And, it is just on the basis of these two features that you decide your ontology."

*Propy:* "I see. In this sense, doing ontology is like drawing a pleasant universal landscape. After all, it is hard to deny that counts have also an aesthetic aspect. Still, can you draw your whole landscape by relying *just* on those features of a count? Is it really just an aesthetic drive to guide us in any dispute regarding the existence of individuals? It seems to me that the

properties at hand play a key role. You believe that there is at least one individual there because *Being a cherry tree* is a certain sort of property; if this property would be substituted with *Being green* you would probably not commit yourself to the existence of at least one individual."

*Indy:* "I have to admit that considering the properties is very often a relevant source of information."

*Propy:* "Why, then, not base our counting on properties, taking also into consideration, where necessary, the overall features of a count as those you just mentioned?"

*Indy:* "There are plenty of such ways of counting. Some of them are based on everyday properties; others on scientific properties; others on formal ones (such as the properties predicated in a mereotopological theory – a theory of parts and wholes.) It is up to the ontologist to choose which properties are most appropriate for her purposes. In any case, they would still be properties."<sup>4</sup>

*Propy:* "Mmm ... but then you let properties guide your ontological thesis regarding the existence of individuals. It is on the basis of the existing properties that you decide how many individuals there are. Why not start by making an inventory of the properties at hand – such as «*Being a cherry tree*

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<sup>4</sup> (Dorr, 2004, p.2) makes – if I understand it correctly – a similar claim.

occurs here and now» – and single out the existing individuals from the inventory? Wouldn't that be a more straightforward methodology?"

*Indy:* "Perhaps it would be. But, pray, could you tell me how to predicate the existence of a property without making any appeal to individuals?"

*Proby:* "Hmm, I admit that it is quite complicated. Let us then decide to proceed this way. Let us first assume that there are individuals, and inquire if there is any way of counting them through their properties. Only if this is not going to give us satisfying results, we will inquire whether we could start by taking properties to be the primary entities, and then single out individuals from the properties at hand."

*Indy:* "Well said. Let's proceed!"

## **PART I**

### **ON THE NECESSITY OF INDIVIDUALS**

In this part, I will examine how the Problem of Singling Out Individuals (*POS*) could be solved by assuming that the main elements in a domain of discourse are individuals. Five criteria to single out individuals will be offered, and all of them will be found to be problematic.

Throughout the discussion, I will not offer stricter definitions of individual and property than those offered in the Introduction. This is because they are not needed at this stage of the inquiry; the conclusions I will arrive at are independent from one's preferred stricter definition. I will take up the question of how to define an individual and a property in Chapter 3, where I will illustrate the view I wish to defend.

## CHAPTER 1

### Singling Out Individuals: Indiscernibility, *Haecceitates*, and Essences

#### §1.1 Singling Out: The Role of Properties

As argued in *A Dialogue*, properties – considered by many as parasitic on individuals – furnish the only viable way to justify the inclusion of an individual in an ontology.<sup>5</sup> You look in front of you: you see the greenness of the apple; you touch it and feel its hardness; you bite it and taste its flavor. All you experience are properties. Of course, you could believe that you are experiencing individuals as well as properties. But you believe you are experiencing individuals *because* you are experiencing said properties. Indeed, the properties demarcate qualitative homogeneities and discontinuities. Greenness has some boundaries: the apple sits on the brown table and is surrounded by thin air. Hardness and flavor have boundaries, too. No matter how fuzzy such boundaries might be, it is hard to dispute that greenness is not different from brownness. It is on this basis that an ontologist claims that the apple is an individual.

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<sup>5</sup> Another argument in favor of the key role of properties in metaphysics can be found in (Martin, 1997).

It might be because of the homogeneity of greenness or of the hardness; it might be because the observers believes they are facing more complex structural properties devised by a chemist or a physicist. You can appeal to properties in many different ways to justify your ontology. What matters is that you *do* appeal to some property or other.

Or, so it seems. As discussed in A Dialogue, one could maintain that it is not on the basis of properties alone that we assert the existence of an individual; we have also general, overall principles pertaining to our worldview. These principles are aesthetic in nature. They aim at rendering our view simpler, more elegant, and more intuitive. So, for example, you might want to endorse the so-called Ockham's razor: "*Pluralitas non est ponenda sine necessitate*" – "do not commit to the existence of more than one entity unless it is necessary to do so."<sup>6</sup> Or you might want to commit to the following principle: among two rival theories, you should accept the one that has more explanatory power. One could even maintain that this inquiry, the one that you are reading, is driven by an aesthetic principle: "Never pose the existence of an individual without a reason for doing so," which seemed to be also Ockham's main ontological principle.

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<sup>6</sup> Notice that this principle is nowhere to be found in Ockham's writings. Ockham, however, maintained in several places that one should not commit to the existence of an individual without a reason for doing so. Cfr (Ockham 1967-1988).

I will not deny that there might be, perhaps *there have to be*, some general aesthetic principles of this sort to guide our ontological inquiries. Still, properties will play a key role in establishing one's worldview (that is, one's ontology.) You have to look *first* at the properties at hand and at the alternative worldviews they suggest before you commit to an ontology. I am not claiming here that properties do *all* the work. We also need principles for going from properties to individuals, and overall general theoretical constraints. Still, the point I am defending is not at odds with those needs: properties are nonetheless the starting point of ontology.

In Part I, I will propose five alternative ways to single out individuals: via the so-called Principle of the Indiscernibility of Identicals; via *haecceitates*, that is, non-qualitative properties; via (two conceptions of) essential properties; and via intrinsic properties. Each of them maintains that we can single out individuals starting from properties. They will differ in which properties they allege are doing the job. Besides characterizing the kind of properties at hand, for each way I will also provide a criterion for going from properties to individuals. It is intended that such criteria will have to interplay with the aesthetic principles mentioned above. But I will not venture into the investigation of such interplay, mainly because I believe that each way is ultimately untenable.

In the remaining part of this chapter, I will study singling out within the context of the Principle of the Indiscernibility of Identicals, of *haecceitates*, and of essential properties. The discussion of intrinsic properties will be covered in Chapter

2. In the first part of Chapter 2 I will deal with the business of defining intrinsic properties, and with the criterion, to them associated, for singling out individuals. In the second part I will consider their alleged existence. I devote a great amount of space to the issue of singling out through intrinsic properties for two reasons: (i) intrinsic properties are very popular amongst contemporary metaphysicists; (ii) it is an issue which, thus far, has never been discussed in the relevant literature.

## §1.2 Singling Out 1: The Principle of the Indiscernibility of Identicals

An often-invoked criterion for singling out individuals – the so-called *Principle of the Indiscernibility of Identicals* – has it that no two individuals share all the same properties or, in other words, that

- (II) For any individuals  $x$  and  $y$ , if  $x$  is identical to  $y$  then, for any property  $P$ ,  $x$  has  $P$  iff  $y$  has  $P$ .<sup>7</sup>

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<sup>7</sup> See (Forrest, 2002) for an introduction to the Principle. The Principle is often traced back to Leibniz; cfr. (Leibniz, 1969). The Principle is best stated by restricting it to essential or intrinsic properties (both of which I will discuss further below.) I will ignore this complication here, partly not to anticipate the future more detailed discussion of such properties, and partly because it is not necessary for the discussion at hand to enter into such subtleties. The reasons why (II) does not work as a principle are the same no matter whether it is regarded as being about any properties of individuals, as well as essential or intrinsic properties.

Even though (II) conveys the principle in its most intuitive form, for practical purposes it is (II)'s contrapposed (hence logically equivalent) principle to be invoked:

(CII) For any property  $P$  and individuals  $x$  and  $y$ , if  $x$  has  $P$  and  $y$  has not  $P$ , or if  $y$  has  $P$  and  $x$  has not  $P$ , then  $x$  is distinct from  $y$ .

If the cherry tree and the deer lying below it were the same individual, they would have the same properties. But, since it is possible to find a property that the tree has but the deer lacks or *vice versa* (the tree has some green parts while the deer does not; the deer has a heart but the tree does not) then the two are distinct.

Sure enough, (II) comes in handy in assessing some ontological disputes, such as the so-called Problem of the Statue and the Clay. In a nutshell, the problem consists in providing a non-puzzling answer to the question: is this copy of this statue, say David, identical to the lump of clay which composes it? Both an affirmative and a negative answer lead to problems. On the one hand, it seems that the copy isn't identical to the clay. Indeed you can destroy the statue by smashing it without thereby destroying the clay. Thus, they have different properties and, by (II), they are distinct. On the other hand, if they are distinct, then there are two individuals – the statue and the lump of clay – located exactly in the same place. But you *cannot* – in the strongest sense of this word – separate them in any way, only destroy one or the other. It seems

then that the only properties for which the statue and the lump of clay differ are modal – that is, what they could or could not be. But why should (II) cover also the properties that  $x$  and  $y$  could have rather than only the ones that they do have?<sup>8</sup>

(II) is hence handy to present the Problem and, by refining (II) one way or the other, you can also get an answer to the Problem.<sup>9</sup> For present purposes, though, (II) does not seem to be of great help. Indeed, why should we regard the cherry tree and the deer as individuals, but not – say – the central third of the cherry tree's trunk? To decide to compare the cherry tree and the deer is to buy the conclusion that they are indeed individuals. After all, both (II) and (CII) assume that there is at least one individual. If to  $x$  and  $y$  are then assigned the contents of two distinct space-time regions, it seems unavoidable to reach the conclusion that  $x$  and  $y$  are distinct (they will differ, at least, with respect to the region they occupy). Thus, (II) and (CII) could at best serve to distinguish individuals *whose existence we have recognized*, but not to single out an individual. Which is to say that (II) or (CII) might set a necessary requirement for concluding that  $x$  and  $y$  are distinct. By itself, however, they are not sufficient to provide a criterion for individuality.

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<sup>8</sup> For a thorough discussion of the problem, see, among others, (Merricks, 2000) (Thomson, 1998), (Rea, 1995), (Noonan, 1993).

<sup>9</sup> It should be clarified that there are also answers to the Problem of the Statue and the Clay that do not appeal to (II), in that they deny the existence of any statue and/or lump of clay, or they argue that identity is relative.

Perhaps – as some of their supporters could insist – (II) or (CII) set a criterion for singling out individuals, yet one that could be endorsed only by those who are very liberal when it comes to tell what counts as an individual. Sure, if instead of the whole cherry tree I would have considered only its canopy, I would have concluded that it is distinct from the deer. *Ditto* for the trunk, or that very first branch on the left or the right half of the highest leaf.<sup>10</sup> But there is no problem in this. I am ready to accept that where the cherry tree is, there is another great, possibly infinite amount of individuals. Indeed, there are all sorts of individuals you are ready to commit yourself to, provided you can distinguish them via (II) or (CII).

I cannot deny the plausibility of this response. Perhaps, (II) and (CII) are indeed the principles that the supporter of ontological arbitrariness mentioned in A Dialogue needs in order to substantiate her view (be it extreme arbitrariness or one moderated by some aesthetical constraints on the overall theory, as illustrated in A Dialogue). Yet I still believe that this response is limited: it cannot make sense of why some individuals, larger than the smallest particles, are regarded as more salient than others. For example, why the cherry trees, and not their left halves, are the object of natural sciences? Let me explain.

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<sup>10</sup> There might be a disagreement on the minimal spatio-temporal portion that one is willing to take into consideration. Depending on our opinions on this matter, the number of existing individuals in a given spatio-temporal portion will hence be very large (but finite) or infinite, perhaps even uncountable. Be it as it may, there will be an abundance of individuals, and this is what matters.

You could well believe that Biology, Agronomy, Physics, Ecology, and all other sciences are the products of conventions. And it might well be that the world is not the way sciences represent it. As specified in the Introduction, when I speak of "the world," I really mean "worldview," be it subjective, inter-subjective, or objective. Still, it strikes as particularly unpalatable to say that they are purely conventional facts that the trunk is brown and the canopy is green. If it was conventional it would be dependent on our will. But the colors I see do not depend on my will. Granted, I might be dreaming or hallucinating. And I do not want to discuss these skeptical doubts here, because I believe that also the extreme reductionist I am engaging with is not appealing, nor subscribing to them. Yet, whatever account I give has to reflect the difference between the brown and the green regions I am experiencing, in a way that does not render such difference dependent on my will.

If, on the basis of my experience, I decide that the brown and green regions are occupied by two distinct individuals, such a decision does not rest on pure convention, but on a difference in the regions. It might be that I do not know how each region is in itself, but I am experiencing these two regions as distinct. Any other way of distinguishing them which does not follow the boundaries between the brownness and the greenness would be arbitrary. Can pure conventionalism about our knowledge accommodate this fact? Perhaps. But a long story to overcome what I just said would need to be provided. There seems, then, to be room to believe that the

content of our experience is not purely conventional (that is, dependent on our will, that is, arbitrary),<sup>11</sup> and that is the line of argument I want to pursue.

To recap, if to count individuals is not an arbitrary matter, then (II) and (CII) are not satisfying our ontological needs. And, since I believe that counting individuals is not an arbitrary matter, be it because of the way our minds work, or because of the way they are attuned to the surrounding world, or because the world is indeed carved out into distinct individuals – because of this, I will continue my search for a criterion to single out individuals.

### §1.3 Singling Out 2: *Haecceitates*

(II) and (CII) rely on properties for singling out individuals, and so do the criteria we are going to examine next. But, the latter distinguish themselves from the previous ones because they rely on specific types of properties. As we shall see, the criteria which will be examined next will not be incompatible with (II) or (CII). On the contrary, one could take them as refinements of (II) or (CII): they sharpen the range of properties that are suitable to determine whether two individuals are identical. One could take them as refinements, but they might not be. This is because (II) or (CII) enforce a comparison between  $x$  and  $y$ , while the criteria that follow can be applied independently of any comparison. If you have the right kind of property (or

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<sup>11</sup> In the sense I am intending this term here, that is, as synonymous of "dependent on one's will."

properties) then you have one individual, regardless of what other descriptions at hand you have.

The term "*haecceitas*" (from the Latin "*haec*": "this"), sometimes also replaced by "thisness," was first introduced in the literature by Duns Scotus.<sup>12</sup> An *haecceitas* is a property of an individual whose peculiarity is to be non-repeatable, non-qualitative, and necessary. It is non-repeatable: each *haecceitas* is specific to one individual only, and there is one and only one *haecceitas* for each individual. It is non-qualitative: it does not contribute to what the individual is like (for example, green, tall, smooth, heavy) and to the ways in which the individual interacts with other individuals (for example, its fragility, sympathy, attractiveness); the *haecceitas* has the role to render each individual *an* individual. It is necessary: it belongs to an individual for its entire lifetime and in every possible scenario in which the individual could exist. For example, the apple has always had, will always have, and could not lack its own *haecceitas* (necessity); the *haecceitas* is not an experiential component of our seeing, touching, or feeling the apple (non-qualitativeness); but the *haecceitas*, by being non-repeatable, is what renders the apple an individual, what makes it unique (non-repeatability).

On the one hand, it could seem that an *haecceitas* helps to single out an individual via (CII): if  $x$  has a property, a certain *haecceitas*,  $H$ , which no other

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<sup>12</sup> For an introduction to *haecceity* see (Cross, 2003), (Rosenkrantz, 1993), (Gracia, 1994), and (Gracia, 1984).

individual has,  $x$  will be identical to any  $y$  which has  $H$ , and distinct from any  $z$  that lacks  $H$ .

Certainly, *haecceitates* provide a solution for what I termed, in the Introduction, the Problem of Individuality (that is, what differentiates one individual from all the others?), in virtue of the following criterion:

(H) For any *haecceitas* there is one and only one individual.

(H) appears to be a pretty solid criterion: *haecceitates* are properties which recur only once, each of which belongs to one, and at most one, individual. Hence, whenever you have an *haecceitas*, there you have an individual.

On the other hand, however, (H) is not really a solution to the Problem of Singling Out. Indeed, it is useless when it comes to justify why a new individual has been introduced in the ontology. *Haecceitates* can be alleged as sufficient to single out individuals because, in virtue of their interplay with (CII), they suffice to individualize an individual. But, as we have seen in the Introduction, to be able to individualize is not enough to single out, since an answer to the Problem of Unity ("What is it about an individual which makes it *one*?") is also required. And *haecceitates* do not account for the unity of an individual. One could maintain that the apple is one because it is connected, because it has the same color, or a chemical structure similar to other entities, but not because it has the same *haecceitas*. Indeed, judgments about unity need

to rely upon qualitative properties or spatio-temporal relations. You can discriminate on the basis of an *haecceitas*, but you cannot use it to explain why there is a certain unity.

It is useful illustrate this point by means of an example. Suppose that (H) offers a solution to the Problem of Singling Out. Why – according to (H) – when I talk about "the cherry tree in my backyard," I am talking about an individual? "You are talking about an individual because there is an *haecceitas*, which singles it out" – says the supporter of (H). But, how do you know that there is an *haecceitas* and not two, three, twenty-five, or none at all? The *haecceitas* is a non-qualitative property; hence it is a property that we cannot experience. "Well ..., " the supporter of (H) might reply, "not all the properties are knowable via experience. This is also the case for the property which singles out an individual."

My dissatisfaction, however, does not rest only with the impossibility to experience *haecceitates*. The problem is that, if they have to be the ultimate ground on which our ontology must rest, it seems legitimate to ask that such ground be suggested by a reason. Experience can be one such argument: if we would experience *haecceitates*, we could argue for the existence of an *haecceitas* on the basis of our experience of it. Yet, on the contrary, the knowledge of the existence of one *haecceitas*, at least according to (H), seems to be unprincipled. According to (H), you do not know that the *haecceitas* of the cherry tree in the backyard exists because you know that there are other kinds of properties there, which signal its existence, such as *Being a*

*cherry tree*. Indeed, in this case the criteria (for the cherry tree existing) would rely not just on *haecceitates*, but also on other (kinds of) properties. Thus, as (H) stands, the decision on the existence of an *haecceitas* rests on nothing.

We are thus stuck once again with the arbitrariness that we found also in (II) and (CII). Adding *haecceitates* solves *POI*, but not *POU*, thereby failing to solve also *POS*. At this point we are left with two options. The first is to do away with (H) and look for an alternative criterion. The second is to regard (H) as a necessary, but not sufficient requirement to single out individuals, as we did with (CII). As for (CII), I will not take a stance here, because also the remaining criteria that I will survey will be untenable.

What matters is that, whatever option we take, *haecceitates* will not play a major role in singling out individuals. Even supposing that they are necessary for singling out, the main job will belong to another type of property (or properties) on the basis of which *haecceitates* are inferred to exist. *Haecceitates* will be needed only in order to secure that there is a way of telling apart the multiplicity of individuals.

## §1.4 Aristotle on Essences

A long and revered philosophical tradition cultivated the idea that *some* amongst all the qualitative properties – that is, the essential properties – have a special status when it comes to singling out individuals. Essential properties are those without which an

individual could not exist, and that qualify the kind of thing that an individual is. More precisely, they are those which satisfy the following three requirements:

- (A) If  $x$  has  $P$  and  $P$  is essential, then  $x$  has  $P$  in any possible situation in which  $x$  exists
- (B) If  $x$  has  $P$  and  $P$  is essential, then  $x$  has  $P$  at any instant at which  $x$  exists
- (C) If  $x$  has  $P$  and  $P$  is essential, then  $P$  defines the kind of thing  $x$  is.

For example, having the molecular structure expressed by " $H_2O$ " is essential to water. Indeed,  $H_2O$  qualifies (that is, distinguishes) what kind of entity the molecule is; the molecule has such structure at any instant of its life; and, without such structure the molecule could not exist.

There are two traditions when it comes to essential properties. Both trace their ancestor to the works of Aristotle. For this reason, before analyzing each tradition, I will offer an overview of Aristotle's position on essences. This will not aim to be a scholarly exegesis of Aristotle's metaphysical views. It is, rather, an introductory analysis of Aristotle's distinction between individuals and properties (and one that is, perhaps, also somewhat prejudiced in order to fit the discussion at hand). In the remainder of the chapter, for each of the tradition which developed from Aristotle, I will first introduce the purported criteria for singling out individuals, and then offer a critical assessment of them.

Aristotle was, arguably, one of the first philosophers to write about essential properties. He used essences precisely to single out individuals – which perhaps, at the time, were a philosophically new ontological category, as it has been argued by Wolfgang Mann.<sup>13</sup> From what we can understand from the convoluted and dense remainder of his writings, Aristotle held at least two views as to what essences are, and hence two views as to how individuals can be singled out. Let us briefly analyze them.<sup>14</sup>

#### §1.4.1 *Essences in the Categories*

In *Categories* 2,<sup>15</sup> Aristotle distinguishes four kinds of entities. The distinctions are based on two kinds of predications: '*to say of*' and '*to be in*.' The first is an accidental predication: if entity  $\alpha$  is said of another entity  $\beta$ , the two are accidentally related; the second is an essential predication: if entity  $\alpha$  is said of another entity  $\beta$ , the latter could not exist without the former. From here, the four kinds of entities: (i) those that can be *said of* some other entity and that can *be in* other entities; (ii) those that can only be *said of* other entities; (iii) those that can only *be in* other entities; (iv) those that can neither be *said of* nor *be in* other entities. Individuals – Aristotle concludes – belong to

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<sup>13</sup> See (Mann, 2000).

<sup>14</sup> For my analysis I found very useful the essay "Individuals in Aristotle" in (Frede, 1987), (Mann, 2000), (Lewis, F., 1991), (Dancy, 1975), and (Benson, 1988).

<sup>15</sup> (Aristotle, 1962).

the latter kind of entities. Individuals are the ultimate constituent of reality. They are ultimate because they cannot be predicated, in any way, of other entities. You can say:

(1) Socrates is wise,

because *Wisdom* belongs to either (i), (ii), or (iii). But you cannot, meaningfully, say:

(2) *P* is Socrates,

where *P* stands for whatever entity that belongs to either (i), (ii), or (iii) (for example, for *Wisdom*). And, you cannot meaningfully say (2) because Socrates is a kind of entity that cannot be predicated, in any way, of other entities.

Building on this result, Aristotle proceeds to distinguish ten categories of entities, by devising sub-categories of predication. We thus have: substances (for example, a tree); quantities (for example, three feet large); qualities (*Redness*); relations (*Half the size of*); places (for example, in the backyard); times (for example, today); positions (for example, bending towards South); states (for example, full of cherries); actions (for example, is producing cellulose); and passions (for example, is moved by the wind).

The category which is of interest to us here is clearly the first one: substance. Indeed, substantial properties are those that signal the existence of an individual. Indeed, if (2) is not an option, it is instead possible to say:

(3) This is a cherry,

And, by uttering (3), you would be specifying which kind of substance you have in front of you: a cherry. "Is a cherry" is hence the expression of a substantial property, a property that cannot be said of any other property, and that therefore signals the existence of an individual.

Or, so Aristotle would argue. You can also interpret (3) as asserting an identity between two individuals: "this" and "a cherry." Yet this interpretation would (at least *prima facie*) fail to explain why "a cherry" is specifying also the kind of individual you have in front of you, besides just saying that it is one individual. In any case, interpreted according to Aristotle, (3) is not just asserting that you have an individual in front of you, but also *what kind* of individual you have, *what kind of substance* it is. And this because "is a cherry" is a property; more precisely, a substantial property.

#### §1.4.2 *Essences in the Metaphysics*

Even though the classification of entities into ten distinct categories can be regarded as metaphysical, the *Categories* have long been considered a work in Logic rather than

in metaphysics. Indeed, if on the one hand the *Categories* were suggesting some ontological distinctions on the basis of different kinds of predications, in them Aristotle provided no reasons to consider predication as ontologically relevant. Surely there is a difference in the way *we* talk about entities; but why should such difference be regarded as ontologically salient? Why should the world resemble certain features of our language?

It is with the *Metaphysics* (especially book *Z*), a work belonging to the more mature production of Aristotle, that Aristotle attempts to answer these questions.<sup>16</sup> In that work, the philosopher of Stagira inaugurates a new methodology for singling out individuals. His proposal is to single out through any activity that has a goal. At its core lies the conviction that, if an individual exists, it does so for a purpose. Hence, individuals should be those entities that exist for a purpose.

But, how can one tell when a purpose is at play? For Aristotle, this ability requires a different use of properties in singling out individuals. Substantial properties still play a key role in the task, but they too need a criterion for being recognized: they have to have some constitutive activity, that is, some essential properties (properties that are *said of* them.) Consider, for example, a human being, and suppose that humans exist to use their reason. As we learned from the *Categories*, by saying that a certain entity is a human being, or:

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<sup>16</sup> Cfr. (Aristotle, 1994).

(4) This has *Humanity*,

we attribute a substantial property to an individual. What the *Metaphysics* teach us is that we know that *Humanity* is a substantial property because we know that it has a constitutive activity, a goal, *Rationality*. It is hence the belief that:

(5) The constitutive activity of *Humanity* is to exercise rationality

to justify the treatment of humans as individuals. *Humanity* is fully attained only within *Rationality*, and it is because *Humanity* can be characterized as having a constitutive activity that it can be regarded to single out an individual. *Redness* has no such activity. And indeed *Redness* does not single out an individual.

With the *Metaphysics*, Aristotle had thus provided a parallel methodology to the one presented in the *Categories* to single out individuals. Parallel, because the two methodologies coincide as to what counts as an individual. But, if the methodology of the *Categories* adduced a linguistic fact to support its conclusions, the *Metaphysics* did offer a metaphysical explanation.

### §1.4.3 *Aristotle's Legacy*

Aristotle's theory stood as a model and counterpoint for philosophers living in the Mediterranean basin, the Middle East, and continental Europe, who commented, interpreted and furthered his doctrines. So, year after year, century after century, sometimes the linguistic methodology of the *Categories*, sometimes the metaphysical methodology of the *Metaphysics* were discussed and endorsed in order to single out individuals.

The beginning of Chapter 1 of Aquinas's *De Ente et Essentia* is a good example of the foundational role of Aristotle's philosophy.<sup>17</sup> There, following Aristotle's method of the *Categories*, Aquinas distinguishes between two senses in which something can be said to exist, and comes to defend what seems to be a version of Aristotle's first definition:

In one sense, being signifies that which is divided into the ten categories; in another sense, that which signifies the truth of propositions.<sup>18</sup>

For Aquinas, one – the second – sense of being is satisfied also by entities designating only the absence or negation of something, such as sterility. It is true that sterility is the lack of the ability to produce fertile offsprings; and – Aquinas argues – in so far as

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<sup>17</sup> Cfr. (Aquinas, 1988) and (Aquinas, 1997).

<sup>18</sup> (Aquinas, 1998: 30).

sterility is what makes true the proposition defining it, it can be said to exist in the second sense. However, this does not entitle us to conclude that sterility exists also in the first sense, for "in the first sense, nothing can be called a being unless it posits something in reality." Then how do we individuate what posits something in reality? Aquinas's answer comes one line later: "... being, in the first sense, is what signifies the essence of a thing."

Thus, for Aquinas, everything that is, is the expression of an essence. I take this to mean that, for Aquinas, every real entity is, or modifies, an essence. Essences are the main metaphysical actors. And – I add – they are such because they are the guide to single out individuals. Wherever there is an instance of an essence, there is a being in reality, an individual which should be added to our ontology.

Over the centuries, out of Aristotle's writings grew two traditions. One – indebted to the *Categories* – envisages essences as a subset of *sortal properties*, namely Aristotle's substantial properties given a linguistic interpretation. The other – much indebted to the *Metaphysics* – has it that essences are individuated through *final causes*, that is, the function for which a given substantial property (and, indeed, the individual to which the essence belongs) exists. Each tradition has received considerable attention on its own, and would deserve a much longer treatment than the one I will offer. In the remainder of this chapter I will limit myself to an examination of how the different traditions fare when it comes to providing a reply to the Problem of Singling Out.

## §1.5 Singling Out 3: Sortals

### §1.5.1 *Sortal Properties*

In the central part of the twentieth century, within the revival of metaphysics, a certain tradition to single out individuals was born. This tradition was grounded on so-called *sortal properties* or, briefly, *sortals*, and preceded the two traditions that remain to be analyzed of some decades: the one from final causes and the one from intrinsic properties.

Still revered by many, the *sortal* tradition includes among its champions well-known philosophers such as David Wiggins, Michael Dummett, John Wallace, and Robert Ackermann. They allegedly subscribe to a view tracing back (as we have just seen) to Aristotle's *Categories*; a view which received the favor of many other distinguished minds, such as John Locke, Gottlob Frege, Peter Geach, Willard Quine, and Peter Strawson.<sup>19</sup>

Now, the first characteristic to notice about the *sortal* tradition is that it is not homogeneous, in the following, relevant, sense. Even though many authors defended a theory of *sortals*, few agreed on the very meaning of 'sortal.' Following Fred

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<sup>19</sup> Even though not all of them employed the expression "sortal", first introduced by Locke.

Feldman,<sup>20</sup> we can distinguish three necessary requirements that a predicate *P* has to satisfy to be a *sortal*:<sup>21</sup>

- i. A predicate *P* is a sortal only if *P* singles out an individual;
- ii. A predicate *P* is a sortal only if *P* is the partial or whole essence of the individual it singles out;
- iii. A predicate *P* is a sortal only if, when *P* applies to an individual *x*, *P* cannot belong to any proper part *y* of *x*.

Different authors have different views about which of those three requirements a predicate should satisfy in order to be a *sortal*. Thus, David Wiggins seems to defend (i),<sup>22</sup> Baruch Brody defends (ii),<sup>23</sup> and John Wallace, Robert Ackermann, and Jonathan Lowe defend (iii) – which Wallace attributes also to Frege.<sup>24</sup> Yet, it is relevant to notice that (i), (ii), and (iii) serve different metaphysical purposes. For this reason,

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<sup>20</sup> (Feldman, 1973).

<sup>21</sup> Because they are unnecessary for present purposes, here I will ignore some of the distinctions between kinds of sortals, such as the distinction between "phase" and "proper" sortals. The first is predicated of a phase of an entity, for example, "child" is predicated of a phase of a human being's life, namely childhood. The latter is predicated of the entire life of an entity; for example, "person" is predicated of the entire life of a person.

<sup>22</sup> See (Wiggins, 1979), (Wiggins, 1986).

<sup>23</sup> See (Brody, 1980).

<sup>24</sup> See (Wallace, 1965), (Ackermann, 1969), and (Lowe, 1998).

philosophers have been calling by the same name different kinds of predicates. Let me further illustrate this point.

(iii) comes in handy in order to explain accidental coincidence of two or more individuals. Suppose you come to believe that the statue is distinct from the marble piece composing it, yet they occupy the same portion of space. How can there be two individuals within the same space? And, first of all, why is the statue different from the piece of marble? The supporter of (iii) will have an answer at hand to both of these questions. The marble and the statue are distinct because the first has a *sortal* property – *Being a statue* – that the latter lacks. And, surely two individuals can inhabit the same portion of space, provided that they are not of the same sort, that is, provided they do not have any *sortal* property in common.

Why could Aristotle not have been a cherry tree? Why could Bruno the dog not be Lilli the cat? In order to answer to such questions, some have advocated a theory of *sortal* properties based on (ii). Each individual has some *sortal* properties defining what the individual could or could not have been.<sup>25</sup>

Finally, how do you single out individuals? How would you go about counting what is in front of you now? A theory of *sortals*, as defined in (i), would come in handy for providing an answer. Since these are the questions we are tackling here, I will concentrate on (i) in the remaining discussion on *sortals*.

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<sup>25</sup> See (Brody, 1980).

### §1.5.2 *Singling Out Through Sortals*

With *sortals* understood as in (i), we can distinguish at least two methods for singling out individuals. Let us examine them in order.<sup>26</sup>

According to the first one, each individual has one and only one *sortal*, which accompanies it throughout its entire existence, and in every possible scenario. Hence:

- (F) For any individual  $x$ , there is one and only one *sortal* property  $P$  which  $x$  exemplifies.

One striking feature of (F) is that the role played in it by *sortals* exactly parallels the one played in (H) by *haecceitates*. With a key difference, though, which turns out to be an advantage for *sortal* theorists: the predication of a *sortal* is justifiable. That the *sortal* predicate "Being a cherry tree" is exemplified by some individual can be ascertained by looking in front of you or by carrying on some scientific observation, that is, of the trunk and the leaves; and that the *sortal* predicate "Being the square of sixty-four" is exemplified by some individual can be ascertained via a rational calculation. On the contrary, as we have seen, the existence of *haecceitates* is an arbitrary primitive.

However, one might express some reservations about the thesis according to which for any individual there is only one *sortal*. Clearly there has to be one. But, there

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<sup>26</sup> For the relation between *sortals* and essences, see also (Mackie, 1994).

might well have to be more than one. Consider the case of a triangle. Surely, *Being made of three-angles* might be enough to single it out; but what about *Being three-sided*? The latter property belongs to a triangle in every possible scenario and for any time at which it exists; also – one could argue – the fact of having three sides defines what a triangle is no less than the fact of having three angles. Or, consider the cherry tree. Aren't *Being composed of a trunk*, *Being able to produce cherries*, and *Being produced by a cherry tree*, when conjoined, enough to single it out?

It is on the basis of considerations of this sort that some defined the essence of an individual as a bunch of *sortals*, each of which had to satisfy the three defining conditions for essences, (A), (B), and (C). To use this definition for singling out individuals, however, seems more difficult. Indeed, we need to add another principle to establish when two *sortals* – such as *Being composed of a trunk* and *Being able to produce cherries* – belong to one and the same individual.

Two principles seems most promising:

- (G) Two *sortals* belong to one and the same individual only if they necessarily exist in the same spatio-temporal region.
- (H) Two *sortals* belong to one and the same individual if and only if at least one of them depends on the other for its existence.

There are at least three problems with (G). First of all, even though it is a criterion that serves to single out individuals, it appeals to spatio-temporal regions, which, arguably, are individuals themselves. But, suppose that a solution to this problem is found by somehow rewriting (G) without making any appeal to spatio-temporal regions, or by avoiding ontological commitment to space and time. What will be said of the cases in which *sortals* of one and the same individual seem to belong to two or more of its distinct (even if perhaps overlapping) proper parts? An example could be *Being composed of a trunk* and *Being able to produce cherries* that belong, respectively, to the trunk and to the canopy of a cherry tree.

To solve this problem, one could notice that the two predicates violate requirement (iii), posed above, on *sortals*. Although now we are working under the assumption that (i) is the only requirement, we could accommodate the problem by adding (iii) as a requirement. A composite object cannot have a *sortal* vicariously, that is, in virtue of having a part that has it, since *sortals* belong primarily to their bearers.

To defend this position, however, one would have to accept some awkward multiplication of property exemplifications. Consider "Being composed of a trunk." This predicate is surely essential to the trunk; but it seems equally essential to the tree itself – how could a tree be a tree without having a trunk? But, if it is the same predicate to apply essentially both to the trunk and to the tree, then "Being composed of a trunk" applies vicariously to the tree. And this is what we have just denied. To solve this difficulty, the friend of *sortals* is forced to claim that the "Being composed of

a trunk" applies to the tree not just in virtue of applying to one of its parts. It has to apply twice: once to the trunk and once to the tree. How to spell out the "applies" relation will be clarified by one's specific theory of property. In any case, one will have to accept that the predicate applies twice.

Besides, the purported solution opens up another problem. Adding (iii) as a requirement for *sortals* is not palatable if *sortals* have to single out individuals. Indeed, often the *sortals* we invoke for singling out do not apply to the whole individual they single out, but to a proper part of it. *Having a mind* could be a *sortal* singling out a person, but allegedly it applies only to a part of a person.

The third problem with (G) is that it poses only a necessary condition. The converse implication, though, – "Two *sortals* belong to one and the same individual if they exist in the same spatio-temporal region" – is rejected by nearly any advocate of *sortals*. For example, a body and a person are for some co-localized but distinct individuals, each singled out by its own *sortal*, *Being a body* and *Being a person*. Ditto for a *Being a statue* and *Being a lump of clay*. Thus, even if (G) were true, (F) and (G) would not suffice to solve the Problem of Singling Out: it would still be unprincipled under which sufficient conditions two *sortals* belong to the same individual.

(H), on the other hand, poses some necessary and sufficient conditions. Yet they seem too strong conditions. Not every two *sortals* belonging to an individual depend on each other. Consider a chocolate Easter egg. *Being an oval* and *Being a candy*

are, arguably, both its *sortals*. Yet, they do not depend on each other for their existence.

In conclusion, it seems that more than one *sortal* is sometimes involved when singling out an individual. Yet, we have no principled way of telling when two *sortals* belong to the same individual. Thus, we have no principled way to single out individuals.

To this difficulty, one should add problems directed towards the concept of *sortal* in general, rather than to their specific function in singling out individuals. For example, do we single out an individual every time we claim that a predicate, such as "To be a hole" or "To be a shadow", is applied? Since *sortals* are bound to a specific language, does ontology also differ from language to language? There is no need in this context to spend time on these more general objections. Even though it is still popular among some contemporary authors (for example, Jonathan Lowe), we can conclude that singling out through *sortals* is somewhat problematic.

We should now turn to consider the second Aristotelian tradition, the one based on final causes. As I shall argue, such tradition fares better than the one just examined, on pain of committing to the notion of final cause that most of us dislike.

## §1.6 Singling Out 4: Final Causes<sup>27</sup>

### §1.6.1 *Final Causes*

As we have seen, in the *Metaphysics* Aristotle proposes a slightly more complicated yet metaphysically more sophisticated and appealing methodology to single out individuals. The key is to recognize that there are final causes, that each final cause is necessarily linked to an essential property, which in turn is necessarily linked to one individual. The method is a slightly longer path to trace back individuals starting from their necessary manifestations, in that it involves two steps instead of only one step as with *sortals*. As we shall see, however, this move enables the elimination of the difficulties raised earlier against the methodology employing *sortals*.

Before moving to the principle for singling out individuals, however, we should try and understand: on what grounds can final causes be endorsed nowadays? Indeed, on the one hand it might seem that after Descartes, Hobbes, and Spinoza eliminated final causes from any account of the worldly phenomena, it is obsolete to talk about them. On the other hand, several later philosophers and scientists – including, for example, Newton and Richard Boyle – did indeed believe in final causes. They did so in order to explain, for example, chemical phenomena, such as the attraction between two magnets of opposite charge.

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<sup>27</sup> I am very thankful to Dan Cloud and Christia Mercer for discussion over materials contained in this section.

The friend of Descartes, Hobbes, and Spinoza will insist that this is all past lore. We can presently do without final causes in explaining our world. Everything that happens, does so in virtue of what has been in the past, not in view of what should happen in the future. On the contrary – I reply – just a quick look at the *status* of many contemporary sciences will show that final causes still play an important role. Here are some examples from physics and biology.

Physics seems to need final causes. For example, the notion of "quantum entanglement" (measuring the correlation between two quantum states conceived as totally distinct events, one of which entangles the other) cannot be explained only in terms of efficient causes. Indeed, it cannot be accounted for just by appealing to the features of the event that precedes the entanglement. On the contrary, it can be accounted for, if we accept that the emission of a quantum particle may be conditioned to some extent by the circumstances of its absorption, that is, by the event that *is entangled*. Hence, quantum entanglement is forward looking.<sup>28</sup>

Biology needs final causes. Many illustrations of this can be drawn from organic chemistry, molecular biology, and the study of life in all its forms. It is indeed very common to find descriptions of natural selection or explanations of the activity of animals and plants that are imbued with teleological (finalistic) terms – for example: "Fireflies light up in the dark *in order to* attract their mates"; and "Mangoes have big roots *in order to* keep themselves steady against the movements of the sand."

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<sup>28</sup> (Deutsch, 1997) and (Deutsch, 1985).

Moving from the impossibility to explain away the teleological (finalistic) language in sentences like these, some indeed argued that every living organism lives for, and is defined by, a goal. Sometimes the goal is identified with the reproduction of the organism itself, sometimes with the success of its own species, and sometimes with the multiplication of the genes of an organism. What matters, though, is that often there is no way of defining a living organism without referring to some kind of goal towards which its activities are directed. It would be rather eccentric, for example, to believe that sexual reproduction emerged randomly or merely in virtue of being (efficiently) caused through a complex process; the process took place precisely because it would have been advantageous to life.

Or, so argues the friend of final causes. You might be convinced that there cannot be such entities. And it is not my goal here to change your mind. What I aim to point out, though, is that there are reasons to believe that there are final causes. As the example of quantum entanglement shows, final causes are pervasive, even where you might think there is no place for them.

A question that should interest us closely regards the attribution of final causes to inanimate entities. Even assuming that to each living individuals can be assigned a final cause to which it intends; can each of the non-living ones be assigned a final cause as well? Quarks and quantum states, as we have seen, might be assigned final causes through which they are defined. Yet, for certain inanimate *prima facie* individuals such as molecules of water, marble stones, or rocks, it does not seem that

we can argue that they intend to fulfil a goal. What could be the goal of a marble stone? To constitute a mountain? To constitute the habitat of some organism? If no answer can be given, the friend of final causes is in trouble. She will have to either deny that there can be inanimate individuals, or give up the project of singling out individuals *only* via final causes. They could play a fundamental role when it comes to the living realm, but they are useless in the inanimate one.

Because of these reasons, most promoters of the Aristotelian tradition that have come under analysis denies the existence of inanimate individuals such as rocks, stones, and water loads. Augustine held this view, and so did Aquinas, and so do contemporary authors such as Peter van Inwagen. For them, life comes in discrete quantities, that is, individuals. The inanimate realm is instead a realm of unsorted elements. This distinction, if you like, parallels the one between count nouns and mass terms: you have *a* person (with the article, because you can count people) but you have marble (with no article, because you cannot count it).

This view, however, has some problems. It might have been plausible to defend it while little was known regarding the chemical and physical structure of the basic kinds of entities that there are. Indeed, you could have maintained that water, marble, and gold divide *ad infinitum*. There is no minimal quantity – atom – of marble, nor of gold or water. Nowadays, however, we know things are different. There is indeed a minimal quantity of stuff that defines an atom of marble, of gold, and of water. Why not include such minimal quantities among the individuals? Until a good

reason for not doing so will be given, the method of singling out individuals on the basis of final causes will be sufficient only to deliver part of an ontology (the one concerning the living realm).

Thus, whether you assign final causes to inanimate entities or whether you do not, you will face some problems. Despite them, the criterion for singling out individuals through final causes seems more straightforward than the one of singling out through *sortals*. I shall now turn to an illustration of such criterion.

### §1.6.2 *Singling Out Through Final Causes*

Let us then suppose that every existing individual is associated with final cause. How is an individual singled out on the basis of its final causes? Let us recapitulate where we stand. In the *Categories*, Aristotle proposed to single out individuals through certain kinds of predications applying to substantial aspects of an individual. As we have seen in §1.5, nowadays this is rendered via the notion of a *sortal* predicate, which is supposed to pick out a *sortal* property. In the *Metaphysics* instead, Aristotle proposes that any substantial aspect of an individual exists because of the final cause of the individual. It will be therefore by counting final causes that you will be able to count individuals. In contemporary terms, this translates into the thesis that:

(F') For any final cause F there is one and only one individual.

(F') is immune from two of the problems affecting (F) and (G). (F') is immune from the second problem raised against (G). Indeed, even if *Being composed of a heart*<sup>29</sup> and *Being composed of a liver* belong to different parts of the same individual – a person in this case – they will contribute to the same final cause, which is the rational activity of the person. Indeed, without the heart and the liver the person cannot exist and hence cannot fulfill its final cause. This suggests to rewrite (G) as follows:

(G') Two *sortals* belong to one and the same individual if and only if they contribute to the same final cause.

In this way, also the first and third problems are solved, in that (G') does not appeal anymore to regions of space-time, and it expresses a necessary *and sufficient* condition.

A first difficulty for (F') comes with the number of final causes that can be associated with an individual. Indeed, some individuals seem to exist for more than one final cause. For example, a person exists to act rationally, but also to make the human species prosper. Does this entail that there are two individuals? A solution can be found by accepting the entailment but denying that both final causes can be ascribed to the same individual. There are indeed two individuals involved, a person, and a species. The person has the goal to act rationally; the species the goal to

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<sup>29</sup> Since the present account is metaphysical, not linguistic, I will formulate the problems in terms of properties (*Being red*) rather than predicates ("Being red").

prosper. A person contributes to the final cause of the latter, but only partially – she is not the only individual to help the species prosper. Goals, thus, can overlap between individuals. Sometimes this leads us to ascribe more than one final cause to an individual, even though there is really just a partial contribution.

A second, deeper, difficulty concerns the final causes of artifacts. For example, is the goal of a knife to cut bread? If we tend to give a positive answer, we might face a problem of counting individuals. How many goals are there in a rope? Is the goal of a rope to make people jump, or fall, or stop, or join, or save each other, or ... ?

As we have seen, most authors, including Aquinas and Aristotle, denied that artifacts were individuals at all. Indeed, their final causes are not genuine, and there is no essential property such as *Being a knife*. As we have seen, however, nowadays it is questionable to apply final causes only to a certain portion of reality, when we have reasons to believe that there are well-isolated individuals also among the inanimate realm.

On the other hand, one could adopt a different solution and claim that, if the final causes refer to the very same essential property, then they are just different ways of singling out one individual. Hence, suppose that *Being a knife* is an essential property and that it is the only essential property of this knife; even though the knife has many final causes, they all belong to the same individual – this knife – since they are all supported by the same essential property. This solution could work in some cases. The trouble is that, as we have seen, sometimes more than one essential

property is tied to the same final cause, for example, *Being composed of a heart* and *Being composed of a liver* both contribute to the rational activity of a person. Thus, which essential properties have more than one final cause associated with them? Which only one? And which share a final cause? It seems that to answer these questions you already have to know how to single out individuals. I will end my analysis of final causes here. I do not believe I have provided a knock-down argument against any theory of final causes; but, it seems that there are deep, old, problems with any such theory that one might plausibly raise.

## §1.7 Conclusions

That the Principle of Indiscernibility of Identicals and *haecceitates* cannot, by themselves, deliver a criterion for singling out individuals seems fairly evident. On the other hand, there is no saying that both Aristotelian traditions are part of the lenses through which most of us ordinarily think about the world we live in. As it has been shown in the latter part of this chapter, however, it is quite hard to mold each tradition to deliver a methodology for singling out individuals. Much work would need to be done to achieve this.

Yet – and this is a more pressing and provocative question – is more work on essential properties worth doing? Philosophers and natural scientists have pondered them for twenty-five centuries, and yet they have been unable to explain exactly how

we are supposed to use them in order to build an ontology. Moreover, the existence of essential properties has been called into question, at least since the fourteenth century, and most consistently during the eighteenth century, by many bright minds. Locke, Berkeley, Hume, and Kant among many others all shared the conviction that there was no principled way of knowing the essence (or, as sometimes it was also called, the *nature*) of individuals. The cherry tree in my backyard changed a lot since it was first planted. What are the properties it always had and that define it? You say it is *Being a cherry tree*, but what is such a property? All that you know about a cherry tree is what you observe. There is no real (that is, certain) knowledge of what would happen to the cherry tree in possible, but non-actual, scenarios. Therefore, it is impossible to attain knowledge of the essence of a tree, and even admitting that it has one.<sup>30</sup>

But, besides the general skepticism towards the existence and the possibility of knowing the essence of individuals, we should recall that one major scientific discovery during nineteenth century discredited essences: Darwin's theory of evolution. Darwinian theory put into question the ancient Aristotelian idea that each species of organism was characterized by a set of essential properties. Since a species population is in constant evolution, also the properties defining the species (if there

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<sup>30</sup> See for example, Berkeley's remark on the non-importance of the puzzles relating to the identity over time of an individual in his *Three Dialogues Between Hylas and Philonous*. Cfr. (Berkeley, 1979: 80).

are any) will be in constant evolution.<sup>31</sup> There is no constant property characterizing cherry trees, because criteria for inclusion into the species of cherry trees change constantly over time. Therefore, cherry trees, as well as any other living organism, fails to satisfy (B). *Ergo*, they have no essential properties, and cannot be sorted out through (F') or (G').

Until essential properties are defined linguistically, these kinds of problems cannot dissolve. On the other hand, however, we have seen that remaining at the level of language does not offer any substantial metaphysical argument that can be used for ontological purposes. Not, at least, for most of those who attacked essential properties in the seventeenth and eighteenth centuries; and not, now, for me.

So, I conclude, whether you treat essences linguistically or whether you treat them as properties, they do not offer a clear-cut criterion for singling out individuals. To the latter criterion we shall now turn, the one based on intrinsic properties.

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<sup>31</sup> Cfr. (Stamos, 2003: Ch. 3).

## **CHAPTER 2**

### **Singling Out Individuals: Intrinsic Properties?**

Thus far, I have offered only a cursory treatment of the theoretical notions used to formulate the first four criteria for singling out an individual. As explained at the beginning of Part I and in the Introduction, my choice is motivated by three motives: such criteria have already received extensive attention; they are (nowadays) less popular than the one we are about to study; and probably such criteria are less appealing than the one I am about to discuss. In this chapter I am going to investigate the criterion based on intrinsic properties, which is popular, appealing, and has never been systematically studied.

To avoid possible confusion, a terminological note is, since now, in order. Of course, some of the theories that deal with the problem of characterizing intrinsicness in current literature propose solutions that may not, by themselves, correspond to the one required by the criterion for singling out that we are interested here. Nonetheless, the systematic examination of these solutions, that I will offer in this chapter, may provide insightful viewpoints on the overall project.

The material is divided as follows. In Part I of this chapter, I first give a systematic presentation of the theoretical role and the definitions of intrinsic property that have been offered; then I formulate the criterion for singling out individuals within this approach. In Part II of the chapter, I do not criticize the criterion directly, but I criticize the very notion of intrinsic property. I put together a number of arguments that have been offered against their existence, and add my own views. I then reach the skeptical conclusion that we have no reason to believe that there are intrinsic properties; hence, we have no reason to believe that, if there are individuals, we can single them out via intrinsic properties. At this point I will interrupt my discussion of the criteria for singling out individuals in order to tackle, in the remainder of the dissertation, a different project: that of an ontology with no individuals.

## **PART I: What Are Intrinsic Properties?**

Before saying that something exists one has to say what the alleged entity is – how else could one understand, agree or disagree with the existential assertion in question? This is the *route* I am also going to follow in my discussion of intrinsic properties. I will first explain what they are; then I will address questions regarding their existence. The first part of this chapter is devoted to the first task. The second part will address the existence of intrinsic properties. At this point, an imaginary reader, might protest:

*Q:* In order to know what an intrinsic property is, it is necessary to have (or at least to have the possibility of having) the experience of at least one intrinsic property. Why, then, do we really need to investigate whether there are intrinsic properties, and to do so in a separate chapter?

*A:* The discussion that follows will be about what intrinsic properties should be, more than on what they are. My goal will be to provide at least one workable definition of intrinsicness.

*Q:* But – one could insist – how is it possible to grasp the meaning of the terms embedded in a definition without having had at least one experience of what the terms signify? How can I understand what a square-circle is if I never had an experience of it?

*A:* Well, did you ever have an experience of a winged horse? Nonetheless, most people would say that they can perfectly understand what it is.

*Q:* Yes, but a winged horse is a possible recombination of two experiences I have had. And it is possible because it does not contradict any other of my beliefs about the nature of space and time. A square circle, instead, conflicts with those beliefs, namely that an object cannot have more than one shape at each region of space.

*A:* Agreed. So, for the time being, let's assume that intrinsic properties are possible recombinations of our previous experiences or that we did experience them. All of the examples of intrinsic properties I will mention in this chapter will be *purported* examples. I will not endorse nor dismiss them, as I will leave this issue for

the next chapter. It might turn out that intrinsic properties are not even possible, on a par with a square circle. If so, then we cannot even understand what the definitions we will provide in this chapter mean. But, for the sake of the argument, we should concede to the supporter of intrinsic properties that it is perfectly reasonable to talk about such kind of properties, even if we did not have any experience of them. We will then assess the issue in the next chapter.

What then are – allegedly – intrinsic properties? Informally, they are all those properties that are independent of what is going on outside the individual that has them. To get a refined concept out of this informal definition we need to further comprehend what "independence" stands for. There are seven ways to cash out this term, and we will examine each of them separately (§2.4-§2.11). Such examination, however, will be the last of our tasks in this chapter. Before that, two other tasks are in place. After some preliminary remarks (§2.1), I will discuss what intrinsic properties are not (§2.2). This is crucial to avoid confusions and misunderstandings in the remainder of the chapter. I will then proceed by contrasting the informal definition of intrinsicness as independency with an older one, intrinsicness as internality (§2.3). The latter definition was popular in the late nineteenth and early twentieth century, and it is still probably quite close to the ordinary meaning of "intrinsic". As we shall see, I believe that it remains the most plausible definition.

## §2.1 Relatively and Absolutely Intrinsic

There are two ways in which a property can be called intrinsic – a relative way and an absolute way. When a property  $P$  is intrinsic to at least one individual  $x$ , but non-intrinsic to at least one individual  $y$ , then  $x$  is *relatively intrinsic*.

*(Relatively Intrinsic)*  $P$  is a relatively intrinsic property iff there are individuals  $x$  and  $y$ , and property  $P$ , such that  $P$  is intrinsic to  $x$  but non-intrinsic to  $y$ .

For example, the chemical structure of a molecule of water is intrinsic to the molecule, but it is non-intrinsic to each of the atoms composing the molecule. It is an intrinsic property of the molecule or a non-intrinsic property of the aggregate of molecules.

On the other hand, when  $P$  is intrinsic to all existing and to all possible individuals, it is *absolutely intrinsic*.

*(Absolutely Intrinsic)*  $P$  is absolutely intrinsic iff there is a property  $P$  such that, for every actual and possible individual  $x$  that has  $P$ ,  $P$  is intrinsic to  $x$ .

*Being an equilateral triangle* is absolutely intrinsic. Hence, absolutely and relatively intrinsic properties compose two disjoint and complementary kinds of intrinsic properties.

Relatively and absolutely intrinsic properties are equally relevant in singling out individuals. You can single out an individual by looking at its shape, but you can also sort it out by looking at its chemical structure.

In what follows, I will mostly speak of intrinsic properties in general, without specifying whether they are relatively or absolutely intrinsic. Sometimes, though, I will refer only to relatively intrinsic properties, for example, when distinguishing an intrinsic from a relational property.

## §2.2 What Intrinsic Properties Are Not

### §2.2.1 *Intrinsic Vs. Essential Properties*

Before proceeding with the purported definitions of intrinsicness, we should look at what intrinsic properties are not. This will narrow down our search of a plausible definition. Let's start with a statement that, after Chapter 1, should be rather uncontroversial:

F1 Some intrinsic properties are not essential properties.

F1 seems plausible for two reasons: an individual can lose or gain some intrinsic properties over time; that is, some intrinsic properties are accidental, while all essential properties are necessary. Suppose that, for any individual  $x$ , the shape of  $x$  is intrinsic to  $x$  (the specific shape, not "having a shape," which is arguably not a property, but a class or cluster of properties).<sup>32</sup> Consider for example John, dancing in the middle of the room; at each instant, John's shape changes – now his hands are up and he stands straight; now he bends down and his hands touch the floor. At each instant, John loses an intrinsic property (a specific shape) and gains a different one. So, John's shape is intrinsic to John even though it is not necessary to him. But, all essential properties are necessary. Hence, there are some intrinsic properties that are not essential.

Secondly, not all intrinsic properties define, of the individual to which they belong, what kind of individual it is; essential properties, on the contrary, do so. That John is now bent is not telling anything about the kind of individual John is; John is not a "bent-y" thing.<sup>33</sup> On the other hand, *Being human* is essential to John and *Being human* defines what kind of entity John is.

Every essential property  $P$  of an individual  $x$  constitutes an essential condition for the existence of  $x$  *tout court*, and defines what  $x$  is. An intrinsic property  $Q$ , on the

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<sup>32</sup> More on clusters of properties in the second part of this chapter.

<sup>33</sup> Cfr., for example, (Lewis, 1986a, pp. 203-204).

other hand, may fail to define what  $x$  is, and  $Q$  might not be an essential condition for  $x$ 's existence.

However, most of the friends of intrinsic properties would deny that  $x$  can exist without any intrinsic property  $Q$ . Hence – some argue –  $x$  might not depend on  $Q$  for its existence *tout court*; yet, at any instant of time,  $x$  depends on *some*  $Q$  for its existence.<sup>34</sup>

F1 leaves open the possibility that some intrinsic properties are indeed essential. Indeed, the two kinds of properties are often said to overlap. For some, all essential properties are intrinsic. This was especially true for most of the ancient writers, such as Aquinas, for whom essential change was intrinsic change.<sup>35</sup> Others instead believe that only some essential properties are intrinsic, but, that some are not intrinsic.<sup>36</sup> For example, the chemical structure of water is intrinsic and essential to water; on the contrary, inclusion into the cherry-tree species is essential but not intrinsic to the cherry tree.

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<sup>34</sup> For example (Lewis, 1986a).

<sup>35</sup> Cfr. for example (Aquinas, 1998).

<sup>36</sup> Cfr. (Yablo, 1999).

### §2.2.2 *Intrinsic Change Vs. Cambridge Change*

A great part of the importance of intrinsic properties is, for some, the fact that intrinsic properties define the real change of an individual.<sup>37</sup> To transition from bent to straight, John had to really *do* something; John itself had to undergo some change. On the contrary, when John became the brother of Gina, he was sleeping in bed; he did not have to do anything. Indeed, *Being the brother of* is a non-intrinsic property. The latter type of change goes, in the philosophical jargon, under the name of Cambridge change. Now, some argue that all real change is a change in intrinsic properties, while all Cambridge change is change in the non-intrinsic properties.<sup>38</sup> I believe that both these predicaments are false. In other words, I believe that:

F2 Some real change is non-intrinsic

F3 Some Cambridge change is intrinsic

Here is an example proving F2. John blushed today because Tina, who is in love with him, made her feelings public in front of the rest of the class. John's blushing is a real change in John. But, such real change is not intrinsic: it depends on Tina's declaration.

As for F3, consider the universe, that is, the individual containing all other existing things as parts. That John became the brother of Gina while he was sleeping

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<sup>37</sup> Again, for example (Lewis, 1986a).

<sup>38</sup> Cfr. (Weatherson, 2002, p.2).

in bed is surely intrinsic to the universe, as (trivially) it does not depend on anything else going on outside of it; yet that is also an instance of a Cambridge change, as we said above. Alternatively, consider the following example. The wine in the vat in the backyard turned into Brunello today, as it reached five years of aging. The aging was completely independent of the existence of any other individuals around the vat; hence it was intrinsic. But it was also a Cambridge change. Indeed, the wine did not have to do anything to turn into Brunello – you can age even without doing anything.

It is important to note that the examples supporting F3 would stand even to the definition of intrinsic as internal. Indeed, for each of them the relevant independent fact was also internal. What we are left with is the thesis that the opposition between real *vs* Cambridge change is disjoint from the opposition between intrinsic *vs* non-intrinsic properties. The role of intrinsic properties in metaphysics is not just to explain real change. In order to do that, we need also non-intrinsic properties. As I maintained in Chapter 1, the role of intrinsic properties is, primarily, the one to single out individuals by explaining the existence of all other properties, and grounding the identity of individuals across different possible scenarios and across time.

### *§2.2.3 Intrinsic Vs. Relational Properties*

To understand the relationship between intrinsic and relational properties is key to the rest of this work. Indeed, there is a longstanding tradition according to which intrinsic

properties are non-relational. This is so, for example, with respect to the definition of the highest form of good: intrinsic goodness. What is intrinsically good is what is good in relation to nothing, that which is good in and of itself. If the goodness of  $x$  comes from a distinct  $y$ ,  $x$ 's goodness is not intrinsic to it, in that it does not stem from it alone.<sup>39</sup> Here "relational" entails that  $x$  has to be one of the *relata*; more precisely, this tradition seems to hold that:

D1 Property  $Q$  is relational for  $x$  iff  $x$  figures as one of the *relata* amongst which  $Q$  holds.

There is an alternative way to define a relational property, according to which:

D2 Property  $Q$  is relational for  $x$  iff  $Q$  holds among parts of  $x$ .

In other words, according to this alternative definition, intrinsic goodness could be relational because it could hold of a complex. This arrangement of colors is intrinsically good, in that its goodness does not depend on anything else but the colors. However, the goodness in question is relational, in that it is the goodness of a complex; it takes a relation to define it.

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<sup>39</sup> (Kagan 1998), (Krebs 1999), (Feldman 1998), (Khamara, 1988), (Weatherson, 2002).

One of the main features of the contemporary conception of intrinsicness is that it endorses D2 instead of D1. Defenders of D2 accept that

F4 Some intrinsic properties are relational

F5 Some intrinsic properties are not relational

F6 Some relational properties are not intrinsic.

The most important claim for our present purposes is F4. One of its exemplifications is the chemical structure of a molecule of water, whose definition rests on the relations among different atoms and yet is intrinsic to the molecule. For an example proving F5, consider the shape of a point. The shape does not have parts; hence it is not based on any relation. Yet it is intrinsic to the point (as – allegedly every shape is). F6 is the most intuitive statement. An example is the gravitational force of the sun over the earth, which is not intrinsic to either planet, and is a relation.

F4 enhances the conceptual apparatus of a theory of intrinsic properties. What is intrinsic does not have anymore to be tied to what is atomic or simple. Also complex relational structures can be intrinsic. The complementary type of properties to the intrinsic ones are, then, not the relational but the extrinsic properties. Extrinsic properties are, by definition, all those which are not intrinsic (more on extrinsic properties later). As we shall see later, F4 will be key in rebutting an objection raised

by the friends of intrinsic properties against those who deny the existence of such properties.

### §2.3 Singling Out 5: Intrinsic Properties

At the turn of twentieth century, with philosophers such as G.E. Moore, Bertand Russell, and F.P. Ramsey, the problem of telling apart individuals was solved in a new way: no longer through essences, but via a weaker derivative notion. In a nutshell, instead of trying to characterize the properties without which an individual could not exist (the essential properties), these philosophers attempted to define the properties that an individual, when considered at a certain time, would maintain in any possible context in which it could exist. In other words, recall the three conditions for a property  $P$  to be essential stated at the beginning of Chapter 2:

- (D) If  $x$  has  $P$  and  $P$  is essential, then  $x$  has  $P$  in any possible situation in which  $x$  exists
- (E) If  $x$  has  $P$  and  $P$  is essential, then  $x$  has  $P$  at any instant at which  $x$  exists
- (F) If  $x$  has  $P$  and  $P$  is essential, then  $P$  defines the kind of thing  $x$  is.

The intuition of Moore and the others was to focus not on properties satisfying all of (A), (B), and (C), but on those satisfying only (A). Properties which are maintained

through any different scenario, even though they are accidental, were called intrinsic properties.

Loosely speaking (a more proper definition will be given later on in this chapter), intrinsic properties are those that an individual could gain or lose without ceasing to exist, but that do not pose any requirement on what the world has to be like outside the individual that has them. Intrinsic properties can suffice to provide the necessary grounding for (A) because they are the properties that, when we consider an individual at a time, the individual would retain no matter what the rest of its world would have been like. Intrinsic properties are the properties that an individual would have if all its world-mates would be removed; they are the properties that an individual has only in virtue of itself. Thus, while characterizing what the individual on its own is, they characterize what is distinctive of it. On the other hand, by setting weaker membership requirements than essential properties, intrinsic properties avoided the problems that the Darwinian theory had raised against the existence of essential properties, as well as some of the skeptical critiques to essences.

Intrinsic properties are the strongest weapon that metaphysicians have nowadays to construct their ontology. A proof of this is that prominent philosophers such as David Lewis and, more recently, Ted Sider regard them, alongside a thesis of

supervenience, as the milestones of their ontology. Intrinsic properties play three fundamental ontological roles:<sup>40</sup>

- iv. they ground the existence of all other properties;
- v. they explain the change through time of individuals;
- vi. they explain identity claims regarding individuals across possible worlds.<sup>41</sup>

Let us analyze each role.

(i) Intrinsic properties ground the existence of all other properties via the supervenience thesis:

(SUP) If entity *a* supervenes on entity *b* then, for any possible scenario at which *b* exists, *a* also exists at that scenario.<sup>42</sup>

In other words, *b*'s existence is a sufficient condition for *a*'s existence. This thesis has to be kept distinct from the one (which sometimes also goes under the name of "supervenience") according to which:

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<sup>40</sup> On this point, see also the discussion in (Taylor, 1993).

<sup>41</sup> A good illustration of the importance of intrinsic properties is the Introduction to (Lewis, 1986b).

<sup>42</sup> On supervenience, see also (Bennet and McLaughlin, 2005).

(WEAK) If entity *a* supervenes on entity *b* then there cannot be a scenario at which *a* exists and *b* does not exist.

Indeed, (WEAK) claims that *b* is a necessary condition for *a*'s existence.

Now, some authors have claimed intrinsic properties are the supervenience basis (in the sense of (SUP)) for all other properties. In other words, once intrinsic properties are in place, all other properties supervene.<sup>43</sup> Some go even further, claiming that there is a small group of properties forming the supervenience basis.<sup>44</sup> All the properties not included in the small group, be they intrinsic or extrinsic or relational, supervene on them. Intrinsic properties, hence, play a crucial ontological role: they are the entities on the basis of which all reality rests.

(ii) Intrinsic properties might be accidental: an individual can have intrinsic property *P* at time  $t_1$  and lack it at time  $t_2$ . The supervenience thesis can explain how, for any instant of time  $t_1$ , all that there is at  $t_1$  supervenes on the intrinsic properties existing at  $t_1$ . But, given all the intrinsic properties at time  $t_1$ , is it possible to tell what intrinsic properties there will be at the successive instant  $t_2$ ? In other words, does the supervenience thesis work only with respect to contemporaneous properties or is it valid also with respect to properties existing at different instants of time? Several

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<sup>43</sup> Such a claim can be found in a large number of writings that the supporters of intrinsic properties dedicated to the topic. See, for example, (Weatherson, 2002) (Sider, 1996).

<sup>44</sup> See (Lewis, 1986a).

authors, including Lewis, seem to give an affirmative answer to this question. Their thesis seems to be that intrinsic properties at time  $t_2$  supervene on intrinsic properties at time  $t_1$  in the (SUP) version of supervenience. Hence, intrinsic properties are,<sup>45</sup> at  $t_1$ , sufficient conditions for the existence of intrinsic properties at  $t_2$ ; yet they are not necessary, since there is no necessary existential entailment from entities existing at one instant of time to entities existing at a later instant. This is the so-called Humean view of causation.

(iii) Finally, intrinsic properties play a key role in identifying individuals through different scenarios. They are key in counterpart theory, the semantic theory according to which the domains of individuals at different possible worlds are all disjoint.<sup>46</sup> Identification of an individual through different worlds is therefore not a question of (strict) identity, but of similarity. I could have been an engineer if the individual being an engineer, in a scenario similar enough to the one where I live now, is similar enough to me.

Leaving aside the features of the relation of similarity, what is important here is that such relation is grounded in intrinsic properties. How can you judge the similarity between two distinct individuals existing at two distinct worlds? You look at their intrinsic properties. No sharing of intrinsic properties: no similarity, and no counterpart theory. If properties, alongside with individuals, were to change from

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<sup>45</sup> In some or all cases, depending on the view. See (Menzies, 2001).

<sup>46</sup> See (Lewis, 1968).

scenario to scenario, there would be no possibility of comparing individuals. That intrinsic properties are the properties that are constant through all the different scenarios, at which an individual might exist, renders them crucial for counterpart theory.

Sometimes, the thesis that intrinsic properties keep constant throughout different worlds goes under the name of *Quidditism*. *Quidditism* is the correlative for properties of the *haecceitates*. A *quiddity* is a non-qualitative aspect of a property that individuates and identifies it. If an intrinsic property is independent of whatever other properties do or do not exist with it, then its identity is not established on any of its qualitative features. It will hence be given by the *quiddity*. *Quiddities* and completely independent properties seem hence to go hand in hand. If you want the latter, you need the former too. On the other hand, you might have the former but reject the latter, even though it would not seem an ontologically parsimonious move (if properties depend for their existence on the existence of other properties, then their identity might depend on such properties as well, and there is no need to appeal to the obscure *quiddities*).<sup>47</sup>

Intrinsic properties are reliable in singling out individuals. Since an intrinsic property will belong to an individual in all possible situations in which the individual will exist, there is no doubt that:

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<sup>47</sup> A more thorough discussion on *Quiddities* will be offered in Chapter 5.

(I) For every intrinsic property  $P$  there is also one individual  $x$ , that has  $P$ .

Some properties are intrinsic also to composite individuals (that is, individuals which have proper parts); correspondingly, the individual singled out will be composite or simple depending on the type of intrinsic property at hand. Any individual  $x$ , however, can have more than one intrinsic property at the same time. Hence, (I) is not sufficient to single out individuals, because it does not specify when two intrinsic properties belong to the same individual. In the case of essential properties, this aspect was taken care of by the appeal to final causes. If two properties were concurring to the same final cause (in at least one instance) then they belonged to the same individual. Friends of intrinsic properties, though, tend to dislike final causes. The reason why they embrace intrinsicness instead of essentiality is precisely because they believe that essences and final causes should be banned from the subject of ontology. This is not to say that friends of essences do not believe in the existence of intrinsic properties: essential properties are a type of intrinsic properties, after all, in that they do satisfy (A). But some (probably most) contemporary ontologists tend not to believe in the existence of essences. Hence we should find a general principle to single out individuals on the basis of intrinsic properties which does not rely on the existence of essences or final causes.

The conviction to which most contemporary philosophers seem to subscribe to intrinsic properties seems to be the following:

(J) For each point or atomic region in space-time, there is one individual.

Such conviction, in turn, seems to be founded in the following:

(K) For each point or atomic region of space-time, there is at least one intrinsic property.

If (J) and (K) are indeed convictions of a friend of intrinsic properties, the following can be taken to be, together with (I), as the general principle to single out individuals on the basis of intrinsic properties:

(L) Two intrinsic properties belong to the same individual if, and only if, they occupy the same point or atomic region of space-time.

Now, (L) makes an appeal to regions of space-time. And as already noted while discussing essential properties, such appeal risks circularity: we are after a principle to single out individuals and, it turns out, that the principle we have at hand does presuppose that some individuals (regions or points of space time) are already singled out.

As already pointed out in Chapter 1, one way out of the *impasse* is to hold a relational view of space and time and try to explain away the reference to space-time in (L). But there might be another way out of the *impasse* concerning (L). We could maintain that (L) works for all individuals except for points or atomic regions of space-time. For the latter, instead, we can propose a different principle. After all, how are the points or atomic regions of space-time singled out? One way to do so is via their relational properties; more precisely, via the minimal distance relation that there is between two points or atomic regions of space-time:

(M) For any minimal distance relation  $R$ , there are two points or atomic regions of space-time.

Alternatively, one could resort to *haecceitates*. Every point or atomic region of space-time has one unique property, a *haecceitas*. It is hence via the *haecceitas* that the point or atomic region is singled out. Both criteria could be plausible ways out for the friend of (L). In other words, she could accept (L) and (M), or (L) and *haecceitates* to single out all individuals in her ontology.

## §2.4 Intrinsic as Internal

The "intrinsic" can be spoken of in metaphysical, epistemic, or syntactical terms.<sup>48</sup> A term is *syntactically intrinsic* when its attribution to an entity does not require the mention of any other term. For example, "immoderate" is syntactically non-intrinsic in that it mentions another term, that is, "moderate."<sup>49</sup>

A property is *epistemically intrinsic* when its attribution to an individual does not require the knowledge of any other individual. For example (supposing that to assess the beauty of an object  $x$  requires close scrutiny of  $x$  only) *Beauty* is an epistemically intrinsic property. On the contrary, *Being the best scorer of the year*, when attributed to a basketball player  $x$ , requires knowledge of the scores of other players as well; hence it cannot be epistemically intrinsic to  $x$ .

I will not be concerned here with syntactical or epistemic intrinsicness. My aim will be to analyze metaphysical intrinsicness. There are two senses in which something can be said to be "intrinsic" metaphysically. In some contexts, "intrinsic" means:

*M1*: Dependent only on the individual within whose spatio-temporal boundaries it exists.

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<sup>48</sup> A similar distinction is made also in (Dunn, 1990: 178).

<sup>49</sup> For an introductory discussion of intrinsic properties see (Weatherson, 2002), (Humberstone, 1996), and (Sider, 1996).

For example, when we say that *Beauty* is intrinsically good, we mean that it is good only in virtue of the individual who is said to be beautiful.<sup>50</sup>

Other times, instead, "intrinsic" means:

*M2*: Lying within the spatio-temporal boundaries of an individual.

For example, when we talk about the intrinsic nature of a cherry tree or a cell we arguably aim at referring to those features of the organism that lie within the spatial boundaries of the organism itself. In the latter case, "intrinsic" is used as a synonym of "internal." Talking about the intrinsic nature of a cell is thus tantamount to talking about its internal nature.

Already G.E. Moore seemed to believe that "intrinsic" and "internal" should be regarded as synonym *tout court*, if it wasn't for the fact that some individuals, which have intrinsic properties, appear to have no constituents.<sup>51</sup> However, one could defend the view that everything has constituents (that is, that there are no simple, or

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<sup>50</sup> In this sense, what is intrinsic is also objective; indeed, by being independent, it does not depend on the judgment of an observer as well. Cfr. (Moore, 1922), (Feldman, 1998), (Kagan, 1998).

<sup>51</sup> Cfr. (Moore, 1993: 27).

atomic, individuals).<sup>52</sup> If such view would turn out to be true, a theory taking "intrinsic" to mean "internal" would be palatable.

Intrinsic and internal have also some key features in common:

- (i) As we noted that some intrinsic properties can be relational, along the same lines, some internal properties can be relational.<sup>53</sup> That my liver lies to the right of my pancreas is internal to my body, and it is relational.
- (ii) On par with some intrinsic properties, not all internal properties are essential. The redness of my throat, which is internal to me, is not essential to me. Luckily, there are times at which my throat is pink and healthy.
- (iii) As some real change is non-intrinsic, some real change is non-internal: if Mary moves from the right to the left of John, their relation changes, but Mary and John do not have to change internally.
- (iv) Finally, as already discussed above, as some intrinsic change is Cambridge change, some internal change is Cambridge change.

It could thus seem as if internal and intrinsic play the same theoretical role. It is not so, though, and this is the reason why philosophical theories about intrinsicness had to take seriously only one out of *M1* and *M2*. For some, that which is intrinsic is

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<sup>52</sup> The thesis that there are no simple or atomic individuals, known to the more recent metaphysical literature under the label "*hypothesis of gunk*" has been defended – as at least possible, even if not necessary – among others by (Lewis, 1991) and (Sider, 1993).

<sup>53</sup> The same claim can be found in (Moore, 1942: 579).

independent; for others, what is intrinsic is internal. There are two reasons why "intrinsic" and "internal" cannot be synonymous. The first is the one noted by Moore, namely that an individual with no constituents can have intrinsic but not internal properties. From which we derive that:

F7 In a world containing individuals with no constituents, some intrinsic properties are not internal.

F7 is the reason why some philosophers, like G.E. Moore, kept "intrinsic" and "internal distinct."<sup>54</sup> As I said, F7 is by itself no reason for regarding a theory of "intrinsic" as independent as distinct from a theory regarding "intrinsic" as internal. The reason why the two of them are kept distinct is the fact that:

F8 For some distinct individuals  $x$  and  $y$  and internal property  $P$ , that  $x$  has  $P$  depends on  $y$ 's existence.

In other words, some internal properties are not independent of the context. Hence:

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<sup>54</sup> Even though, eventually, Moore is not always very careful in distinguishing between the two terms. Cfr. (Moore, 1922) and (Moore, 1993).

F9 If independency is the landmark of intrinsicness, some internal properties are not intrinsic.

F9 traces a distinction between a conception of intrinsicness as independent and a conception of intrinsicness as internal. But the truth of F9 depends on the one of F8. Hence, to grasp the conception of intrinsicness as independent is tantamount to providing a satisfactory answer to the question: why should one accept F8?

Let me try to answer by means of two examples. Mary and John are sitting one in front of the other in the Gyrathon ride, at the amusement park. Their spatial relation is internal to the Gyrathon ride. This relation, however, depends on the park employer controlling the ride: as soon as she will start moving the Gyrathon faster, the spatial relation between Mary and John will change. Hence, even though the spatial relation between Mary and John is internal to the Gyrathon, it is not intrinsic: it depends on the park employer (who is not riding the Gyrathon) to move it.

Second example. John is ready to shake the lottery ballot, which now lies at rest. The ballot is full of balls, at a certain spatial distance from each other. Although this relation is internal to the ballot, it is not independent of what is going on outside of the ballot. As soon as John starts shaking the ballot, the relation among the balls will change. The relation among the balls in the ballot thus depends also on John, who is outside the ballot.

The moral is that by identifying intrinsic properties with internal properties, we assume that the latter are independent of the context. Yet, this is an unwarranted assumption. It is the assumption chosen by those who like to pair intrinsic with independent.<sup>55</sup>

Even after these remarks, some might still be of the opinion that "intrinsic" and "internal" are synonymous. What kind of definition of intrinsicness will those give of "intrinsic?"

As noted at the beginning of the section, "internal" should reasonably be taken to imply a mereological relation between the internal property  $P$  and the individual  $x$  possessing it. Indeed,  $P$  needs to be had by a constituent of  $x$ , that is by an individual  $y$  which is a proper part of  $x$ .<sup>56</sup>

A difficulty, however, emerges at this point. Indeed, it is unclear whether a constituent which lies entirely or partially on a border of  $x$  could have a property internal to  $x$ . Is the property of having a peel full of vitamin C internal to this orange? In a sense, one could say that it is in that it lies within the borders of the orange.

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<sup>55</sup> G.E. Moore is the most prominent author to have used "intrinsic" as "internal". See (Moore, 1993), (Moore, 1922), and (Moore, 1942: 97, 113, and 578-579). He seems to claim that the two terms would be synonymous, if it were not for the fact that some simple (atomic, having no constituents) things might have intrinsic properties; cfr. (Moore, 1993: 27).

<sup>56</sup> Assuming the parthood relation as primitive,  $y$  is a proper part of  $x$  when  $y$  is a part of  $x$  and  $x$  is not a part of  $y$ . That is:  $PP_{xy} =_{df} P_{xy} \ \& \ \neg P_{yx}$ .

"Internal" would hence be synonymous with "proper part." On the other hand, one could take "internal" to mean "interior" or "lying inside;" in such a case, the orange peel would not be internal to the orange.

Personally, I prefer the first, broader, interpretation. It seems to sit better with the original intentions of the friends of intrinsic as internal: it is a conception that adapts to all cases of individuals having at least one constituent. If we were to prefer the second interpretation, the individuals having only borders as constituents would have no intrinsic properties. By taking the first interpretation, we hence arrive at the following definition of an intrinsic property as internal:

D3 Property  $Q$  is intrinsic to an individual  $x$  iff there is an individual  $y$ , which is a proper part of  $x$ , and  $y$  has  $Q$ .

On the other hand, some writers agree with examples of the sort of the ones given to support F9. They proposed that "intrinsic" is synonymous of "independent." Now, this path resembles one of the criteria for individuality that Plato, in the *Parmenides*, had shown to lead to a very radical ontology. For some reason, however, the supporters of this view believed it to be immune from buying into such radical positions. We will examine this issue in the second part of the chapter. For the time being we will be concerned with the illustration of the different ways in which "independent," and hence "intrinsic" have been defined.

## §2.5 Intrinsic as Independent 1: Natural (Lewis)

The first way to define "intrinsic" as independent is via an appeal to the notion of *natural property*. This was Moore's conception of intrinsicness. According to Moore, an intrinsic property is one that "depends solely on the intrinsic nature of what possesses it."<sup>57</sup> What such intrinsic nature is supposed to be, Moore does not say. Drawing from his later paper on "A Defense of Common Sense,"<sup>58</sup> we could plausibly conjecture that nature is what somehow allies with common sense. Yet, to what extent should a property ally with common sense in order to be regarded as natural?

David Lewis's first definition of intrinsicness tried to answer this question. Building upon Moore's conception, Lewis – most notably in (Lewis, 1983b) and (Lewis, 1986a) – made the more rigorous proposal to ground intrinsic properties on a more basic kind of properties that he proposed to sort out: *natural properties*. For Lewis, natural properties are those that carve nature at its joints, those that divide individuals into natural kinds. Ideally, there are only a few numbers of such properties, that the sciences will help us to discover with time. They might be, for example, the properties that will figure in the ultimate, complete physical theory, if one will ever be discovered. Finally, for Lewis natural properties are connected with the nature of the individuals. Together with individuals, thus, natural properties are the basic constituents of the world.

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<sup>57</sup> (Moore, 1922).

<sup>58</sup> (Moore, 1959).

This is a first approximation. Indeed, Lewis furthers Moore's proposal precisely because he tries to specify how to cash out naturalness.<sup>59</sup> He lays out two alternative ways to do so. One that, in the *Nominalistic* spirit, tries to define naturalness in terms of kinds of individuals or classes of them; the other, instead, finds naturalness in different kinds of properties, be they universals (repeatable properties) or tropes (non-repeatable properties.)<sup>60</sup>

No matter which alternative you chose, the next step is to consider whether naturalness comes in degrees, or whether instead there is a sharp distinction between the natural and non-natural properties. Lewis chooses the first option. Some natural property are *perfectly* (or absolutely) so. Hence, Lewis proposes to call these kinds of properties *perfectly natural properties*. And the basic predicate applying to them will be: "*to-be-perfectly-natural*." On the other hand, perfectly natural properties lie at one extreme of the scale of naturalness. Some properties are more natural than others, and the perfectly natural properties are the most natural of all. The other fundamental predicate will hence be: "*to-be-at-least-as-natural-as*." With those two predicates at hand, Lewis proposes to rank properties according to their naturalness, in a way which is not arbitrary or context-dependent. The two predicates are, however, supposed to be primitive. Their application cannot be further justified by some other fact. This, as we shall see, is the weakest point of Lewis's proposal.

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<sup>59</sup> (Lewis, 1986a: 63-69).

<sup>60</sup> The following classification draws, with some variation, from (Taylor, 1993).

Once natural properties are in place, Lewis proceeds to define intrinsic properties. The definition comes in three steps:

*Step One* Every individual, independently of its surrounding, has natural properties. No matter how much the scenario in which a certain cherry tree lives could change, the cherry tree would retain its natural properties.

*Step Two* Two individuals are *intrinsic duplicates* if they (and each of their parts) share the same natural properties (including the natural relations among parts).

*Step Three* An intrinsic property is one that never differs, and never can differ, among duplicates. In other words, intrinsic properties are those whose existence depends only on the existence of some natural property. Intrinsic properties supervene on natural properties: two individuals having the same natural properties will necessarily have also the same intrinsic properties.

Lewis advances two reasons why we should accept natural properties: they accommodate Moorean facts of common sense (more on this below),<sup>61</sup> and they

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<sup>61</sup> See (Lewis, 1983b: 351-355).

provide him with a *trait d'union* of most of his philosophizing.<sup>62</sup> I have dealt with the latter in the previous paragraph, while explaining the key role of intrinsic properties in contemporary metaphysics. The first definition of intrinsicness provided by Lewis appeals to an even more fundamental kind of properties, that is, natural properties. And there is no question that natural (and hence intrinsic) properties are the key to systematic philosophy in Lewis's metaphysics. But, they might be too convenient, as we are going to discuss thoroughly in the second part of this chapter.

There are, however, two complaints specific to natural properties that I would like to outline here. Indeed, they do not threaten the conception of intrinsicness as independency *per se*, but only Lewis's attempt to tie such conception with naturalness. The first complaint comes in a paper published by Barry Taylor in 1993.<sup>63</sup> In his work, Taylor offers a compelling reconstruction and a detailed discussion of Lewis's account of naturalness. Taylor criticizes Lewis both with respect to the thesis that natural properties help to account for Moorean facts, and with respect to Lewis's use of them in order to gain a systematic philosophy. As I said, I will deal with the latter in the second part of this chapter. But, we should here examine Taylor's objection to the former, which can be briefly reconstructed.

Without entering into details that do not concern us here, a Moorean fact is one that is acknowledged by common sense. Typically, such fact can be reconstructed

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<sup>62</sup> See (Lewis, 1986a: 63).

<sup>63</sup> See (Taylor, 1993).

as the similitude between two kinds of objects. Take these two roses. To every common person – as the argument goes – they appear to be the same kind of thing, and this is registered in the fact that we use the same noun to refer to them. But, how can we argue for such similarity? According to Taylor, for Lewis we can do so by claiming that both roses have the same kind of natural properties. But – and here comes Taylor's critique – what fixes the naturalness of a property? Is it its necessity for the actual world to exist? Is it the fact that natural properties are non-conjunctive (that is, simple, atomic) ones? Is it that they are the properties without which the roses could have not existed?<sup>64</sup> All those questions would need to be answered before we could start using Lewis's naturalness. Nor it is more helpful to claim that natural properties are not yet around but they are the ones that will figure in the ultimate physical theory of the world. How are we supposed to understand those properties? There is no such theory yet around; hence, we do not know what they look like.

In other words, Taylor questions Lewis on the very possibility of defending a version of metaphysical realism, the one claiming that the referents of our predicates stand for natural properties, "that is, that they record objective cleavage in nature, schisms in things independent of human psychology or convention, marking entirely

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<sup>64</sup> For two recent and influential opposite views on this point cfr. (Bird, 2001), (Bird, 2002), and (Bird, 2004), who advocate the necessity for water having a certain chemical structure, and (Psillos, 2002) and (Beebe, 2002) who deny such necessity.

mind-independent similarities between things."<sup>65</sup> Taylor hence proposes that we abandon natural properties (and, with them, a strong version of realism) and to substitute them with what he calls "vegetarian" properties, that is, properties which are fundamental (that is, natural) but only relatively to a given theory T.

I find Taylor's complain towards Lewis's definition of naturalness compelling. Besides, there is another worry, against Lewis's appeal to nature, that should be voiced.<sup>66</sup> It is always good practice to distrust any program appealing to *nature* or *natural facts*. Our intellectual history is filled with appeals to naturalness advocating all sorts of views: from slavery to freedom; from racism to equality; from private property to communism; from Aristotelian to Newtonian physics... Intrinsic properties would just be one of the contemporary appeal. When one resorts to the nature of individuals to defend or ground her view, we are alerted to a sign that any other rational mean of argumentation has fallen short.

The latter point is not a cheap one. Invoking nature seems to me no less repugnant than resorting to our impossibility to understand God's design when trying to find a rationale for the existence of human suffering. Hence, even though Lewis's definition is elegant, and Lewis makes an attempt to spell out what his definition of "nature" is, I distrust intrinsicness in terms of naturalness.

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<sup>65</sup> (Taylor, 1993:81).

<sup>66</sup> I find it somewhat striking that Taylor does not protest against this aspect to a greater length. He limits himself to say "I confess to find these joints [the ones carved by natural properties] utterly mysterious, the manner of the carving utterly arcane."

A final note. Besides any skepticism as to the plausibility of specifying what natural properties are, if there is any evidence in favor of their existence, it does not suggest that they are the right kind of properties for defining intrinsicness. Indeed, an argument can be made to the effect that the most scientifically fundamental properties are non-intrinsic (that is, non-independent): they belong to an individual in virtue of the existence of other distinct individuals.<sup>67</sup> I will further develop this objection later in the chapter.

## **§2.6 Intrinsic as Independent 2: Recombination (Langton and Lewis)**

Probably prompted by the objections raised by Taylor and by the theoretical dissatisfaction with the notion of "natural property," David Lewis, together with Rae Langton, proposed an alternative definition of intrinsicness in a paper titled "Defining Intrinsic". (The paper was published in 1998, twelve years after the publication of his first definition.) The goal was to provide a metaphysically more neutral definition of "intrinsic" with respect to the first one proposed by Lewis. The new definition elaborates over one given by Jaegwon Kim in 1982, which in turn fleshed out a suggestion of Roderick Chisholm.<sup>68</sup> Dean Zimmerman too, in 1997, had proposed a

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<sup>67</sup> Cfr., for example, (Black, 2000) and (Esfeld, 2003).

<sup>68</sup> Cfr. (Kim, 1982) and (Chisholm, 1976).

definition closely resembling the one in Langton and Lewis.<sup>69</sup> Later refined in 2001 by David Lewis, Langton and Lewis's definition of intrinsicness is nowadays the most popular and debated one.<sup>70</sup> It composes of six steps.<sup>71</sup>

*Step One* Take some *indisputable* fundamental properties. Such – say the authors – are properties that figure in a theory of natural properties; or are the kind of properties which appear as metaphysically fundamental in some theory of universals or tropes; or, again, they may be those properties that play a central role in human agency (the "vegetarian" properties, as (Taylor 1993) calls them).

*Step Two* Define a property as *disjunctive* when it is a disjunction of at least two fundamental properties yet it is not itself a fundamental property.

*Step Three* Define a property as *independent or lonely of accompaniment* when it satisfies the following four conditions: (i) there is a lonely thing having it; (ii) there is an accompanied (not lonely) thing having it; (iii) there is a lonely thing *not* having it; (iv) there is an accompanied thing *not* having it.

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<sup>69</sup> Cfr. (Zimmerman, 1997).

<sup>70</sup>(Langton and Lewis, 1998), (Langton and Lewis, 2001) and (Lewis, 2001).

<sup>71</sup> What follows is a free reconstruction of Langton and Lewis's definition who, most importantly, do not acknowledge *Step One* as a step of the definition.

*Step Four* Define a property as *basic intrinsic* if it is not disjunctive and it is independent of accompaniment.

*Step Five* Define two things as *duplicates* when they share all their basic intrinsic properties.

*Step Six* Define a property as *intrinsic* when two duplicates can never differ with respect to it.

Before proceeding further with the analysis of the steps, a qualification is in place. Langton and Lewis's goal is to divide between intrinsic and non-intrinsic *pure* properties, that is to divide between properties that involve no particular individual. *Being-three-feet-apart-from-John* is an impure property, in that it involves a particular individual, John. A pure property, instead, is *Being-three-feet-apart-from-a-table*, where no reference to a particular individual is made.

In 1999, Stephen Yablo criticized Langton and Lewis on their appeal to naturalness. His objection was not parallel to the one advanced in the previous section against Lewis's definition of a perfectly or more intrinsic property. Yablo focused on the distinction between disjunctive and non-disjunctive properties. Indeed, if this distinction is not clear, it will also not be clear which properties are intrinsic in *Step Two* of Langton and Lewis's definition.

Yablo considers the property:

*Q: Being-the-only-round-thing.*

By any intuition, *Q* should be regarded as extrinsic, in that it requires observation outside of the mentioned thing in order to be ascribed to it. Also, the property is lonely of accompaniment. Hence, if Lewis and Langton would not want to include *Q* among the basic intrinsic properties they will have to show that it is disjunctive. And, indeed, *Q* can be thought of as the negation of the disjunction of the following two properties:

*P: Being-round-and-accompanied-by-a-round-thing*

*T: Being-not-round*

Now, Langton and Lewis would consider *Q* less fundamental than *P* because the negation of *Q* involves a disjunction, namely *P or T*. And, since *Q* is identical to the negation of *P or T*, but is less fundamental than *P*, then it is disjunctive.

It is against the latter point that Yablo protests. Why should the fact that *Q* is equivalent to the negation of *P or T* make *Q* less fundamental than *P*? Indeed, surely one way to express *Q* is via such negation; but there are others that do not involve any disjunction, such as:

*Z: Being-round-if-accompanied-by-a-round-thing.*

And, why would  $Z$  be less fundamental than  $P$ ? The former contains an implication, the latter a conjunction. Why is conjunction metaphysically more fundamental than implication?

Similar objections were raised by Dan Marshall and Josh Parsons, and by Theodor Sider in a special issue dedicated to Langton and Lewis's definition of intrinsicness, by *Philosophy and Phenomenological Research*, in 2001. Marshall and Parsons raised a question about the naturalness of some quantificational properties. Consider the following two properties: *Being-such-that-a-cube-exists* and *Being-accompanied-by-a-cube*. They are both lonely of accompaniment. And they both exhibit the same structure. Yet the first is allegedly intrinsic, while the latter is allegedly extrinsic.<sup>72</sup> Hence, the first comes out as more fundamental than the latter. Why is it so?

Sider, instead, focuses on maximal properties. Consider the property *Being-a-rock*. It is lonely of accompaniment, but it is allegedly extrinsic, in that it depends on the surrounding of the thing in question whether it is a maximal object, and hence a rock, or not. So, in order to rule out the property from the basic intrinsic ones Langton and Lewis would have to prove that it is not fundamental. But, on what basis can they claim that?<sup>73</sup>

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<sup>72</sup> (Marshall and Parsons, 2001).

<sup>73</sup> (Sider, 2001).

In the same issue, Brian Weatherson and David Lewis himself reply to these three objections.<sup>74</sup> Weatherson's piece proposes adding to Langton and Lewis's definition the condition that intrinsic properties are formed by one of the following four operations:

- (A) If  $F \in SI$  [the set of intrinsic properties] and  $G \in SI$  then  $F\text{-or-}G \in SI$  and  $\text{not-}F \in SI$ ;
- (B) If  $F \in SI$  then  $\text{Having-}n\text{-parts-that-are-}F \in SI$  and  $\text{Being-entirely-composed-of-exactly-}n\text{-thing-that-are-}F \in SI$ ;
- (C) If  $F \in SI$  and  $G \in SI$  and there is a possible world with  $n+1$  pairwise distinct things, and something in some world is  $F$  and something in some world is  $G$ , then there is a world with exactly  $n+1$  pairwise distinct things such that one is  $F$  and the other  $n$  are  $G$ ;
- (D) If  $F \in SI$  and  $G \in SI$  and it is possible that regions with shapes  $d_1$  and  $d_2$  stand in relation  $\mathcal{A}$ , and it is possible that an  $F$  wholly occupy a region with shape  $d_1$  and a  $G$  wholly occupies a region with shape  $d_2$ , then there is a world where regions with shapes  $d_1$  and  $d_i$  stand in  $\mathcal{A}$ , and an  $F$  wholly

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<sup>74</sup> (Weatherson, 2001) and (Lewis, 2001). The issue also contains a paper by Hawthorne, (Hawthorne, 2001), which is, however, not directly relevant for the present discussion.

occupies the region with shape  $d_1$  and a  $G$  wholly occupies a region with shape  $d_2$ .

In simpler terms, (A) proposes that the set of intrinsic properties should be closed under Boolean operations. (B) proposes that it is closed under mereological composition. (C) and (D) secure that intrinsic properties are lonely of accompaniment.

The trouble with this refinement, as Lewis himself notes,<sup>75</sup> is that it does presuppose a safe and fair starting pool of intrinsic properties. But, as we have seen with the first definition given by Lewis, there is no easy way of doing so. Hence, Weatherson's solution does not help on this point, and Lewis has better words to offer. Lewis, however, improves on the original definition of Langton and Lewis in two ways. First, he redefines *disjunctive properties*. Indeed, as Yablo himself had noted, every property can be made equivalent to a disjunction of two properties. Consider, for example, *Being-bent*. This is equivalent to the disjunction of these two properties: *Being-bent-and-Italian* and *Being-bent-and-non-Italian*. In order to rule out some properties as non-fundamental, it is therefore not enough to claim that they are disjunctive. They have to be – Lewis argues – *bad* disjunctive properties. Langton and Lewis had previously defined a bad disjunction as one in which each disjunct is much more

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<sup>75</sup> (Lewis, 2001: 395-399).

fundamental than the whole disjunction.<sup>76</sup> Lewis now proposes that a bad disjunction is defined as one in which each disjunct is *much more fundamental* than the whole disjunction and, with some reservation,<sup>77</sup> as one in which there is a high number of disjuncts, each of which is a conjunction.

The second improvement brought by Lewis to the original definition tries to define intrinsic properties from the outset, instead of construing them out of the fundamental ones *minus* the bad disjunctive. Lewis's proposal is to define a property *P* as intrinsic iff:

- (1) *P* is independent of accompaniment
- (2) The property *P-and-accompanied* is more fundamental than *P*
- (3) The property *P-and-lonely* is more fundamental than *P*
- (4) The property *not-P-and-accompanied* is more fundamental than *P*
- (5) The property *not-P-and-lonely* is more fundamental than *P*

This definition is much more elegant and simple than the one given in the 1998 paper co-written with Rae Langton. Also, it avoids any explicit appeal to fundamental properties as a first step. But, it still appeals to fundamentality, from (2) through (5).

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<sup>76</sup> Lewis and Langton actually use "natural" instead of "fundamental." I prefer the latter because it is more neutral as to what is fundamental – which I believe to be Lewis and Langton's improvement with respect to Lewis's first definition.

<sup>77</sup> The following point had been expressed by Weatherson, condition (A).

At the end of this detailed discussion of Langton and Lewis's definition, we are left with a rather elegant definition of intrinsicness, probably the most refined and solid definition available. Still, this definition is highly controversial. The main problem is that it appeals to fundamental properties. Yablo, Marshall and Parsons, Sider worked on criticizing Langton and Lewis on some relevant details of the definition. Yet the real problem is the larger picture. What are the fundamental properties supposed to be? How can this definition be *one* if some completely orthogonal definitions of fundamentality are plugged in? Consider the two following definitions of fundamentality. (i) "Fundamental" means "what the *Qu'ran* teaches us." (ii) "Fundamental" means "what fundamental Physics teaches us". Would two people, one upholding (i) and the other (ii), be using the same notion of intrinsicness? In what sense, then, Langton and Lewis's definition improves our grasp of what "intrinsic" is if it does not tell us what "fundamental" is? Lewis and all the other authors discussing Langton and Lewis's definition use "natural" instead of "fundamental." And they seem to give for granted that "natural" means what Lewis said it means in (Lewis, 1983) and (Lewis, 1986). But, as we have seen, in these works it is by no means clear that Lewis has successfully explained what "natural" means. Thus, I conclude, Langton and Lewis's definition, although elegant and elaborate, is not satisfying.

## §2.7 Intrinsic as Independent 3: Contracted Worlds (Vallentyne)

Approximately at the same time as Langton and Lewis were working on their account, and independently of them, Peter Vallentyne put forward a similar definition of intrinsicness.<sup>78</sup> Even though Vallentyne did not have as many followers as Lewis and Langton, his work deserves consideration in a survey of the various definitions of intrinsicness.

Vallentyne's proposal is to define intrinsicness starting from a certain kind of possible worlds, namely, contracted worlds. A *contraction* of world  $W_1$  is a world  $W_2$  which is obtained from  $W_1$  by removing some of  $W_1$ 's inhabitants. An  $x$ - $t$  contraction is the contraction obtained by removing all things different from  $x$  which do not occupy the spatio-temporal region  $t$  that  $x$  occupies. Briefly, it is a world in which only  $x$  exists and occupies the whole spatio-temporal manifold.

Equipped with the notion of an  $x$ - $t$  contraction, Vallentyne proposes to define intrinsicness as follows:

- D4 A property  $P$  is intrinsic for individual  $x$  when, for any world  $w$  and time  $t$ : (i) if  $Px$  at  $t$  in  $w$ , then  $Px$  at  $t$  in each  $x$ - $t$  contraction of  $w$ ; and (ii) likewise for *not*  $Px$ .

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<sup>78</sup> (Vallentyne, 1997).

This account has at least three disadvantages.<sup>79</sup> The first is that contractions can be defined only if trans-world-identity holds.<sup>80</sup> For, if counterpart theory were true, then each contraction of the actual world would contain some intrinsic *duplicate* (in Lewis's terminology) of the actual object, and thus the definition would become trivial – clearly intrinsic duplicates are useful when defining intrinsic properties.

The second disadvantage of Vallentyne's account is that it purports to explain what an intrinsic property is by resorting to the notion of a possible world. Yet, what a possible world is itself needs explanation. Is it a set of propositions? Is it a useful fiction? Is it a concrete entity? Thus, by resorting to possible worlds it is not clear that Vallentyne has advanced our understanding of intrinsicness. He just moved the problem.

Also, the third disadvantage charges Vallentyne with just moving, without solving, the problem of defining intrinsicness. Which are the acceptable contractions of worlds, too, is by no means transparent. The guides for asserting that a certain contraction of a world is possible are our intuitions as to what is possible and what is

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<sup>79</sup> In his piece, Vallentyne discusses and rejects four objections: (1) that the definition classifies secondary qualities as intrinsic; (2) that all properties might be dependent from some law; (3) that the definition renders certain non-qualitative and allegedly extrinsic properties – such as being located at time *t* in region *s* – as intrinsic; (4) that the definition renders some allegedly extrinsic and essential properties – such as origin – an intrinsic property. I will not take them up here. Indeed, I will consider all of them in the second part of this chapter, where I will argue against Vallentyne and, in general, against the construal of intrinsicness as independence.

<sup>80</sup> On this point, see also Langton and Lewis's criticism of Vallentyne in (Langton and Lewis, 1998); and Yablo's defense of Vallentyne in (Yablo, 1999).

not. Yet, these intuitions are by no means uncontroversial. Nor there is an uncontroversial way of telling what is possible and what is not. Hence, by defining what intrinsicness is in terms of which contractions are possible, Vallentyne's account is just moving the problem, not solving it.

There is, however, a positive side to Vallentyne's proposal. By not relying on any natural or vegetarian or metaphysically well-supported property, the proposal is *prima facie* more appealing than the ones advanced by Langton and Lewis. This is likely bound not to be much of an advantage, once the disadvantages are considered. Yet the other accounts, as we have seen, are not immune from criticism either. We should thus put Vallentyne's account on the list of potential candidates for defining intrinsicness.

## **§2.8 Intrinsic as Independent 4: Parthood (Yablo)**

Yablo's account of intrinsicness, given in 1999, resembles closely Vallentyne's one. Yet, instead of relying upon the less familiar notion of contraction of a world, Yablo notices that intrinsicness lines up "in a non-accidental way" with the relation of part to whole.<sup>81</sup>

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<sup>81</sup> Cfr. (Yablo, 1999).

The intuition beyond Yablo's formulation is that a property is intrinsic when, even if one were to *add* something to its surrounding, the property would not change. More precisely, Yablo defines an intrinsic property as follows:

D5 *P* is intrinsic for individual *x* when *x* has *P* in world  $W_1$  iff some copy *x'* of *x* has *P* in world  $W_2$  (where  $W_2$  is an expansion of  $W_1$ , that is, a world which contains  $W_1$  as a proper part).

Yablo's definition retains the three problems of Vallentyne's. Indeed, as in Vallentyne's case, (i) the definition is viable only for a defender of trans-world identity; (ii) it relies upon possible worlds; and (iii) leaves up to the intuition which possible worlds are possible in order to establish which property is intrinsic.

So, on par with Vallentyne's definition, Yablo's definition does not seem to surpass Langton and Lewis's. Unlike the latter, however, Yablo's definition avoids any reference to natural or vegetarian or metaphysically well-grounded properties. Besides, it allows for there being some essential yet extrinsic properties. Indeed, they might supervene on the intrinsic properties of the parts. Just as with Vallentyne's definition, we should put Yablo's on the list of potential candidates that define intrinsicness.

## §2.9 Intrinsic as Independent 5: Relations Among Distincts (Francescotti)

Robert Francescotti advanced a definition of "intrinsic" in terms of non-relationality, where "relational" should be taken as synonymous of what I here call "external."<sup>82</sup>

The definition, which consists of two steps, proceeds as follows.

*Step One* Define a *d*-relational property *F* as one such that:

1. There is a relation *R*, and an item *y*, such that (i) *x*'s having *F* consists in *x*'s bearing *R* to *y*, and (ii) *y* is distinct from *x*; or
2. There is a relation *R* and a class of items *C*, such that (i) *x*'s having *F* consists in there being some member of *C* to which *x* bears *R*, and (ii) at least one member of *C* to which *x* bears *R* is distinct from *x*; or
3. There is a relation *R*, and a class of items *C*, such that (i) *x*'s having *F* consists in *x*'s bearing *R* to every member of *C*, and (ii) it is possible that there is a member of *C* that is distinct from *x*.

*Step Two* Define a property *F* as intrinsic for individual *x* as follows:

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<sup>82</sup> (Francescotti, 1999).

D6  $F$  is intrinsic for individual  $x$  iff  $x$  has  $F$ , and  $F$  is not a  $d$ -relational property of  $x$ .

The problem with Francescotti's definition is that it rests on the primitive notion "consists in." Now, no matter how one is going to elucidate such a notion, the elucidation is going to contain some modal terms. For example, one could define "consists in" as the dependence relation between two events: whenever  $x$ 's having  $F$  obtains, then  $x$ 's having  $G$  also obtains. And here comes the problem: all the previous definitions we have seen wore their modal commitments "on their sleeves," so that no further analysis should have been done in order to grasp them. As it has already been remarked upon several times, a robust modal independence is required in order to serve the intrinsicist program. Yet, even though Francescotti's definition ends up being part of such program, it gives us no hint as to how to interpret the "consists in" relation. Hence, even if one should add Francescotti's definition to the list of plausible candidates for defining "intrinsic," the definition is in need of supplementation.

## **§2.10 Intrinsic as Independent 6: Essential Dependence (Cameron)**

The second to last definition I will examine moves in the direction of Francescotti's. It attempts to provide an analysis of independence that does not rely on "necessary." As we have seen, Francescotti failed to do so. This tentative, instead, has at least the

merit of resting on a well-developed modal concept regarded as distinct from "necessary," namely "essential."

That intrinsicness could be defined in terms of essentiality has been only recently proposed by Ross Cameron, who builds on Kit Fine's works in modality. According to Fine, an essential tie between two entities is more robust than a necessary one.<sup>83</sup> Indeed, the latter can be explained by appealing to a possible world semantics. It is a tie that takes place in every world at which the two entities exist. An essential tie, on the other hand, also takes place at every world at which the two entities exist, but it is allegedly stronger than that. It entails a kind of dependence that needs also some consideration of the nature (conceptual or ontological) of the entity involved in order to be spelled out. Essential dependence occurs, for example, between the number one and the set that contains it as its unique member. It is impossible to have the latter without the former, hence the latter depends on the former for its existence. Yet such dependence – as Fine would argue – cannot be explained solely in terms of a necessary tie between the two. Indeed, such a necessary tie would not do justice to the difference in existential dependence between: the set that contains one as its unique element, and the number one itself; and the set containing as its unique element the set containing as its unique element the number one, and the number one itself. Both sets cannot exist without the number one, but

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<sup>83</sup> Si veda (Fine, 1994), (Fine, 1995a), (Fine, 1995b), (Fine, 1995c) e (Correia, 2005).

there seems to be a difference in such dependence: the first depends directly on the number one, while the latter depends also on the existence of the former set.<sup>84</sup>

Building on Fine's definition, Cameron proposed the following definition of "intrinsic":

D7 A property  $P$  is intrinsic to an individual  $x$  when  $P$  does not depend essentially on any other individual  $y$  distinct from  $x$ .

Intrinsicness is therefore the complement of essential dependence. Since essential dependence is stronger than necessary dependence, this definition of intrinsicness is weaker than any of D3 through D6.<sup>85</sup>

Cameron's definition has one virtue and one defect. The virtue is that it seems to improve on the previous definition of intrinsicness relying on necessity. Indeed, necessity for Lewis is defined on the basis of the recombination of actual and alien properties. Yet, as Cameron notes, intrinsicness is also defined on the basis of recombination. Hence, Lewisian definitions are circular: they define intrinsicness in terms of necessity whilst at the same time defining necessity in terms of

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<sup>84</sup> I will return on this definition of essential dependence in Chapter 5.

<sup>85</sup> See (Cameron, 2005a) and (Cameron, 200+).

recombination, which requires intrinsicness to be defined.<sup>86</sup> To define intrinsicness in terms of essential dependence cuts through the circularity in that essential dependence does not require intrinsicness to be defined.

The problem with Cameron's definition is the appeal to essentiality. If the concept of "nature" as used by Lewis in defining natural properties is not perspicuous, essentiality is not any more robust. Fine seems to take "essential" as a primitive, trusting the intuitions of the examples as the one quoted above. But intuitions might be misleading. Has a chair essentially four legs? Does a person depend essentially on water? Just as we distrusted any theory appealing to the nature of things, I take it to be wise to mistrust any theory appealing to the essential or inessential aspects of things. For this reason, I believe that the present definition, although simpler and in some respects advantageous over the others, also has some serious limits.

## **§2.11 Intrinsic as Independent 7: Actual Dependence**

There is one more proposal that we should briefly examine before ending the discussion on how to define "intrinsic." It was put forward by Michael Dunn, and was published in two papers which appeared in 1990. There, Dunn defended a version of intrinsicness that tried to avoid an appeal to modality. As Cameron, Dunn noticed that resorting to possibility to define intrinsicness is just a way of moving the problem

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<sup>86</sup> This vice is at the basis of a recent contribute to the literature on intrinsicness: (Denby, 2006).

of providing a definition, but it is not a solution. Hence, Dunn proposes to take "intrinsic" as meaning "independent *in the actual world*."<sup>87</sup> According to Dunn:

D8 Property  $P$  is intrinsic to  $x$  when to establish that  $x$  has  $P$  one needs to look only at  $x$ .

Dunn spelled out his view in a relevant logic framework intended to rival Lewis's modal understanding of independence. This was necessary to spell out the intuition that modal independence is not required for a property to be intrinsic.<sup>88</sup> A critical downside of such an account is that it misses the distinction between internal and intrinsic properties. Looking just at the interior of a thing does not grant that what we are observing is not determined by something outside the thing itself. In other words, we could be looking at what we may think is *one* thing (existing independently of its surrounding) when instead it is a part of a larger whole.

It will not be necessary, then, to go into the details of Dunn's account here. It will suffice to say that Dunn is not working with  $M1$ , the definition of "intrinsic" as "that which depends only from the individual to which it is referred." He seems, instead, to favor  $M2$ : "intrinsic" is synonymous of "that which stems from something which lies inside an individual." This, hence, is the reason for the dissatisfaction of most of

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<sup>87</sup> (Dunn, 1990).

<sup>88</sup> (Dunn, 1990: 181).

Dunn's readers with his account. Dunn is working within a different tradition, and on that this clearly rejected by most contemporary authors working in metaphysics.

## **PART II: Are There Intrinsic Properties?**

In the first part of this chapter, we have seen that intrinsic properties provide the means to single out individuals. This is, I believe, the main reason why intrinsic properties are so highly regarded in contemporary metaphysics. We have also seen, however, that there is no clear agreement on how to define intrinsicness. Still, it would be unfair to claim that there is no viable definition. On the contrary, there are too many!

As I established at the beginning of this chapter, the whole discussion on how to define "intrinsic" rested on the assumption that there are intrinsic properties. We should therefore now turn to investigate whether there are intrinsic properties. If it turns out that there are no intrinsic properties, then we cannot appeal to them for singling out individuals.

Now, as we have seen, there are several seemingly viable ways to define an intrinsic property. It should now be clear that, in the discussion that follows, I will consider only those definitions that, to a first approximation, regard "intrinsic" as "independent of any surrounding" (definition *M1* previously given).

As discussed at the beginning of the chapter, that one is able to define something does not entail the existence of what is defined, nor that it did or will exist.

From the mere fact that we are able to define what unicorns are, it does not follow that there are unicorns, nor that there have been or there will be unicorns. The possibility of providing a definition, however, leaves open the possible existence of the entity defined. The possibility of existence is not necessary, however: to be possible, an entity has to meet whatever criteria of existence for possible entities one sets. So, if it is impossible that a square is round, there cannot be round squares, even if we are able to define them. If it is impossible for a person to transform into another species (say, a worm), there cannot be worm-people, creatures which are worms for the first week of their existence and people afterwards, even if we are able to define them.

In what follows, I will endeavor both to discover whether intrinsic properties do actually exist, and whether they could have existed. The first question is relevant to assess metaphysical theories relying on the existence of intrinsic properties. If these would turn out not to exist, such theories would be undermined, in that they could not explain the world in which we live.

The second question is relevant to metaphysical speculations. If it turns out that there cannot be intrinsic properties, not only they could not be the ontological category on the basis of which to explain all that there is, but they could not be used at all in metaphysics.

To assert the existence of something, we need an argument. You could claim that intrinsic properties have to exist because, if they did, metaphysical explanations

would be far more simple and elegant. You could do that, but it might be argued we should only rely on arguments of this kind with concepts that are *very intuitive* to grasp. For example, Descartes's *Cogito* rested on the intuition that perceives myself as existent, exploiting the privileged intimacy that each one believes to have with herself. Is there also one such an intuition at the heart of intrinsic properties?

Looking at matters closely, as we have done in the previous chapter, shows that there is no straightforward intuition as to what intrinsic properties are. On the contrary, it is far from obvious how to define them, and there are plenty of alternative accounts of "intrinsic". So, how can a friend of intrinsic properties allege that her theory rests on a concept whose grasp is intuitive, even when its definition is unclear?

But, even if the definition of intrinsicness could not be easily established – you might say – we might eventually reach an agreement on one of the alternative accounts, thus being able to define it clearly. And, once this is done, we do find out that the definition at hand is of great use in metaphysics: it renders a theory simple, elegant, and solid. What proof do you require besides this?

Your argument does not seem, to me, to rest on an intuition – I might respond – but on theoretical considerations. It is an *a priori* deduction of the existence of intrinsic properties from their theoretical usefulness. Yet this is quite different from the claim that intrinsic properties, intuitively, should exist. It is very different because I take it that what is not intuitive requires an argument. On the basis of my commonplace intuitions, I should not admit the existence of something just because I

can grasp its concept. I should not believe that unicorns exist just because I am able to grasp the concept of a unicorn; I should not believe that a round square exists just because I am able to grasp the concept of a round square."

The existence of intrinsic properties cannot therefore be taken as intuitive. It has to be proven. Now, the proof of the existence of an entity  $x$  will consist in some piece of evidence in favor of  $x$ 's existence. The evidence could be some reliable experience – for example, in our case: we do know some examples of intrinsic property – as well as some reliable rational argumentation, such as that intrinsic properties are theoretically fruitful. The first kind will constitute *a posteriori* evidence, the latter *a priori* evidence. There are thus two ways in which the existence of intrinsic properties could be inferred: *a posteriori* and *a priori*. In the following, I will consider them in that order.

The thesis I will defend is a skeptical one. We do not, and cannot, have knowledge of intrinsic properties, both *a posteriori* and *a priori*. The skeptical attitude of this conclusion can be compared, with due proportions, to the one of David Hume. While inquiring about the existence of real causes, Hume did not conclude that they do not exist, but that, if they would have existed, humans could not have had any way of knowing them. Hence, humans should not speculate about them. Analogously, my conclusion will not be that there are no intrinsic properties, but that we cannot know them. Hence, our metaphysical theories should not rest on them. Put bluntly, we do not know what we are talking about when we talk about intrinsic properties.

## **§2.12 On Knowing Intrinsic Properties *A Posteriori***

One of the reasons I started doubting the existence of intrinsic properties is that it is very difficult to find a working example of an intrinsic property. Defenders of intrinsic properties claim to know some specific examples of intrinsic properties from the actual and material world, yet none ever really paused to discuss the tenability of these examples. Such examples, if found in the material and actual world, would constitute an *a posteriori* proof of the existence of an intrinsic property, in that they would produce a property knowable *a posteriori*. To get a first hold on the discussion at hand, let us examine two of the most quoted examples: shape and rest mass.

### **§2.12.1 Is Shape Intrinsic?**

"Shape," here, is intended as the geometrical shape of a physical individual (an individual existing in space and time).<sup>89</sup> Consider this soccer ball. Fresh out of the factory, it was just brought to the soccer field, and it is now lying at rest in the center of the field. Its shape is a perfect sphere. If shape is intrinsic, and "intrinsic" means "independent of any surrounding," then the soccer ball would have the same shape it has now no matter what its surrounding would be. Certainly, the ball could change its

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<sup>89</sup> In this respect, the present discussion differs from the one in (Skow, 2007). Skow discusses whether purely geometrical shape (that is, purely geometrical properties) can be intrinsic. Although I find myself in agreement with most of Skow's paper, his argument moves from the analysis of the various definitions of shape that have been offered, concluding that they cannot. I believe, however, that this is not the main issue which is at stake in the discussion I am preoccupied with.

shape over time, thereby changing its intrinsic properties; but what the defender of "intrinsic" as "independent" is arguing is that shape is, *at every instant*, independent of the surroundings.

How, then, does one argue for the intrinsicness of the shape that the ball, at this present time, has? Perhaps, it is intrinsic because it depends solely on the pressure of the air inside the ball. Yet this is not so. Consider the scenario in which the ball was produced on a planet *P* whose gravitational force far exceeds that of the earth. If the ball would be placed on one of *P*'s soccer fields, because of the strong gravitational field, its shape would not be spherical but oval. Hence, the ball's shape would be different when placed in a different environment, without the ball undergoing any internal change (that is, any change caused from some part of the ball). Or, consider the scenario in which John sits on the ball in the middle of the field. Its shape, again, would be oval, and not spherical. Similar considerations can be made for the shape of a person's body, of a plant, and even a piece of metal. Our bodies have the shape they do depending also on the various forces acting on them. If the gravitational field was different, our bodies would have a different shape. A plant assumes a different shape in accordance with (among others) the temperature and gravitational forces acting on it. A piece of metal would have a different shape if placed in an environment with a significantly different ambient temperature. In general – one could argue – the shape

of a material individual depends on the individual's surroundings: different scenarios make for different shapes.<sup>90</sup>

A defender of shape as an intrinsic property could reply that it is not a specific shape that is intrinsic to an individual, but shape in general. Indeed, there cannot be a shapeless material individual. Hence, shape is not only intrinsic, but essential for any material individual (it belongs to it not only in every scenario in which it exists, but also at each instant of its existence.) To this I would agree, if it were not for my belief that it is disputable that *Being shaped*, in general, is a property at all. Indeed, *Being shaped* seems a family of properties, more than a specific property. A square and a triangle do not have *Being shaped* in common, while differing in *Being triangular* and *Being square*. In order for the statement:

$S$ : This square has a shape

to be true, it is not necessary to postulate the existence of the property *Being shaped*, as in:

$S'$ : There is an  $x$ ,  $x$  has *Being square* and  $x$  has *Being shaped*.

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<sup>90</sup> Cfr. also (Sorensen, 2002).

Indeed, you could claim that *Being shaped* is a concept (that I will represent by the expression "«being shaped»") under which we group certain properties such as *Being triangular* or *Being square*. And concepts are artifacts of minds; not mind-independent features of individuals (as properties should be). Thus:

$S''$ : There is an  $x$ ,  $x$  has *Being square* and hence  $x$  is grouped under the concept «being shaped» .

And, even if you were to interpret  $S$  as committing to the existence of the property *Being shaped*, such property would not belong to the individual. Indeed, you would attribute it to *Being square*. In other words, *Being shaped* would be a second order property (a property of a property) and not a property of individuals:

$S'''$ : There is an  $x$ ,  $x$  has *Being square* and *Being square* has the property of *Being shaped*.

Hence, either *Being shaped* does not exist or, if it does, it is not a property of individuals. *A fortiori*, it cannot be an intrinsic property of an individual.

### **§2.12.2 Is Mass Intrinsic?**

Let us now consider rest mass or, briefly, mass.<sup>91</sup> Mass is defined as:

*Mass:* The resistance of an individual to changing its state of motion when a force is applied.

Since resistance is supposed to be independent of any observer, hence objective, mass is an objective property of an individual. Friends of intrinsic properties go further and claim that mass is intrinsic: not only does it not depend on who is observing the individual, but it also depends on whatever the surroundings of the individual are. No matter whether the individual is on the moon or the earth, inside the water or lying on the grass, its mass will be the same. Two main arguments have been advanced against regarding mass as an intrinsic property. Let us examine them in order.

The first one was put forward by Simon Blackburn in a short passage of his short paper "Filling In Space".<sup>92</sup> In his paper, Blackburn argues that mass is a dispositional property, knowable only through its dynamical effects. To know the

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<sup>91</sup> Rest mass is often confused with relativistic mass. For this reason I used the specification "rest." The former, is the mass of an object while at rest, a value which is observer's independent; the latter, instead, varies depending on the relative velocity of the observer and the object. Most authors, among them Einstein himself, suggested not to use "relativistic mass" to avoid confusion. They employ "mass" to mean "rest mass" and "momentum and energy" to mean "relativistic mass". Cfr. (Taylor and Wheeler, 1992), (Adler, 1997), (Jammer, 1999) and (Zahar, 1989), (Einstein, 1952).

<sup>92</sup> (Blackburn, 1990, p.63).

mass of an individual it takes a context in which a force acts upon the individual and sets it into movement. Hence, mass is a dispositional property, in that it is an aspect of an individual which is revealed only in certain particular contexts.

To illustrate this point, let us consider an example with another alleged dispositional property: fragility. An individual is fragile when, *if struck with appropriate force*, it breaks. Fragility is a dispositional property because it requires certain particular contexts to be revealed, that is, a context in which the fragile individual is struck with a certain force. Now, since such contexts are (at least partially, and at least in some cases) not proper parts of the fragile individual, fragility is an extrinsic property: it exists only in the presence of the right additional individuals (those that could exercise the required force). The same holds for mass.

Or so holds Blackburn. Indeed, there are two plausible replies to his argument.<sup>93</sup> The first one accepts that mass is a dispositional property but denies that dispositional properties are extrinsic: they do not need a specific context in order to exist. Rather, they supervene on the categorical intrinsic properties of the individual that exemplifies them. Thus, dispositions are intrinsic. Even in a world with no forces, an individual would still have a determinate mass. Indeed, the mass would be revealed if the individual were put in the right kind of world. The appeal to the context is necessary to *know* the mass, but not for the mass *to be there*. Blackburn's objection,

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<sup>93</sup> From now on, my discussion on Blackburn's objection goes beyond Blackburn's analysis and, to my knowledge, has never been defended by Blackburn in writing.

thus, hinges on an epistemic, not an ontological, problem. If mass is an intrinsic disposition, it can be dispositional *and* intrinsic.

Blackburn, however, has – in my view – a rejoinder at hand to this reply. Evidence to the existence of intrinsic dispositions is yet to be established. And, more to the point of the present discussion: it seems meaningless to say that a body *B*, in a world with no forces and/or no movement, has a mass. For, if *B* had a mass, it could never reveal it. Secondly, mass is defined on the basis of the resistance of a body to be moved. If in *B*'s world there is no movement, it is meaningless to talk about resistance and movement of *B*. Sure, you could say that *B*'s world could have been different: it could have been a world with movement. But, who can ensure that *B* could have existed in such a world? In *B*'s world, *B* cannot move. Perhaps individuals that cannot move are categorically different from individuals that can move: one could never be the counterpart, or the trans-world mate, of the other. Hence, mass depends on its surrounding for its existence. There might be properties that do not, but mass does.

The friend of mass as intrinsic has a second counter-argument at hand against Blackburn: deny that mass is dispositional. Mass – so goes the counter-argument – looks dispositional for an epistemic fact, but it is actually non-dispositional. Surely, each body reveals its mass only when a force, which moves it, is exercised on it. Yet this is an epistemic, not an ontological fact. It has nothing to do with the nature of the property in question, but with the way we know it. On the contrary, mass is always

active and present in a body any moment of its life. It is thus not dispositional, but categorical.

To this counter-argument, Blackburn could rejoin that mass does not seem to be a categorical property. Firstly, it is not a property we can experience through all of our senses. You do not feel the mass of something by watching it, nor by smelling, tasting, or touching it. Nor does feeling the weight of something amount to experiencing its mass, because weight is only partially caused by mass. Mass is a property whose existence is postulated by physics, by theoretical reflection; it is not experiential. (To use another, more technical expression, there are no *qualia* associated with mass.) Hence, we know of the existence of mass only by theoretical inference. And such inference cannot grant us that mass is always present in an individual. On what basis can one claim that mass is always there, even when we do not measure it?

Yet suppose that Blackburn's argument could be somehow resisted by the friend of mass-as-intrinsic. Perhaps one or both of the counter-arguments presented are indeed valid, or there is some other valid counter-argument that we presently ignore. The friend of mass-as-intrinsic has yet to face a second argument, put forward by Robert Black.<sup>94</sup> In his paper, Black notices that the specific mass of an individual cannot be established without there being other individuals having different mass values. It cannot because mass value is a real number, established on the basis of its relations to the other mass values. In other words, that individual  $x$  has – say – mass

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<sup>94</sup> Cfr. (Black 2000, pp.102-103).

3.5 cannot be established just by looking at  $x$ . Of  $x$  alone we can say that it has *a* mass, but not that it has a *specific* mass. The value of the mass is assigned only once the mass of  $x$  is compared to a standard mass value. An analogous example is the determination of the length of  $x$ . Length cannot be assigned a specific value until it is compared to a standard value of length. Hence, on a par with length, mass values are all relational, and have to be established on the basis of the relation of the value of the mass of one individual with the value of the mass of a different individual. For this reason, mass cannot be an intrinsic property, in that the value of the mass of an individual depends on the existence of some other individual having mass.

### ***§2.12.3 Dispositional Properties All The Way Down?***

Blackburn and Black's argument, as well as arguments against those who believe that shape is intrinsic, are a tall obstacle on the way to showing that, respectively, mass or shape are intrinsic. They do cast the burden of proof on the friends of intrinsic properties, that thus far have not been able to produce any good example of an intrinsic property knowable *a posteriori*. On the other hand, such arguments cannot exclude that there are other properties which are intrinsic. There are possibly infinite properties, and there might be some which we do not know at present, although we will know them in the future, and which might be intrinsic.

A skeptic towards the existence of intrinsic properties can go further. Besides rebutting every proposed example of intrinsic property, she can pass to the attack,

raising general arguments defeating the possibility of ever knowing *a posteriori* some examples of intrinsic properties. There are two main arguments of this sort. The first generalizes Blackburn's argumentative strategy against mass as intrinsic by threatening that all properties are dispositional, and hence extrinsic. The second argues directly that all properties are extrinsic. I will examine both of them in order.

The first argument, to the effect that intrinsic properties cannot be known *a posteriori*, dates at least to Richard Collingwood's *The Idea of Nature*.<sup>95</sup> It was upheld also by Blackburn in "Filling in Space," a few lines below his objection to considering mass an intrinsic property. Drawing on the latest state of scientific discoveries, in his work Collingwood reconsiders our idea of the denizens of the natural world. He proposes two main ontological reforms. The first (developed at the same time also by Alfred Whitehead) is to remove the idea that the denizens might somehow wholly exist at an instant of time. Thus, all individuals (if the term can still be employed) are *events* of various, natural lengths. The second – the one that concerns us here – is that sciences discover only dispositional properties. Here are a few examples:

- Mass is *the resistance* of an individual to changing its state of motion *when a force is applied*.

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<sup>95</sup> (Collingwood, 1945).

- The charge of a particle is *the force* experienced by the particle *when placed in an electric field*.
- An electron is a particle possessing a certain charge – that is, a particle experiencing a certain force *when placed in an electric field*. Likewise for a proton.
- Water is "a clear, colorless, odorless, and tasteless liquid, H<sub>2</sub>O...Freezing point 0°C (32°F); boiling point 100°C (212°F); specific gravity (4°C) 1.0000; weight per gallon (15°C) 8.338 pounds (3.782 kilograms)".<sup>96</sup>

The latter definition, borrowed from *The Free Dictionary* online, is among the most complete definition of water I could find, and contains a plethora of dispositional terms: clear, colorless, odorless, and tasteless. The freezing and boiling points, as well as the specific gravity and weight are also dispositional. Finally, H<sub>2</sub>O is the molecular structure of water exhibited *when observed at a microscope in certain environmental conditions (for example, not too high nor too low temperature, pressure, gravity force)*.

In general, for each property, there is a test fixing what it is. Each property, then, is dispositional, in that it obtains only when certain conditions obtain, only once the test is applied and passed. As Blackburn puts it:

When we think of categorical grounds, we are apt to think of a spatial configuration of things – hard, massy, shaped things resisting penetration and

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<sup>96</sup> From *The Free Dictionary*: <http://www.thefreedictionary.com/water>.

displacement by other of their kind. But the categorical credentials of any item in this list are poor [...] A region with charge is very different from a region without: perhaps different enough to explain all we could ever know about nature. It differs precisely in its dispositions or powers. *But science finds only dispositional properties, all the way down.*<sup>97</sup>

"But science finds only dispositional properties, all the way down". This is not to say that there are no categorical properties (properties that are active, that do something instead of just sitting within an individual). They might exist. Yet they are not the ones we experience.

There are at least two ways to rebut Collingwood and Blackburn's position. The first was already discussed in the previous section, while analyzing Blackburn's argument against the claim that mass is intrinsic. You could accept that all properties are dispositional, while denying that all dispositions are extrinsic. But, as explained in the previous section, I believe that the opponent of intrinsic properties should resist such a claim. This point needs to be pondered with care.

If all properties are dispositional, then the only hope to find intrinsic properties is within dispositional properties. An intrinsic property is one that is independent of any context. If  $x$  has  $P$ , and  $P$  is intrinsic, then  $x$  has  $P$  whether or not something else, beyond  $x$ , exists. Consider now an electron without electric fields.

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<sup>97</sup> (Blackburn, 1990: 62-63), my emphasis.

Charge is dispositional and – the friend of intrinsic dispositions wants to argue – it is also intrinsic. So, the electron would have the same charge even if there was no electric field. But – one could ask – if there was no electric field, in what sense would the electron still have the disposition to experience a certain force when placed in an electric field? Moreover: if there was no electric field, how could we even posit the existence of an electron? We could certainly grasp the definition, but we could not use it to allege – *a posteriori* – the existence of some intrinsic property. In such a scenario, then, we could not claim to be dealing with electrons, hence with an intrinsic property.

Thus, there is a serious theoretical threat that all properties are dispositional. I am not going to explore this issue further in the present work. Indeed, this result does not constitute a problem for the opponent of intrinsic properties. On the contrary, it constitutes a tall obstacle for the friends of intrinsic properties. To them the burden to rebut the thesis that all properties are dispositional, or to show that their theory is compatible with such thesis.

#### ***§2.12.4 Properties and "Laws of Nature"***

Suppose that, notwithstanding the difficulties just raised, you manage to show that there are no dispositional properties, or that the alleged intrinsic properties are non-dispositional. Another difficulty is how to tell apart the properties from the laws or

regularities that characterize them.<sup>98</sup> Suppose you manage to show that the molecular structure of water is non-dispositional. If water is intrinsic, though, this means that its identity is independent of its nomic role<sup>99</sup> (that is, it is independent of the effects that precede it and that it helps producing.) But, how could that be? In what sense could water freeze at – say – 181°C or boil at – say – 458,700°C?

As we shall discuss also later in this chapter, there is a sense in which it is inconceivable that water could freeze or boil at a different temperature. By saying it, we utter a contradiction. But a friend of intrinsic properties will have to maintain that the nomic role is irrelevant to the identity of water. She will have to do so, if she wants to maintain that water is intrinsic.

A parallel argument could be run also for properties other than water. You might even believe that the argument does not apply to water. Yet, if you believe that there are intrinsic properties, then you will have to maintain that *all* such properties are not defined by their nomic role.

The debate here at issue concerns the identity of properties. Is the property *Being water* identical to the property that has such and such a nomic role? Some have

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<sup>98</sup> I wish to remain neutral as to the *status* of laws of nature, of whether they are mind-independent entities or if instead they are regularities projected by minds. For this reason, I am going to employ the expression "laws or regularities." For an introduction to laws of nature, see (Armstrong, 1983) and (Carroll, 1994).

<sup>99</sup> Here, I am just expanding on Denis Robinson's proposal to call "nomic profile, nomic role, of a property or set of properties in a given possibility as the role or set of roles they occupy in those laws which involve them, according to that possibility." See (Robinson, 1993: 11).

maintained that it is.<sup>100</sup> Others have denied it.<sup>101</sup> What is key to understanding when considering intrinsic properties is that, if you believe that there are some, then properties cannot be identified nor individuated via their nomic role. I will develop and endorse the alternative view in Chapter 5. For the moment, let me consider the view of those who defend intrinsic properties, and point (in the next section) to a striking consequence of such a view.

The thesis that properties cannot be identified nor individuated through their nomic role has a name: *Quidditism*.<sup>102</sup> The term – deriving from the Latin: "quidditas," standing for something like "This-featureness" – was first introduced by Duns Scotus. *Quidditism* is the property equivalent of what *Haecceitism* is for individuals. It maintains that properties have a non-qualitative second order property in virtue of which the first order property is identified. Friends of intrinsic properties use *Quidditism* in its extreme form. For them, a property is nothing but its *quiddity*. No nomic role, no other property is required in order to identify a property. That is: every property can exist in complete isolation from other properties, as well as in connection with all sorts of other properties. Even if this is not always openly acknowledged or

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<sup>100</sup> Cfr., for example, (Shoemaker, 1980) and (Swoyer, 1982).

<sup>101</sup> Among them, David Lewis and David Armstrong. See (Armstrong, 1989a), (Robinson, 1993).

<sup>102</sup> The term is employed, for example, by David Armstrong. See (Armstrong, 1989a, *passim*).

emphasized, this is the fundamental creed of those who believe in intrinsic properties:

*Quidditism.*

*Quidditism* is mysterious indeed. It supports the thesis that there is an extreme independence among properties. This fact is then used to account for the extreme independence among individuals. Now, what is the *quidditas* of a property? It is nothing but a unique second-order property, posited in order to be able to claim that the property in question is intrinsic. We should now recall the point I made at the beginning of the second part of this chapter. There, I was alleging that, in order to accept an entity as fundamental without the need of any further argument, the entity should be somehow intuitive, ordinary. Now, *quiddities* are anything but ordinary. I thought about days on end, trying to convince myself that I could grasp what a *quiddity* was. Yet, every time I try and explain clearly to somebody what *quiddities* are, I encounter but startled looks. I myself cannot give any additional detail, or particular, beside the definition given above. Other writers, that endorse *quiddities*, do not seem to be of more help. Here is what Denis Robinson, who authored one of the most clear-headed papers on the role of *quiddities* in a theory of intrinsic properties, has to say:

When we switch the application of the argument to fundamental properties, however, things are slightly different. The property-part or aspect allegedly shown to be epiphenomenal is not a *phenomenal* part. Then what part is it?

Anything which characterizes the property qua *that* property, in all possible situations or worlds in which it can occur, regardless of what laws apply to it in those situations, will belong to this part or aspect. In short, it appears to comprise a kind of "real essence" or "property haecceity" – an aspect which identifies a property across possibilities in a way for which similarity of nomic profile is neither necessary nor sufficient.<sup>103</sup>

Robinson's definition is by negation. He tells us what *quiddities* are not; not what they are. By starting from the assumption that properties have an epiphenomenal aspect – the "*what it is like*" of experiencing such a property – he analyzes whether a friend of intrinsic properties (in this case: David Lewis) can or should recognize that properties have also some non-epiphenomenal aspects: physical, causally efficacious ones. In this passage, Robinson shows that the epiphenomenal aspect of a property has to be related to the *quiddity* of the property (and that this is so in particular in the case of fundamental physical properties): the *quiddity* is a part of the epiphenomenal aspect of the property. To this, I would add, that is all that we know *of the property*. The rest is what we know of our experience of the property – the phenomenal aspect. But of the property itself, if anything, we know the *quiddity*. The epiphenomenal character, however, cannot be described if not in negative terms: it is what is not phenomenal or physical; it is what cannot be expressed.

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<sup>103</sup> (Robinson, 1993:19).

If there are *quiddities*, friends of intrinsic properties have some hope of finding some intrinsic properties. The key point to stress, however, is that they can find them only in *quiddities*. As Robinson puts it:

...the intrinsic essence of a fundamental property, that aspect which determines the intrinsic similarity of particulars independently of functional similarity, is epiphenomenal.<sup>104</sup>

Indeed, what a property is, is not going to depend at all on its nomic role. Provided that you will be able to show that some intrinsic properties are not dispositional or that, even if they are, that is not troublesome.

### ***§2.12.5 The Argument From Humility***

The least attractive aspect of *Quidditism* is not its obscurity, but one of its theoretical consequences. It is the so-called *Humility*. There are different versions of this thesis: David Lewis calls it *Ramseyan Humility*,<sup>105</sup> Rae Langton *Kantian Humility*,<sup>106</sup> Stephan Leuenberger *Humean Humility*.<sup>107</sup> All of them would, however, agree on the following claim:

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<sup>104</sup> (Robinson, 1993: 29).

<sup>105</sup> (Lewis, 200+).

<sup>106</sup> (Langton, 1998).

<sup>107</sup> (Leuenberger, 200+).

H: There might be truths that are not entertainable.<sup>108</sup>

Since properties are not individuated by their nomic roles (because these are accidental to them) all we know about them is their epiphenomenal aspect. Yet, such an aspect has not really that much to do with the property themselves, but with our experience of them. Thus, from the mere fact that we have a certain experience, we cannot conclude that we are experiencing a certain property. Let us construe an example.

First, introduce two properties,  $P_1$  and  $P_2$ . Suppose that you are tasting a piece of *Prosciutto di Parma*, thereby experiencing one (let's keep things simple by postulating it is only one) of its properties – call it  $P_1$ . Now,  $P_1$  is very different from – say – the property  $P_2$  that you experience when you taste *Parmigiano*. So, here we have two distinct properties,  $P_1$  and  $P_2$ .

Let us now bring *quiddities* into the picture. For a friend of intrinsic properties, all that you know of  $P_1$  and  $P_2$  is their epiphenomenal character, that is their *quiddity*. But now suppose that  $P_1$  and  $P_2$ 's nomic roles are switched. The role previously

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<sup>108</sup> I use "might be", but many prefer to say "are." The reason for doing so is that it seems to me inconsistent to say that there *are* truths that are not entertainable – if we cannot even entertain them, how can we claim with certainty that they exist? On the other hand, it seems perfectly reasonable to say that there are truths that we might not know, thus allowing for the fact that there might be entities whose existence and character we do not know, and perhaps we are nor were or ever be capable of knowing.

played by the Prosciutto's property is now played by the Parmigiano's one, and *vice versa*. You will still taste Prosciutto and Parmigiano, but the property that is now responsible for your tasting Prosciutto is P<sub>2</sub>, the one that was before responsible for your tasting Parmigiano, and *vice versa*.<sup>109</sup> How could you know that the switch happened? You couldn't. No matter how attentive you might be, reality is concealed from you. You know only the *quiddities* of properties; nothing more.

The problem is clearly a serious one. Even Hume seems to touch upon it for a moment, while speculating on the constant flux in which the world appears to us:

Let the course of things be allowed hitherto ever so regular; that alone, without some new argument or inference, proves not, that, for the future, it will continue so. In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature and consequently, all their effects and influence, may change, without any change in their sensible qualities.<sup>110</sup>

The problem is serious because it is valid not only for pieces of Parmigiano and slices of Prosciutto, but for any pair of properties whatsoever. Fundamental physical properties could be changed without us being able to recognize it. Properties of

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<sup>109</sup> A version of this problem, raised by Robinson, can be found also in (Jackson, 1998). Michael Esfeld, in (Esfeld, 2003) also offers a detailed discussion of it; but his essay is directed more to show that a world with only relations can exist, and I will deal with this topic in Chapter 5.

<sup>110</sup> Cfr. (Hume, 1993: 24).

teachers and students could be swapped, so that tomorrow's students will have the properties of today's teachers, just with a different *nomic role*. What has gone wrong?

Let us take stock. We started with the goal of proving, *a posteriori*, the existence of some intrinsic property. We first encountered the threat that all shapes and masses (the two main alleged examples of intrinsic properties) are not intrinsic. Next, we encountered the threat that all intrinsic properties are dispositional, and hence extrinsic. We tried to rebut it, and we concluded that, perhaps, by doing some metaphysical work and accepting some compromise, we might be able to do so. Then, we encountered the problem of disentangling properties (in general, even though it is, of course, the intrinsic ones that we care about) from their nomic role. We saw that the only way to do that while maintaining that there are intrinsic properties is to claim that properties are identified by *quiddities*. Drawing on Robinson, we also added that this compromise would entail that we know only the epiphenomenal aspects of properties. But, we just realized that this amounts to a drastic limitation of our knowledge of the external world.

As it has been noted by Leuenberger, *Humility* renders unknowable also one of Lewis's main *credo*: materialism (that is, the thesis that all fundamental properties in the actual world are physical). Suppose that the fundamental properties of the actual world are physical. Now suppose that they would be swapped with properties that are non-physical, but with the same nomic role. The actual world would not be material anymore, but you could not realize it, since the nomic role of the properties would be

the same. Hence, you don't even know whether the fundamental properties of our world are physical: if they would not be, you could not know it. Seemingly you cannot *know* if they are physical either. All that you know are their *quiddities*.

A sanguine friend of intrinsic properties should at this point stand their ground. She should bite the bullet and deny the relevance of nomic roles, together with all its appalling epistemic consequences. This also means giving up any hope of proving the existence of an intrinsic property *a posteriori*. Yet this is what *Humility* amounts to.

But, there have to be reasons why bright minds are, or were, *Humble*. They believed that a world with no intrinsic properties was not possible. They believed you need, theoretically, intrinsic properties to get a non-contradictory account of the world. This line of reasoning purports to show the existence of intrinsic properties *a priori*. So to this part of the discussion we shall now turn.

As I showed in this section, however, the cure of intrinsic properties was worse than the bad it tried to heal. One could, at this point, skip altogether the analysis of the *a priori* arguments in favor of intrinsic properties. I believe, though, that it is worthwhile to explore them, since they bring up ideas which will be useful in the chapters to follow.

## §2.13 On Knowing Intrinsic Properties *A Priori*

### §2.13.1 A Necessary Role?

Two routes have been explored to argue *a priori* that intrinsic properties have to exist. The first moves from what Lewis has labeled *Ramseyan Humility*: the *Humility* expressed by Ramsey sentences.<sup>111</sup> This route draws on the framework of contemporary metaphysics. Its main champions include David Lewis, David Armstrong, Frank Jackson, and James van Cleve.<sup>112</sup>

At the core of their argument lies the thesis that intrinsic properties are needed as *realizers* of all other properties. The term "realizer" has been used in Philosophy of Mind, to explain the relation between physical and mental properties: the former *realize* the latter, in the sense that, whenever you have a physical property, you also have a mental one. So the mental is realized in the physical in that it is the physical that *generates* the mental. This relation of generation is what goes by supervenience.<sup>113</sup>

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<sup>111</sup> Let  $t_1, \dots, t_n$  be terms of a given language  $L$ , and let  $T(t_1, \dots, t_n)$  be a sentence within  $L$ . Substitute variables for  $t_1, \dots, t_n$  to get  $T(x_1, \dots, x_n)$ . Binding all the free variables in  $T(x_1, \dots, x_n)$  by prefixing existential quantifiers yields a Ramsey sentence of  $L$ .

<sup>112</sup> Cfr. (Lewis, 1986b), (Armstrong, 2004), (Jackson, 1998) and (van Cleve, 1995).

<sup>113</sup> There is no need here to distinguish between strong and weak, local and global supervenience because – as Brian McLaughlin and Karen Bennet – argue: "when  $A$  [the supervenience base] is restricted to intrinsic properties, strong and weak supervenience are arguably equivalent" and "strong individual supervenience is equivalent to strong global supervenience when  $A$  and  $B$  [the supervenience base and supervening class of entities] are sets of intrinsic properties." Bennett also argues that, when  $A$  and  $B$  are sets of intrinsic properties, even *weak* global supervenience entails strong individual

Mental properties supervene on the physical ones: there cannot be a difference within the physical properties without there being also a difference within the mental ones. Thus "to realize" is synonymous with "to supervene": to say that mental properties supervene on the physical ones is tantamount to saying that mental properties are realized in the physical ones. The only difference is that the relation is expressed once as active (that is, by "supervene") and once as passive (that is, by "realize"). Yet it is arguably the same.

Equally, realizability plays a key role in all cases of properties that can be multiply-realized. The very same gene can be realized by different sequences of amino-acids. We hence say that the gene is multiply-realized by the sequences. In this case, however, realizability cannot be analyzed as a kind of supervenience. Indeed, it is not true in general that, given a gene and a sequence realizing it, there cannot be a difference in the sequence without there also being a difference in the gene. The sequence might be different while the gene is the same. That is how the gene is multiply-realized.

So, sometimes realizability is equivalent to supervenience, sometimes it is not. Which of the two senses are the defenders of intrinsic properties using when they claim that intrinsic properties are needed as realizers of all other properties?

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supervenience." Cfr. (Bennett and McLaughlin, 2005), (Bennett, 2004), and (Shagrir, 2002).

I take it to be fairly straightforward that they are using the first one, the one according to which intrinsic properties are the supervenience base for all other properties. This idea was already present in George Moore's work, where he claimed that "one of the most important facts about qualitative difference [is that] two things cannot differ in quality without differing in intrinsic nature."<sup>114</sup> The intrinsic nature of things is the base for explaining all other qualitative differences.

But, why do we need intrinsic properties as a supervenience base? Why couldn't the supervenience base be constituted by extrinsic properties? As noted also at the beginning of this chapter, the idea that at the bottom of reality there are those entities, intrinsic properties, that secure our belief in some ultimate microphysical constituents of the world, and explain all the macro-physical and ordinary phenomena, is certainly reassuring and elegant. That is the nice old story given by those who believe in the so-called matter-in-motion picture of the world: the world is but a large amount of tiny material corpuscles moving around. This is the story most of us believe in our ordinary lives, and the one we have been told in school. On the other hand, as we have seen, there are no *a posteriori* arguments in favor of it. Are there any *a priori* arguments in its favor?

I will, hence, postpone the answer to section §2.13.3, because my answer will be the same for both this and the next *a priori* argument in favor of the existence of

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<sup>114</sup> (Moore, 1922: 263).

intrinsic properties. Those who have no interest in *Kantian Humility* (the *a priori* argument I am going to analyze next) should thus jump directly to section §2.13.3.

### **§2.13.2 Rationally Necessary?**

The second argument *a priori* for the existence of intrinsic properties is due to Rae Langton, and it is found in the theory that by the name of *Kantian Humility*.<sup>115</sup> In her book, *Kantian Humility*, Rae Langton argues that intrinsic properties are the *noumeno* of which Kant is talking about in his post-critical writings. Kant has an argument for the existence of the *noumenal world*, an argument which is *a priori*, in that for Kant we have no means of knowing it *a posteriori*. If you manage to show, then, that the *noumenal world* that Kant is talking about are intrinsic properties, then you have got also an *a priori* argument for their existence. But, why intrinsic properties should be regarded as the *noumenal world*? And what is Kant's argument? Let us consider both questions in order.

That intrinsic properties can be regarded as the *noumenal world* is suggested by the argument from *Humility*. The similarity of theoretical role is indeed striking. Indeed, on a par with Kant's *noumeno*, intrinsic properties are held responsible for our experiential life without being knowable. Just like the *noumeno*, intrinsic properties lie at the limit of our knowledge. They supposedly are what causes it and renders it

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<sup>115</sup> See both (Langton, 1998), and (Langton, 2004) for a later development of Langton's view directly related to the present discussion.

possible, yet they cannot be known. All that we know, for Kant, are the *phenomena*, the appearances of *noumena*. In Langton's analysis, *phenomena* are the extrinsic properties.

Since Kant never really specifies what the *noumeno* is, it is plausible to conjecture that it coincides with intrinsic properties. There are, however, two major obstacles for this interpretation, both also discussed in a paper by Angela Breitenbach.<sup>116</sup> The first is that Kant never asserted that the *noumeno* has a structure, nor that we can know such structure. On the contrary, Langton's interpretation requires not only that the *noumeno* be identified with a specific ontological category – that is, intrinsic properties – but also that, next to intrinsic properties, lie individuals (that, on a par with their properties, are concealed to our knowledge.) Hence, Langton's *noumeno* – unlike Kant's own – turns out to be quite structured.

Indeed, Langton cites some passages aiming to show that, for Kant, the *noumeno* has a metaphysical structure which we can grasp:

Substances in general must have some intrinsic nature, which is therefore free from all external relations.<sup>117</sup>

Besides external presence, that is, relational determinations of substance, there are other, intrinsic, determinations, without which the relational determinations would not be, because there would be no subject in which they inhaled.<sup>118</sup>

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<sup>116</sup> (Breitenbach, 2004).

<sup>117</sup> (Kant, 1929: B330).

The second passage, especially, is suggestive, and brings support to Langton's position. However, that might not be enough. Indeed, the *Monadologia Physica* – from which the second quote is taken – was written by Kant *before* the *critical* period, in 1756. The first quote, instead, provides by itself no reason for believing that Kant is asserting to know the metaphysical structure of *noumeno*. Indeed, he just talks of an "intrinsic nature." Thus, it is unclear that Langton's attribution of a structure to the *noumeno* is orthodox.

The second obstacle is that Langton turns Kant into a realist, when Kant claims to be a transcendentalist. Kant is turned into a realist because he is interpreted as claiming that there are things – namely, properties and individuals – that are not entertainable. And "there are" refers to non-mental, spatio-temporal, physical entities. Hence, the *noumeno* is not just a limit of reason, it is a physical entity that we cannot grasp, and the one that causes our *phenomena*.

To some extent, however, our discussion does not really depend on whether Langton's interpretation of Kant is or isn't orthodox. Suppose even that it is not. *Kantian Humility* could still be endorsed by a contemporary friend of intrinsic properties, and turned into an argument for believing that there are intrinsic properties. We should then analyze Langton's argument for believing that *Kantian Humility* conveys an *a priori* argument in favor of intrinsic properties.

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<sup>118</sup> (Kant, 1922: Prop. VII).

Langton quotes two passages from Kant purporting to show why we need intrinsic properties:<sup>119</sup>

The understanding, when it entitles an object in a relation mere phenomenon, at the same time forms, apart from that relation, a representation of an object in itself.<sup>120</sup>

Concepts of relation, presuppose things that are absolutely [that is, independently] given, and without these are impossible.<sup>121</sup>

Kant evidently maintained that relations between a knowing subject and a known individual should be grounded in something. They need two *relata* among which the relation subsists. One is the subject. The other needs to be an individual, an independent substance. But since the substance can be known only via the relation, it stays at the limits of our knowledge.

At first sight you might think that *Kantian Humility* provides an argument favorable to of the friend of intrinsic properties. Langton has a simple and elegant interpretation, according to which one of the most important philosophers in the Western tradition was advocating *Humility*. For Kant, there are substances, and they

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<sup>119</sup> (Langton, 2004: 132).

<sup>120</sup> (Kant, 1929: B307).

<sup>121</sup> (Kant, 1929: B340).

have an intrinsic nature. We just cannot know such a nature, nor the substances, if not via their interactions with us. There is a problem, however. In the passages quoted by Langton, Kant talks about "relational properties" as the category of properties standing in opposition to the intrinsic ones. Yet this is not what the friends of intrinsic properties, that I portrayed, hold. That all properties cannot be relational does not entail that some properties have to be intrinsic; perhaps they are all extrinsic, some being non-relational and others being relational.

That Kant's and the contemporary conception of intrinsicness do not ally is no coincidence. As I said at the beginning of this chapter, the contemporary conception is rather new, its earliest supporter being possibly G.E. Moore. As Fred Feldman has also discussed with respect to Kant's conception of intrinsic value, Kant was rather ambiguous in his use of "intrinsic" throughout his extensive writings. Yet, what seems almost certain to say, is that, for Kant, no intrinsic property could have been extrinsic. And this is precisely what the contemporary friends of intrinsic properties deny. For them, the contrary of "intrinsic" is "extrinsic." And for our purposes there is a key distinction between "extrinsic" and "relational." What is most striking is that Langton too speaks of the opposite of what is intrinsic as "relational." For example, she claims:

Kantian Humility answers the question...Why are there intrinsic properties – by saying (roughly) that intrinsic properties are needed, because bearers of *relational properties* need some intrinsic properties or other.<sup>122</sup>

Thus, in the end, it is unclear whether *Kantian Humility* is really Kantian. Even if it is, it is unclear whether the opposition that Langton is talking about is the one which is relevant to support the conception of intrinsic properties under discussion. We should further investigate Langton's argument. Since it parallels in some key respects the one given by the friends of *Ramseyan Humility*, I will discuss them jointly.

### **§2.13.3 No Necessitation**

When trying to bring support to a certain ontological picture, appeal to elegance and simplicity is not enough. These are nice features to have, but are evidently not enough to convince. If it were for them, we could have set on an even simpler ontology than one of intrinsic properties. We could have just conjectured that there is only one entity, simple, incorruptible, perfect. But most would not find, nor did find, this simplistic picture appealing, precisely because elegance and simplicity are not enough. We need a theory that somehow *explains, makes sense*, and to some degree *agrees* with our non-philosophical lives.

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<sup>122</sup> (Langton, 2004: 132).

Now, friends of intrinsic properties never explicitly tackled a justification of their ultimate entities, if not via arguments by contradiction. The reason usually alleged to back up the need for intrinsic properties as *realizers* is that the alternatives are either a world of relational properties or one of dispositional properties (or one with both relational and dispositional properties.) And both of these are theoretically puzzling, nasty, and perhaps even inconsistent.

A world with only dispositional properties would arguably be a weird one. It would be a world with no facts, only promises. Even though some attempted to argue otherwise,<sup>123</sup> the results proved to be rather weak: the models that such a view imposes would be quite complicated, and leave little opportunities to argue that they indeed model the actual world.

A world with only relations would also be strange. What would the relations relate in the first place? If nothing, then why are they called relations? If something, then is there something that is not a relation? Some attempted to make room for a world with only relations. The most recent and fully developed account is by Michael Esfeld.<sup>124</sup> Two other well-developed accounts come from John Foster – who argued that the fundamental relations are space-time points<sup>125</sup> – and Harold Oliver, who

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<sup>123</sup> See (Rice, 1991).

<sup>124</sup> (Esfeld, 2003).

<sup>125</sup> (Foster, 1982).

builds upon some suggestions by Collingwood and Whitehead.<sup>126</sup> The problem with all these account, however, remains. How can you have an ontology in which relations are the only fundamental entities, without any *relata*? On what basis can you call them relations?

So, true, if the only alternative to intrinsic *realizers* would be a world of dispositional or/and relational properties, there would be a case in favor of intrinsic *realizers*. A case, but not a certainty. And the case would also come with all the burdens concerning the *a posteriori* knowledge of intrinsic properties that we have seen.

Yet, denying the existence of intrinsic properties does not mean buying into dispositional properties nor relational ones. Here is where our discussion, at the beginning of this chapter, on what intrinsic properties are not, and on the distinction between intrinsic and internal properties, becomes relevant. One of the key features of the contemporary idea of *intrinsicness* is that it is compatible with relational properties, as well as with dispositional ones. The opposite of intrinsic is extrinsic, which roughly means "context-dependent." So, the real question is: *why can't there be a world where all properties are extrinsic?* Or: why can't there be a world where all properties are context-dependent?

I believe that no author has ever offered an argument against this view. And it is for this reason that I am going to defend it in Part II. Not before having argued, though, that we can have a world with only properties, and with no individuals.

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<sup>126</sup> (Oliver, 1981).

## §2.14 There Are Intrinsic Properties – True?

Before moving to give the positive account, we should dwell a little longer on the results obtained in our discussion of intrinsic properties. Indeed, the previous section has shown that both *a priori* arguments in favor of intrinsic properties are not compelling, in that there might be an ontology with only extrinsic properties.

A friend of intrinsic properties might, at this point, rejoin that an ontology of extrinsic properties has not yet been developed; till then, her argument is valid. And we will have to wait till Chapter 5 to see whether such an ontology can indeed be developed.

But, one could also have arguments against the existence of intrinsic properties. Indeed, there is one which is *a priori*. It basically consists in turning the reason for *Kantian Humility* into a reason for denying the existence of intrinsic properties. After all, if you substitute "*noumenal*" for "intrinsic" and "*phenomenal*" for "extrinsic," there you have an argument for an idealist interpretation of Kant's results, one in which everything is "*phenomenal*." So, the temptation has been there for a long time. We just need to develop it in the direction of extrinsic properties, rather than idealism. In other words, we have to develop a view which stands not as a denial of the possibility of gaining knowledge of reality (that is, idealism), but as a denial of the thesis that the world contains intrinsic properties: indeed, it contains only extrinsic ones. These we can know, and hence we do have knowledge of reality.

Drawing on Kant, Rae Langton argues that we cannot but think of reality as a web of extrinsic properties, a web of individuals and properties depending on each other for their existence. This is a given, and it is proved also by the argument for *Humility* seen above. Langton takes this given as an argument for *Kantian Humility*. Lewis takes this as an argument for *Ramseyan Humility*. I (suggest that one could) take it as an argument against the existence of intrinsic properties. Not only you *cannot* think of reality as a mingling of distinct yet interdependent individuals and properties; reality *is* such a mingling.

This would not be an apple if it would not have been produced by an apple tree; if the apple tree had not been rooted in, and gained nurture from, the soil; if the apple tree had not been grown from an apple seed; and so on ....<sup>127</sup> Most of what there is to know about apples is the way that they do interact with other entities. Along the same lines, Alexander Bird claimed that the molecular structure of water is necessarily H<sub>2</sub>O, and that if it would not be so it would not be H<sub>2</sub>O. Now, you do not have H<sub>2</sub>O unless you have an appropriate environment (magnetic and gravitational fields, pressure, temperature ...). Hence, you do not have water unless you have an appropriate environment. The same will hold for the molecular structure of salt. Hence, necessarily, salt dissolves in water, and it does so only in a certain

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<sup>127</sup> Cfr. (Bird, 2001) (Bird, 2004), (Bird, 2002), (Beebee, 2002), (Psillos, 2002), (Sider, 2000), (Sidelle, 2002), (Fales, 1993).

environment. There is no privileged intrinsic property. Every property is extrinsic. There are myriads of dependence relations among properties.

There are two difficulties with this story, though. The first goes as follows. "The argument for *Humility* concluded that all our knowledge is of extrinsic features of reality (be they extrinsic properties or the extrinsic natures of intrinsic properties). Such features are extrinsic because of the way they are related to us; they are extrinsic because we know them only through the effects of their interaction with us. But, what you [that is, me, Andrea] are claiming now is that the extrinsic character of the world does not lie (or does not only lie) in this unavoidable relation between the known entity and the knowing subject. What you are claiming is that the entities themselves are made out of extrinsic properties because the properties of one entity are dependent on the properties of other, distinct entities. But, the epistemic relation does not provide sufficient reason for the thesis that all properties are extrinsic; it provides sufficient reason only for the thesis that all that we know are extrinsic properties. Thus, your argument does not draw on the argument for *Humility*. What grounds it, then?"

It is correct to say that the reason I am giving of why all properties are extrinsic is not directly dependent on the argument from *Humility*. It depends more on the other arguments given against proving the existence of intrinsic properties *a priori*: the one from dispositions and the one from *nomic* roles. As we have seen, though, the *rationale* for the argument from *Humility* lies in the argument from *nomic* roles. The

dependence relation between the knowing subject and the known individual is but one special case of *nomio* role. It is, also, a role limited only to the properties that are known to us. Thus, it is the argument from *nomio* roles, which entails the one from *Humility*, that we should defend if we want to argue: (i) that all properties are extrinsic; (ii) that realism is an option. The argument from *Humility* can secure only a sub-thesis of (i), namely that all *phenomenal* properties (properties we can know through experience) are extrinsic; the one from *nomio* roles secures (i) and (ii).

The reason for wanting (ii) is that (i) alone closely resembles idealism. But it is my conviction that the thesis that all properties are extrinsic does not force one into idealism, even though it has often been associated with it. And it is precisely against this conviction that, in Chapter 5, I will develop a view of properties that countenances their being extrinsic, while allowing for the possibility of realism.

The second difficulty lies in the appeal to necessity in the apple and the water-H<sub>2</sub>O examples. Indeed, it might seem that I am endorsing the ambitious thesis that every individual has a well-definable cluster of properties that are necessary to its existence. But this is far from what I aim to do. What I am claiming is that, in order to find out whether something is an apple, you need to also look at its environment, because an apple can be found only within certain environments. If *one particular* environment would be necessary for having an apple, then the necessary dependence between the apple and its environment would also single out an essential property for the apple. But the dependence relation is more general. The task of giving a more

specific analysis of it will be undertaken in Chapter 5. What matters here is that the dependence relation is not a one-to-one dependence between two properties. Thus, I am not proposing that an apple has a well-defined cluster of properties that are necessary for its existence. I am saying that an apple has a well-defined cluster of properties *some or other of which* are necessary for its existence.

It would not be fair at this point to counter-argue, as Lewis does,<sup>128</sup> that the extrinsic character to which I am referring is just a linguistic feature. Suppose you had an entity in front of you that looks exactly like an apple, but did not grow on a tree. To decide whether that is an apple or not would be just a matter of what name you would give to something which is similar to what you until now called "apple". This response, however, would not be fair. Indeed, one should demand further explanation on how the similarity relation is going to be spelled out. To spell out a similarity relation between two entities, you need to compare the identical and different properties of the two entities. So, you need already to have decided which properties are identical and which are similar. But that is precisely what the argument from *nomic* roles is contesting: that the identity of properties can be given outside the analysis of their *nomic* roles, viz. the analysis of their relations with other properties. Lewis's counter-argument is therefore buying into the conclusion. It presupposes that properties have *quiddities* (and that some will be more natural, some intrinsic, and so on ...). But, we have already seen that there are no arguments in favor of this picture.

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<sup>128</sup> (Lewis, 1986a, p.88).

We can draw three lessons from our discussion in the second part of this chapter. The first is that the thesis that there are intrinsic properties, *Quidditism*, and the Humean principle of recombination (that is: everything can be recombined with anything) are part of the very same ontological package.<sup>129</sup>

The second is that, if we accept that properties are identified through their *nomie* roles, we thereby renounce to plenitude of possibility (that is: that all that is not logically contradictory, is possible). It is not possible that the apple could have not grown on an apple tree.

The third one is that, if no individual can be thought of without its environment, the definitions of intrinsic properties illustrated in the first part of this chapter are conceptual chimeras. They demand to think of entities – that is, properties – that would belong to an individual independently of what surrounds it. But the view that properties are identified by their *nomie* roles entails that no such property can be defined, *nor thought of*. This is acknowledged also in the argument from *Humility*. Indeed, there we have seen that we cannot really ever fully grasp what an intrinsic property is. Understanding intrinsic properties is at the limits of our reason, thus playing the same role that the *noumeno* played for Kant. But, if so, then the definitions we have seen attempt to define what is beyond the limits of our reason. Therefore, we cannot fully grasp them other than by negation – they define what the properties we can think of *are not*.

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<sup>129</sup> On this, cfr. also (Cameron, 2005b).

## §2.15 There Are Intrinsic Properties – False?

Thus, we come to the end of our digression on intrinsic properties, and of the five ways to single out individuals through properties. This chapter started out with an illustration of the various definitions of intrinsicness that have been offered. Next I claimed that we have no uncontroversial example of intrinsic property. We then observed three arguments against the possibility of knowing intrinsic properties *a posteriori*: the argument from dispositions, from *nomic* role, and from *Humility*. Next, I argued that it is not easier to prove the existence of intrinsic properties *a priori*. Both arguments to such a conclusion – alleging that intrinsic properties are needed as *realizers* of all other properties – fail to eliminate the possibility that properties, whether they are *realizers* or not, are extrinsic. We have some good reasons to believe that the ultimate *realizers* are not dispositional or relational; but they might well be extrinsic.

Is this enough for claiming that *there are no intrinsic properties*? "Yes" – if you are not a realist. "No" – if you are a realist. Indeed, if you deny that there might be truths that we cannot entertain, since we arguably do not, and cannot, entertain what intrinsic properties are, the sentence "There are intrinsic properties" cannot be true. On the other hand, if you admit that there are truths that you cannot entertain, it is still possible that there are intrinsic properties. You simply can't entertain what they

are. Indeed, the latter seems to be the position for which Lewis in one way, and Langton in another, argue.

Accepting *Humility*, however, entails digging a huge gap between the knowing subject and reality. We started off our inquiry with the goal of finding out a well-grounded methodology for singling out individuals. If we accept the methodology suggested by the friends of intrinsic properties, we find out that our count is actually not the count of the real individuals. Indeed, we cannot count real individuals because, in order to do it, we would need to know intrinsic properties. And we do not know them.

The situation is even more staggering if we consider the discussion of the other four methodologies for singling out individuals we have discussed. Both the *Principle of the Indiscernibility of Identicals* and *haecceities* presuppose the singling out of the individuals they help to identify or individuate (in the metaphysical sense). Essential properties understood both as *sortals* and as final causes are not that promising either.

What is left for us in order to justify the way we single out individuals? Perhaps we should accept that metaphysics is arbitrary in its foundation? Perhaps we should give up doing metaphysics altogether? Particular entities seem so off-hand to us, yet as soon as you try and justify why you believe one of them exists, they become elusive.

This is the point at which important metaphysical choices should be made, where one has to commit to a view or none at all. I will commit. I believe that

metaphysics is not arbitrary in its foundation. But we have been looking in the wrong place. The non-arbitrariness is not in the individuals. It is in the properties. It is not in the particular entities. It is in the general ones. This is no novelty at all. Plato claimed something along these lines. It was Aristotle, or the tradition which ensued from his writings and teachings, to turn Plato's system upside down and to prioritize particular entities. I believe that was a mistake. I do so for reasons that are, to a great extent, non-Platonic. In the sequel, I will offer them to you.

## PART II THE SUFFICIENCY OF UNIVERSALS

In Part I, I looked at contemporary ontologies that take individuals as fundamental entities. In particular, I tried to give a panoramic view of the problem of individuation in contemporary metaphysics, showing that: (i) ancient solutions, such as the Whole Entity Principle defended by Suarez and Leibniz or the appeal to *haecceitas*, are no longer satisfactory; (ii) the formulation of a principle of individuation is problematic if essences are held to be the individuating factor; and, (iii) although intrinsic properties deliver a clearer principle of individuation than essences, we seem to have no evidence for the existence of intrinsic properties (both *a priori* and *a posteriori*).

After having debated the position that most starkly, and interestingly, contrasts with my own, time has come to lay down my ontology. It is not worth to spend additional time investigating alternative views for one, perhaps two, reasons. First, the list of alternative fundamental ontologies is vague, and possibly infinite. If individuals are not the starting place of ontology, perhaps events are; or perhaps numbers; or properties; or some other abstract object that suits your theoretical desiderata. One

would hope in vain to prove her view by elimination of all rival alternatives. They are certainly worth to be discussed and pondered also while you are introducing your view, but only in so far as the introduction will benefit from the confrontation.

Secondly, Philosophy is a conceptual art, not a conceptual science. This is certainly not a self-evident and popular opinion. Plenty have been the attempts to provide Philosophy with a simple and solid foundation such as the one that Geometry or Algebra received (see, for instance, Descartes' and Spinoza's production, for the first, and the Logical Positivists' program, for the latter.) This is certainly not the place to take up such a vast debate. But one needs to take a stance. And, in my view, such attempts failed, as shown by the fact that there were so many of them and that none managed to establish itself. In the end, there is no definitive philosophical proof or refutation. Perhaps not even in the presence of contradictory philosophical statements. You cannot prove your position by disproving all others or by providing *irrefutable* evidence. You give evidence for your own position, but such evidence will not be so strong to eliminate any other philosophical alternative. It is within this spirit that I will now introduce you my view.

In concise, informal words, the theory I will present is summed up by the following three claims:

- (1) The sole denizens of reality are universals, that is repeatable entities with a qualitative character;

- (2) Every universal is extrinsic, that is its existence depends on the existence of other entities (that is, other universals);
- (3) Particularity is a conceptual fiction.

I will explore (1) in Chapters 3 and 4; (2) in Chapter 5; (3) in chapter 6.

Said with a more philosophically poignant jargon, the theory I will present is summed up by six theses. First, as a defender of universals, I owe an explanation of what a repeatable entity is. Most critics of *Realism* (the view that some entities are repeatable) maintain, in fact, that repeatability is by no means perspicuous. I believe that they are right in pretending an elucidation of this key notion and I will produce one in §3.2.2, where I will claim that:

T1: *A repeatable entity is one which, at the same time, can be said to be in more than one place and/or time.*

Second, we should endeavor whether a theory of universals can be given without bringing individuals into the picture. I take it that it is general opinion that this cannot be done. Such opinion prevailed within a reading of Aristotle which established itself since early Medieval thought, and still lies deep in the way we think

of the world. It will be my goal in §3.3 to disprove such reading, by defending the following thesis:

*T2: Properties are conceptually independent of individuals; that is, within a theory T, you can commit to the existence of a property P without thereby committing to the existence of any individual x.*

While working on T2, I will show that there are some difficulties as to the exact representation of the theory in a formal language. It will be my third task to provide such representation as well as to provide a semantics for it, which will hopefully also clarify some of the metaphysical details of the theory. Chapter 4 will be dedicated to this task; there I will defend the following thesis:

*T3: The interpretation of a sentence of the ordinary language such as "There is a cherry tree there now" is "It cherry-trees there now."*

In Chapter 5, I will complete the metaphysical characterization of universals. On the score of what I argued in Chapter 2, I will first defend the thesis that:

T4: *Every universal is extrinsic.*

After a cursory discussion of the problem of individuation of universals, I will examine their identity conditions. It will be my goal, in the second part of Chapter 5, to provide such conditions. There, I will defend the following thesis:

T5: *A universal is identified by the dependence relations it entertains with other universals.*

With T5, I will terminate the exposition of the metaphysical part of my view. I will still owe an explanation concerning the interpretation of certain complex predications, such as those involving proper names and quantification over multiple universals. I will deal with those in Chapter 6, where I shall defend the thesis that:

T6: *Particularity is a conceptual fiction.*

Finally, in the "Conclusions" I will outline the main issues and theoretical opportunities that my view brings about.

*Papier mâché* masters, when building a float for carnival, go through different phases. First, out of careful consideration of the alternatives at hand, they elect their subject. They then draw several sketches of the subject which, once refined, are realized into a small model, submitted to the approval of a small internal committee. Once approved, the subject is finally given life, in a leisurely atmosphere filled of excitement, dedication, and determination. It is with the same spirit that I now set to give life to my own little float of ideas.

## **CHAPTER 3**

### **Universals and Particulars**

#### **§3.1 Particularism and Realism**

I sit in the library and look around me. Everywhere I see similarities and differences. The brownness of this shelf is the same as the brownness of that chair, whilst they have different shapes; these two books have been bound by the same material, yet with pieces of different sizes and colors; that girl now sitting in front of the computer is the same one I saw yesterday playing field hockey. This is all familiar to us, but how does ontology make sense of it?

#### I.

When it comes to similarity, there are two sorts of ontologists. Some believe that similarities obtain because:

*Realism.* Among the denizens of reality, some are *repeatable* or *multi-located*.

For a *Realist*, *Brownness* is here on the shelf, but it is also there on the chair. That girl, Monia, – the very same one! – who is here today, was playing field hockey yesterday. As these examples show, *Realism* concerns not only what is ordinarily regarded as a property, such as *Brownness*, but also what ordinarily is regarded an individual, for instance Monia. While defining *Realism*, however, we cannot take for granted the distinction between individuals and properties; this because one way to cash out that distinction is in terms of repeatability. Still, one might want to distinguish two kinds of *Realism*:

*Universalism.* Among the denizens of reality, some have a qualitative aspect.

*Endurantism.* Among the denizens of reality, some lack a qualitative aspect.

*Universalism* is the form of *Realism* which concerns what ordinarily we regard as universals. *Endurantism* is the form of *Realism* which concerns what ordinarily we regard as individuals.

These definitions draw the distinction between individuals and properties by appealing to the qualitative character of an entity. Qualitative character accounts for what something is like. Properties such as *Being a dog*, *Being brown*, *Being noise* all give character to the world. One way to illustrate what character is starts from our experience. When I watch Fido the dog, the three properties listed above are those which explain what my experience is of: it is of a dog, it is of brownness, and it is of noise. The properties explain the content of the experience. Possibly, not all properties make a difference in our experience. What we experience is a character of reality, what reality is like. Properties are what provide reality with *that* character, whether we are capable of grasping it or not.

The qualitative character is not the only way to tell apart individuals from properties. Whether they can be told apart at all is actually still an open question.<sup>130</sup> Some other ways to draw the distinction are the following:<sup>131</sup>

- (i) properties can repeat in time as well as in place, while individuals cannot repeat in space (but might repeat in time, for an *Endurantist*);<sup>132</sup>
- (ii) properties always relate to the same number of individuals, while an individual can relate to a different number of properties;<sup>133</sup>

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<sup>130</sup> See (Ramsey, 1990), (McBride, 2005), (McBride, 2004), (McBride, 1999), (McBride, 1998a), and (McBride, 1998b).

<sup>131</sup> I discuss these criteria more thoroughly in (Borghini, 200+).

<sup>132</sup> See (Armstrong, 1978), (McBride, 2005).

(iii) properties are known directly, while individuals are known only through inference from individuals, or *vice versa*.<sup>134</sup>

Although some among (i), (ii) and (iii) might be valid (I am sympathetic to (i), for example) they are not necessary for present purposes, and thus I will not discuss them. The main trait of distinction is, for me, that properties have a qualitative character. This accounts also for the asymmetry of (iii), for which I argued in Chapter 1, and I shall round that argument in the latter part of this chapter.

*Realism* can also come in an extreme form, according to which:

*Radical Realism*: All denizens of reality are *repeatable* or *multi-located*.

To *Radical Realism* correspond also extreme versions of *Universalism* and *Endurantism*:

*Radical Universalism*: All denizens of reality repeat in time and in space.

*Radical Endurantism*: All denizens of reality repeat in time but not in space.

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<sup>133</sup> See (Armstrong, 1997) and (McBride, 1999).

<sup>134</sup> See (Ramsey, 1990), (Russell, 1940), and (Marcuse, 1991).

The view I will defend is a form of *Radical Universalism*.

Now, some – the so-called *Platonists* – deny that properties exist in space and time. They would object to my definition of *Universalism*. But, if you embrace a form of *Radical Universalism*, and maintain that space-time has some theoretical role to play, as I do, you cannot accept *Platonism*. Thus, I reject *Platonism*. I do not have the space here to give a well-rounded discussion of *Platonism*. Still, here are two reasons why I refrain from accepting such a position.

The first reason concerns the so-called structural properties. As far as I can tell, even a *Platonist* would agree that properties such as *Being a molecule of water* do have certain structural features. They would, however, deny that such structural features are to be cashed out in terms of the spatio-temporal arrangement of the property in space. The structure is conceptual. Therefore – they conclude – it has nothing to do with space and time. I agree with the premises but deny the conclusion. A spatio-temporal manifold is a structural concept exactly like the one which helps defining *Being a molecule of water*. Therefore, properties can exist with such manifold in the same way as individuals can.

The *Platonists* might at this point insist that, even if there is an isomorphism between the structure defining a universal and the structure of space-time, universals

and individuals are distinct. Only the latter are concrete entities. The former are abstract. The two categories play two distinct ontological roles.

To this, I respond with my second reason for rejecting *Platonism*. If the *Platonist* maintains that there are (at least) two levels of reality, one for individuals and one for properties, she owes an explanation of what these two levels are and what makes properties such that they can belong only to the non-spatio-temporal realm. On the contrary, what I will argue in Chapter 4, is that an ontology within just one level of reality, where only universals are found, can be given.

The fact that *Realism* involves also ordinary individuals is not always acknowledged. When the term "*Realism*" was first introduced in the early Scholastic, discussion about persistence of ordinary individuals did not represent a major concern. Thus, it grew to be standard lore to use the term to refer to *Universalism*. This, however, misrepresents both views. *Realists* are not those who allege the existence of properties; they are those who allege the existence of repeatable entities *simpliciter*. And nowadays, with *Endurantism*, we came to recognize that there are some entities – that is, ordinary individuals – that repeat in time. Monia was here yesterday and there today. She repeats in time. As we shall see, in fact, possible formulations as well as solutions to problems affecting *Endurantism* can be employed to formulate or solve problems affecting *Universalism*.

II.

On the other hand, some believe that:

*Particularism.* Among the denizens of reality, some are unrepeatable.

The unrepeatable entities can either have or lack a qualitative character. Thus,

*Particularism* will come in two sorts:

*Mild Nominalism.* Among the denizens of reality, some are unrepeatable and they lack any qualitative aspect.

*Mild Tropism.* Among the denizens of reality, some are unrepeatable and each has a determinate qualitative aspect.

It is important to note that *Particularism*, in both its non-radical forms, is compatible with the non-radical forms of *Realism*. Also *Particularism*, however, can come in a radical form:

*Radical Particularism*: All denizens of reality are unrepeatably.

Thus we will have also two forms of *Radical Particularism*:

*Nominalism*: All denizens of reality are unrepeatably and they lack any qualitative aspect.

*Tropism*: All denizens of reality are unrepeatably and each has a determinate qualitative aspect.

*Nominalists* will then reconstruct properties as classes/sets/merological sums of individuals.<sup>135</sup> For *Tropists*, instead, ordinary properties, such as "redness," are construed as similarity classes/sets/merological sums of unrepeatably properties. Individuals are also construed as classes/sets/merological sums of unrepeatably properties; but, unlike ordinary properties, individuals are classes/sets/merological

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<sup>135</sup> There are many ways of construing qualities out of individuals. For a well-rounded panoramic see (Armstrong, 1978).

sums of *compresent* tropes, where the compresence relation can be further analyzed, for instance, in terms of joint action or spatio-temporal proximity.<sup>136</sup>

Here we have, thus, another criterion for telling apart individuals from properties: properties are cognitively transparent, since there is only one way to entertain the concept of a property. On the other hand, there are many ways of entertaining the concept of the same individual. Now, whether this also entails that properties are directly knowable, while individuals are never directly knowable I leave it up for discussion. I will also leave up for discussion the distinction between individuals and properties is a real distinction.

To recap, here below is a comprehensive schema of the metaphysical positions one can take regarding the existence of individuals and properties. The top half contains the forms of *Realism*, the bottom half those of *Particularism*.

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<sup>136</sup> This picture of trope-theory – usually referred to as "trope-cluster theory" – is but the most ontologically parsimonious and most elegant version of trope theory. Other *Tropists* defend versions which include individuals, universals, or both individuals and universals as fundamental entities alongside tropes. For a short but fairly complete panoramic on trope theory see (Bacon, 2002).

	QUALITATIVE CHARACTER	NO QUALITATIVE CHARACTER
ALL REPEATABLE	Radical Universalism	Radical Endurantism
SOME REPEATABLE	Universalism	Endurantism
NONE REPEATABLE	Tropism	Nominalism
SOME NOT REPEATABLE	Mild Tropism	Mild Nominalism

### III.

Plenty of authors defended the view that the denizens of reality are found both among the repeatable and the unrepeatable ones. In *lieu* also of the difficulties raised in Part I, I embrace a form of *Realism*. More precisely, a form of *Radical Universalism*. I do not pretend that this is the only viable ontological option. As I said while introducing Part II of this work, ontology is a conceptual art, and there are many ways of making your work fit some desired theoretical constraints. Still, some comments are in place for my departure from *Particularism*. More specifically, I would like to lay out my reasons for not embracing *Tropism* or *Nominalism*. I will have no comments to add regarding *Mild Tropism* or *Mild Nominalism*, since they are compatible with *Realism*.

The reason why I prefer *Radical Universalism* over them is that I believe universals suffice in explaining reality (which claim will be defended in Chapters 4, 5, and 6).

There is a major divide among *Particularists*. While some reject similarity facts altogether, certain *Particularists* – which I will label *Resemblance Particularists* – maintain that similarities among the fundamental unrepeatable entities are primitive, brute facts.<sup>137</sup> This is a forced conclusion if one maintains that the fundamental entities are unrepeatable yet similar. It is forced because any explanation of the similarity of fundamental entities cannot appeal to repeatable entities; these not being fundamental, they will have to be construed (if existent at all) in terms of the fundamental ones; similarity would hence be at best explained in terms of the fundamental unrepeatable entities. Which is to say, it will be a primitive fact – explanations of similarity would ultimately be of the form: "individuals *a* and *b* are similar because there are *a* and *b*."<sup>138</sup>

I have to confess that I cannot make much sense of such a position. Not because, as Russell argued, it is committed to accept the existence of at least one universal – namely *Resemblance*.<sup>139</sup> I might recognize, with Rodriguez-Pereyra, that no

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<sup>137</sup> This view, featuring among its supporters some first-class philosophers such as Locke, has more recently found the favor of several authors. Two of its foremost supporters are (Martin, 1980), (Rodriguez-Pereyra, 2004), and (Rodriguez-Pereyra, 2002).

<sup>138</sup> For a recent defense of this position, see (Rodriguez-Pereyra, 2002).

<sup>139</sup> Cfr. (Russell, 1940) and (Russell, 1997).

such commitment is imposed on the *Resemblance Particularists*.<sup>140</sup> My trouble with *Resemblance Particularism* is simpler: I cannot understand how two things can be similar unless they *share* something, that is unless they have some identical aspects. And what is an identical aspect? It is an entity that exists in one thing and it exists also in the other, that is, it is a repeatable entity. Thus, I cannot understand how similarities among entities can be accepted without thereby conceding that there are repeatable fundamental entities.

The *Resemblance Particularist* might insist that to conceive ontological similarity in terms of sharing is wrong; similarity is a brute fact. To this I have no reply if not pointing out that brute facts can be sometimes admitted in philosophical argumentation; but they better be evident facts such as the fact that if *a* is a proper part of *b*, *b* cannot be a proper part of *a*. I do not see any compelling evidence for the brutality of similarity facts. To the contrary of what *Resemblance Particularism* entails, I take it to be a common opinion that to be similar is tantamount to share something (intrinsic or relational), as a glance at any dictionary can confirm.<sup>141</sup>

The *Particularist* that does not endorse *Resemblance Particularism* rejects that there is any similarity among different individuals. She alleges that fundamental entities are

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<sup>140</sup> Cfr. (Rodriguez-Pereyra, 2001).

<sup>141</sup> The *Encarta English (North America) Dictionary*, for instance, defines "similarity" as: "1. *Likeness*: the possession of one or more qualities in common. 2. *Shared characteristic*: a quality of feature that two or more people have in common."

all unrepeatable and they are not similar. The similarity is but an experience; it is a by-product of the way we represent the entities in question. The brownness of this shelf and of this chair *looks the same to me*. But, this is not in virtue of the fact that the shelf and the chair are identical under some respect; nor is it a brute fact; the similarity is a by-product of our perception of the shelf and the chair.

This does not solve the problem, however. Even granting that the entities we experience are not similar, what explains the similarity of our experiences? And, more importantly, on what basis can we conclude that our experiences are similar? There have to be some repeatable entities explaining the similarity; else similarity of experiences is a brute fact. Thus, the same problems affecting *Resemblance Particularism* affect also the *Particularism's* explanation of similarity in terms of experiential facts. (And note that it won't do to try and resist these problems by claiming that experiential facts are placed in the phenomenal world, outside of space-time. Even so, phenomenal experiences are something; they are entities; if similar, they will be such in virtue of their sharing something, or brutally.)

The only way out to this *impasse* is to deny the similarity of experiences as well.<sup>142</sup> Experiences are completely distinct, but we feel (or judge) that they are similar

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<sup>142</sup> There is actually another solution, once could argue, which is due to Aquinas. According to Aquinas, the similarity is ground in the individuals which are said to be similar, but this fact does not call for a metaphysical explanation. It is in the *nature* of the two entities to be similar. Although I recognize the strength of such a position, I believe

by an unavoidable deception. To my knowledge, this position has never been fully developed; and, perhaps, understandably so: it is hard to deny that when I listen to (what is ordinarily thought of as) the same CD twice or watch twice (what is ordinarily thought of as) the same painting, my experiences have nothing in common. Also, it would be quite surprising if similarities were the outcome of some kind of unavoidable mistake humans are subject to. If it were not for such a mistake humans would not even be capable of drawing inferences, make plans, produce scientific theories. That is, if it were not for such a mistake, the human species would have probably gone extinct long ago.

So, I prefer to think otherwise than the *Particularist*. I prefer to believe that things *are* similar, that this brown shelf and this brown chair *do* indeed share something. And, I refuse to leave this something unexplained, as the *Resemblance Particularist* purports to do. What do they share? A repeatable entity, more precisely a universal. It is to a theory of universals that we shall thus now turn, starting with the first two theses – T1 and T2 – mentioned in the introduction to Part II.

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that it is not a genuine *Nominalist* account of similarity, rather it is a *Mild Nominalist* account. For Aquinas, in fact, the aspects of individuals that render them similar are real, and this – I take – is what a *Nominalist* wants to deny. I thus have no argument against Aquinas's view, if not the general one that I believe properties suffice to explain reality. For a contemporary, fascinating discussion of Aquinas's view, see (Klima, 2000).

## §3.2 The Reasons of A Theory I: What Repeatability Is

### §3.2.1 *Squaring Aristotelianism*

Let us face the first hard question for a defender of repeatable entities: what does it mean, for an entity, to be repeatable or multiply located? Before venturing into giving an answer, we should reflect on the generality of such a question. It is in fact addressed both to *Universalists* and to *Endurantists*. Never mind whether you believe one or the other is wrong, the answer you provide should be one that holds for both cases or, if it were to fail in that, one that provides some reasons for such failure. Also, we should reflect on one aspect of the kind of answer we want. When treating the relation of universals to space-time regions, there are two traditional views. The *Platonist*, according to which properties' existence is unrelated to the existence of spatio-temporal regions, even though they have instances in those regions which explain similarities in the world. The *Aristotelian*, according to which universals are immanent to the spatio-temporal regions, namely they exist only in spatio-temporal regions. I will defend the latter. My goal in this section will then be to find a notion of repeatability that works for *Endurantists* (those who believe that individuals are repeatable), *Universalists*, and that is *Aristotelian*.

It is a singular fact that some *Endurantists* have taken a different approach to the issue than the *Universalists*. The latter, in fact, claim that the repeatability of properties obtains because properties exist more than once in space-time. In my room

in the library, brownness exists twice: within the shelf and within the chair. On the other hand, the *Endurantists* do not have a unique claim to which they subscribe, and most of them would refuse a solution that parallels the one of their cognate *Universalists*. It seems that, instead of stressing the repeatability of individuals, *Endurantists* tried to modify properties. So, some *Endurantist* maintain that individuals endure by having their properties only relative to specific times (the shelf is *brown-now*); and others claim that the *Having* relation is time relative (the shelf *is-now* brown). I believe that the latter, which seems to be one of the favorite solutions, parallels the *Universalist* solution. However, a glance at the literature on *Endurantism* will show that such parallel has neither been recognized nor stressed. To investigate such parallel is what I propose to do in the remaining of this section. By doing so, I aim at two goals. I aim at revealing one problem for *Endurantism*; and I also aim to shed light over the problem of repeatability. The latter will set the agenda for next section, where I will more fully delve into explaining (what I take to be) repeatability.

Let us hence see how *Endurantism* proposes to modify the *Having* relation in order to express the repeatability of individuals. Mark Johnston – one of the main champions of *Endurantism* – claims that "the problem of identity through intrinsic change looked like a problem only because we forgot about the possibility of

relativising existence."<sup>143</sup> Johnston, as well as other *Endurantists* that took a similar route,<sup>144</sup> however, does not seem to take seriously enough the consequences of such a move. Let me explain why.

*Endurantism* (as illustrated earlier) is the view that individuals persist in time by being *wholly present* at more than one temporal cut, that is by repeating in time. Several versions of *Endurantism* exist, differing in their account of "whole presence." The version discussed by Johnston explains "whole presence" in terms of a certain reading of the exemplification relation, according to which:

R: where needed, the *Having* relation is relativized to a certain time.

For instance, an expression within the ordinary language of the form "is happy in the afternoon" is interpreted by the version of *Endurantism* at hand as "is-in-the-afternoon happy."

The problem I will put forward depends crucially on the fact that *Endurantists* are *Aristotelian* with respect to properties, namely they maintain that a property exists only insofar as it is instantiated in space and time.<sup>145</sup>

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<sup>143</sup> (Johnston, 1987: 129).

<sup>144</sup> Cfr., for example, (Merricks, 1994).

There are two ways of interpreting R:

- (R1) The *Having* relation should be relativised only for some, but not all properties. (Which is to say that only troublesome properties should be relativized.)
- (R2) The *Having* relation should be relativized for all properties.

The problem for *Endurantism* consists in the fact that both (R1) and (R2) lead to troublesome interpretations when faced with certain kinds of sentences. Consider, for example, the following sentence:

- (1) Maria is sad in the afternoon but happy in the evening.

(R1) and (R2) will offer two different interpretations of (1), both problematic. Let us consider them in order.

Suppose to endorse (R1). You will hence give the following analysis of (1):

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<sup>145</sup> Aristotelianism is explicitly acknowledged, for example, in the exchange between (Ehring, 2002), (Beebe and Rush, 2003), (Barker and Dowe, 2003), and (McDaniel, 2003).

- (2) There is an  $x$  which *is-in-the-afternoon* happy, and there is a  $y$  which *is-in-the-evening* sad, and  $x$  is identical to  $y$  (it is Maria.)

In (2) we have an absolute or *unqualified* occurrence of the *Having* relation – "is identical to" – and two *relative* occurrences of the *Having* relation – "is-in-the-afternoon" and "is-in-the-evening."  $x$  and  $y$  have two temporally relativized relations with, respectively, *Happiness* and *Sadness*; but both of them also have an a-temporal relation with, respectively, *Being identical to x* and *Being identical to y*. The *Endurantist* endorsing (R1), hence, claims that the individual in the afternoon is (without qualification) identical to the individual in the evening; in both cases it is Maria. At the same time, the *Endurantist* claims that, when she says that Maria is happy in the afternoon and sad in the evening, she is using the other sense of existence, the relativized one.

Such twofold use of the *Having* relation, however, is *Platonist*, not *Aristotelian*. There are two Marias. One is this abstract thing which exists without qualification in virtue of having some unqualified properties. The other is the abstract Maria made concrete by the addition of some qualified properties. To be concrete, Maria has to have some unqualified properties. Now, *Endurantism* is theoretically interesting only

when combined with *Aristotelianism*. If you are a *Platonist*, you do not need to resort to *Endurantism* to explain persistence, since for you persistence is not constitutive of individuals. Thus, (R1) is not an interpretation of (1) that can be used for present purposes.

Suppose instead to endorse (R2). How to represent (1) within this interpretation of *Endurantism*? The trouble is to express the "is identical" in a way that is not too weak. Indeed, one could interpret (1) thusly:

- (3) There is an  $x$ , which *is-in-the-afternoon* happy, and there is a  $y$  which *is-in-the-evening* sad, and  $x$  *is-in-the-afternoon* identical to  $y$ , and  $x$  *is-in-the-evening* identical to  $y$ .

But (3) does not seem to convey *Endurantism*. The *Endurantist* does not want to claim simply that  $x$  is identical to  $y$  *on some occasions*. The identity is necessary. In order to accommodate this point, the supporter of (R2) could hence interpret (1) in the following way:

- (4) There is an  $x$ , which *is-in-the-afternoon* happy and there is a  $y$  which *is-in-the-evening* sad, and, for any time  $t_i$  and any world  $w_j$  at which  $x$  and  $y$  exist,  $x$  *is-at- $t_i$ -in- $w_j$*  identical with  $y$ .

This rendering of (1) is compatible with an *Aristotelian* theory of properties, it does not presuppose two senses of existence, and is not weak as (3) in asserting the identity between  $x$  and  $y$ . Yet something is still missing. The *Endurantist* does not only want to say that  $x$  is identical to  $y$  at any time and world at which they do exist. In her theory,  $x$  is identical with  $y$  also when they exist at different times, places, and worlds. But how to represent such request in (R2)? The trans-world and cross-temporal identity in question cannot be stated unqualifiedly, on pain of reintroducing the two senses of existence countenanced by (R1). Nor can it be stated by talking of different temporal or world-bound stages of Maria.

Perhaps there is a way. The identity of Maria across time and worlds is established not in the language of the theory (the object language), but in the meta-language. And, if the object language is tensed, the meta-language has no tenses. In other words, the meta-language has it that:

- (5) The referent of the "x" that, in the object language, "is-in-the-afternoon happy" *is identical* to the referent of the "y" that "is-in-the-evening sad."

One could even claim that *is-in-the-afternoon* is a predicate also in the meta-language, but it is not a tensed predicate, that is, it does not express a relation between a time and a property. On the contrary, it is a simple property referring to the tensed property "*is-in-the-afternoon*" of the object language.

Now, the question is what role the tensed object language and the tense-less meta-language play in the formulation of *Endurantism* – which of the two languages expresses *Endurantism*? As we have seen, the object language is inadequate, *per se*, to establish the identity of Maria across time and worlds. On the other hand, the meta-language alone, being tense-less, cannot express the fact that Maria *changes* over time. We thus need both. If (R2) is true, hence, we would need to express our ontology with both the object language and the meta-language. Perhaps this is not impossible, but it is arguably bizarre. I take this to indicate that (R2) cannot adequately express *Endurantism*. And since also (R1) failed to do so, I conclude that tensing the copula is not an option for the *Endurantist*.

§3.2.2 *What is a Repeatable Entity?*

Both (R1) and (R2) are hence problematic, and the *Endurantist à-la* Johnston is in trouble. And, with him, is the supporter of *Universalism* who would like to explain repeatability by appealing to two senses in which a universal can exist. Sensible were those authors who, while analyzing the repeatability of properties, argued flat that properties exist wholly at more than one place and/or time. This is a staggering claim, but it has the benefit of staying on the right track, while finding an explanation for similarities among things. And I believe there is a way of making sense of it. In this paragraph, I will provide a definition of repeatability which I believe is an option for any *Realist*. As the reader will see, the definition leaves open the door to several interpretations of the fundamental notion which it involves, namely truth-maker. In order to refine the definition by specifying what the truth-makers of my theory are, I will need to introduce a language and semantics for my theory. I reserved this task for the next chapter.

So, what does it mean to say that an entity exists wholly more than once? Well, the best sense I can make of it is that it exists two, three, or four times. And, if we really mean it, then we have to be ready to say that, in whatever sense we are saying of a non-repeatable entity that it exists, that's the same sense of existence we are presently using. Thus conceived, though, existence seems paradoxical. The paradox consists in this: when we say of a non-repeatable entity that it exists, we take this to be

an exclusive claim, i.e. a claim that (a) is valid without any qualification; (b) any restatement of it will just be a restatement, i.e. it will not say anything more or less than its previous one.

I will illustrate (a) and (b) by means of an example. Consider an omniscient and infinitely understanding Goddess contemplating our world and, from time to time, making exclamations about things of her particular interest. Imagine that at some point the Goddess were to focus on a particular, call it Fido. Suppose that: Fido is (temporally) non-repeatable; that the Goddess has one, and only one, name for each non-repeatable entity; and that in her language "Fido" names Fido. Imagine that the Goddess were to say of Fido:

(6) Fido exists.

Some minutes pass, after which the Goddess says again:

(7) Fido exists.

Now, since the Goddess was contemplating the same world, the domain over which she was quantifying in (6) and (7) is the same. Hence, one would conclude, (6) and (7)

express the same proposition. If a person understands the former utterance, she would learn nothing new by understanding the latter.

Now suppose that, instead of concentrating on Fido, the Goddess concentrates over a repeatable property, say *Being blue* (and, again, suppose that the Goddess' language has one and only one name for each repeatable property). Imagine that at some point the Goddess says:

(8) *Being blue* exists.

Some minutes pass, after which the Goddess says again:

(9) *Being blue* exists.

Imagine you were listening and recording the Goddess's sayings. Would you mark down (8) and (9) as expressing two different propositions? Well, you would have reasons not to do that. Perhaps the Goddess was just repeating herself, as in (6) or (7). Or perhaps she wasn't. Perhaps the Goddess was focusing over two different cases of *Being blue*. *Being blue* is repeatable. It is fully at one place-time and at another place-time. The Goddess might be talking about two different places and times where *Being*

*blue* is (being wholly at both.) And suppose, puzzled, you were to ask to the Goddess if she was claiming that *Being blue* exists twice and she were to answer in the affirmative. Would thereby (8) and (9) be two different propositions?

I maintain that they would not, and that to understand the reason why they would is to understand what repeatability is. The Goddess made two statements about an allegedly repeatable entity. The sense of existence employed in both statements is the same, and the domain was the same in both too. How is this possible? Well, the best sense I can make of it is that, when it comes to repeatable entities, although we believe that they exist in the same sense that non-repeatable entities exist, propositions in which they are embedded can have more than one truth-maker.

To express more rigorously this point, consider the following two sentences representing two propositions:

*P: Socrates exists*

*Q: Being a ceramic gnome exists.*

Now, P and Q represent propositions which are fully specified by the expressions contained in P and Q. There is no hidden intended context or any other contextual

element which should be supplied in order for us to understand the propositions that P or Q represent.

I believe that there is a key difference in the way in which the entities that P and Q are about exist. It is this difference which gives us the meaning of "repeatable" or "unrepeatable." The main difference lies, I argue, in the possible number of the truth-makers of the propositions expressed by P and Q. To understand why this is so, let us list the different P- and Q-features:

#### P-FEATURES

- P has at most one truth-maker;
- For every possible scenario that we consider, either Socrates exists or he does not exist in the scenario;
- P is true in all the scenarios in which Socrates exists;

#### Q-FEATURES

- Q can have multiple, possibly infinite, truth-makers;
- For every possible scenario that we consider, *Being a ceramic gnome* could "exist one, two, three, ..., infinite times," if you pass me this expression;
- Q is true in all the scenarios in which *Being a ceramic gnome* exists;

- But – and this is the key difference from P – the truth of Q can be *over-determined*. Q might be true twice over, three times over, or infinite times over.

At this point, you might suspect that the distinction I am drawing is in some way "linguistic," in that I am introducing it by appealing to sentences. Yet, this is not the case. I am appealing to propositions and truth-makers. I believe that propositions and truth-makers are metaphysical entities, that they are denizens of reality

More in details, P and Q express simple propositions, single denizens of reality. That some of those denizens exist at most once, while others exist two, three, or infinite times is an intuitive fact about the world. It is the intuitive fact with which I started off this talk and that the distinction in terms of propositions and truth-makers purports to spell out.

Thus, it is not that non-repeatable entities are complete while repeatable ones are not, as authors such as Strawson claimed.<sup>146</sup> In a sense, repeatable entities, are even more complete: they can wholly exist more than once! We need to look at the way the world is to establish the truth-value of sentences regarding both sorts of entities. The distinction lies in the fact that a sentence expressing a proposition constituted by a repeatable entity can be over-determinedly true, while this is not the case for a sentence expressing a proposition constituted by a non-repeatable entity.

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<sup>146</sup> See (Strawson, 1959).

Thus, I conclude, the distinction between repeatable and non-repeatable entities is a metaphysical distinction. But, one could ask, which specific metaphysical facts ground it? What are the truth-makers that the definition is appealing to? My answer to these questions will come in Chapters 4, 5, and 6, where I will provide a language and a semantics within which to express the form of *Radical Universalism* that I favor.

### §3.3 The Reasons of A Theory II: Properties Suffice

#### §3.3.1 *Individuals Away*

##### I.

The fact that most strikingly convinced me of the need of a theory of properties as conceptually independent of individuals is that our knowledge of the world seems to proceed from our knowledge of properties alone, and not from the knowledge of individuals.<sup>147</sup> This is the epistemic thesis, which I outlined in the Introduction, and which is the starting point of my entire view. Yet, as explained in the Introduction, my aim (in this work) is not to provide arguments *against* those who deny that the entities we experience are universals. This is an interesting question, which would deserve an epistemic inquiry on its own. More modestly, my aim is to provide a rationale for step

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<sup>147</sup> One might promptly reply that we do know individuals directly. This point will be taken up more below.

(iv) of the argument in favor of my empiricism as formulated in the Introduction, namely: "general entities are the only entities which are required in order to possess some knowledge." More particularly, since such general entities have a qualitative character (in *lieu* of what I argued in §1.1), universals are step (iv) can now be refined in the following way: the only entities required in order to possess some knowledge are universals.

In this section I will provide some reasons to believe that universals can suffice to have knowledge of reality. I will do so by advancing positive reasons, and by rebutting possible objections. The argument that universals suffice, however, will not be completed until the end of Chapter 6, when I will have provided a full theory supporting an ontology of universals only.

That properties are the primary subject of knowledge is a thesis that you find acknowledged also among those who defended *Nominalism* or *Trope Theory*. Several early Medieval and Scholastic philosophers were well aware of it.<sup>148</sup> Prominent promoters of analytic ontology came to recognize it too. For instance, at the end of the 1920s, Ramsey wrote: "We are not acquainted with any genuine objects..., but merely infer them."<sup>149</sup> About one decade later, Russell reiterated that "we experience

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<sup>148</sup> See (Gracia, 1984) and (Gracia, 1994).

<sup>149</sup> (Ramsey, 1990: 19).

qualities, but not the subject in which they are supposed to inhere."<sup>150</sup> Herbert Marcuse, in *One-Dimensional Man*, wrote:

Talking of a beautiful girl, a beautiful landscape, a beautiful picture, I certainly have very different things in mind. What is common to all of them – "beauty" – is neither a mysterious entity, nor a mysterious word. On the contrary, nothing is perhaps more directly and clearly experienced than the appearance of "beauty" in various beautiful objects. (Marcuse, 1991: 210)

Still nowadays, you will find this fact acknowledged. Armstrong, for example, has written: "The properties and the relations can be known. The bearers of properties and relations, it is alleged, cannot be known. Why, then, postulate a bearer?"<sup>151</sup>

As I argued in Part I, in the early Medieval and Scholastic tradition, it might have had some plausibility to acknowledge that we have no direct knowledge of individuals while at the same time defending *Nominalism*. The Scriptures were securing an ontology based on individuals.<sup>152</sup> To make one example, the Holy Trinity is made out of three individuals; so, if one questions the existence of individuals, she thereby

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<sup>150</sup> (Russell, 1940: 122).

<sup>151</sup> (Armstrong, 1997: 95).

<sup>152</sup> Of course this was a certain interpretation of the Scriptures, but it was largely the favored one.

questions the Scriptures. Nowadays, intellectual enterprises that aim at reaching the whole society cannot any longer take for granted the truth of the Scriptures. Could we construe an ontology without individuals?

To substantiate the claim that we can, I will first bring some evidence to the effect that the idea is not new even outside the ontological debate. Let us start from inquiries in the empirical sciences. Analyzing scientific laws, about twenty-five years ago, Chris Swoyer wrote: "A function like «rest mass in kilograms» will map an object to 5.3 *because* of something about the object, viz. the mass that it has, rather than conversely."<sup>153</sup> More generally, a scientific law stresses a tie (perhaps a different sort of tie from the one we found in counterfactual statements and assertions of regularity) between two (bunches of) properties,  $P_1, \dots, P_n$  and  $Q_1, \dots, Q_n$ . What is noteworthy for present purposes is that the alleged tie is at the level of properties and not at the level of individuals. In other terms, scientists don't worry whether – say –  $P_1$  is possessed by one or by a multiplicity of individuals, as much as they are interested in registering the properties that precede, accompany, and follow  $P_1$ .

Once this pattern of reasoning is recognized, it can easily be pushed beyond scientific discourse, to activities such as staring at a cherry tree, or cooking. In our daily actions – one could claim – what we really care about is which properties (not which individuals) are around. I care that *Being a chair* goes together with *Being*

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<sup>153</sup> (Swoyer, 1982: 205).

*comfortable*, no matter whether it is one or a thousand individuals I am sitting on. I know the properties I have at hand (as I argued in Chapter 1), not the individuals. Similarly, when I watch the beauty of this landscape, I don't care whether I am watching one, a thousand, or no individuals at all; all that I care about (and I know) is that I experience *Beauty*, as Marcuse states in the passage quoted above. The same goes for when I taste this ice cream, or buy this computer. Who really cares how many individuals a computer is made out of? The important fact is that I get the features I want. *They* are worth my money, not the fact that I buy one, thirty or no individuals. But – again – if this is a legitimate view, why not construe an ontology without individuals?

## II.

Not so easily though. The supporter of the *Indy* view (as I labeled it in the Introduction) will disagree with remarks of this fashion. To claim that we are acquainted with properties but not with individuals, and that therefore the former are conceptually independent of the latter, is too cheap an argument – she will allege. For all that we know, we might as well be acquainted with individuals. And, this has actually been the most popular view among philosophers. Look in front of you. Suppose you know not to be deceived. What you see is a cherry tree. A cherry tree is

an individual. You are, hence, acquainted with an individual. It is the individual to cause your perception, not its properties.

As I anticipated, a proper reply would require an epistemic inquiry which lies outside the scope of the present work. However, I will still add something about the issue here. I do not maintain that my opponent here is *wrong*; yet, she is not even right. My reply will be twofold. First of all, there is no agreement, in the philosophical tradition, about which are the most immediate subjects of knowledge. I will not comment further on this point, but I will just give some illustrative quotes of the extent of the disagreement.

*Particular entities:*

There is, indeed, another perception of the mind, employed about the particular existence of finite beings without us [...] There can be nothing more certain than that the idea we receive from an external object is in our minds: this is intuitive knowledge [...] So that, I think, we may add to the two former sorts of knowledge [intuitive and demonstrative] this also, of the existence of particular external objects, by that perception and consciousness we have of the actual entrance of ideas from them. (Locke, 1996: Book IV, Ch. ii, 14)

*Facts:*

The world is the totality of facts, not of things. (Wittgenstein, 1921: 1.1)

We may think of an individual, such as *a*, as no more than an *abstraction* from all those states of affairs in which *a* figures, F as an abstraction from all those states of affairs in which F figures, and similarly for the relation R. By 'abstraction' is not meant that *a*, F, and R are in any way otherworldly, still less 'mental' or unreal. What is meant is that, whereas by an act of selective attention they may be *considered* apart from the states of affairs in which they figure, they have no existence outside states of affairs. (Armstrong, 1989: 43)

*General entities:*

Talking of a beautiful girl, a beautiful landscape, a beautiful picture, I certainly have very different things in mind. What is common to all of them – 'beauty' - is neither a mysterious entity, nor a mysterious word. On the contrary, nothing is perhaps more directly and clearly experienced than the appearance of 'beauty' in various beautiful objects. (Marcuse, *One-Dimensional Man*, 1991: 210)

*Both particular and general entities:*

There is, for example, the suggestion that general, unlike particular, things cannot be perceived by means of the senses; and this seems most plausible if one is thinking of the things designated by certain abstract nouns. It is not with the eyes that one is said to see hope. But one can quite literally smell blood or bacon, watch cricket, hear music or thunder; and there are, on the other hand, certain particulars which it makes dubious sense to say one perceives. (Strawson, 1954: 235)

Secondly, I believe that the position defended by the supporter of the *Indy* view is not straightforward. Suppose that we are knowingly acquainted with an individual, and not with its properties.<sup>154</sup> Then, one of the two following scenarios is the case. Either acquaintance entails knowledge of all the properties of an individual, or it does not. Now – one could argue – the former scenario seems quite improbable. By watching in front of me, I learn that there is *Greenness* there and *Brownness* here; yet, I come to know nothing about weight, or density of the region I am watching. Thus, I do not know all the properties of the individual I am acquainted with, at least in some cases. Yet, I take it that the supporter of *Indy* would want to claim that I know that I am acquainted with an individual.

Suppose that the second scenario is true. As argued in Chapter 1, I am acquainted with some property of the individual, through which I am acquainted with the individual itself. Thus, I am acquainted with *part* of the individual's properties. And, for the supporter of *Indy*, this entails that we are knowingly acquainted with the individuals themselves, to which we relate in a different way each time. Sometimes we relate to the tree via some light waves reflecting on its surface and captured by my eyesight; other times via the weight it exercises on me; and so on. But, it is the

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<sup>154</sup> The need of knowing to be acquainted *with an individual* is key here. What the *Particularist* needs to show is that individuals can be known directly. Acquaintance without knowledge is thus not sufficient. More than that, it cannot be invoked here, since it *presupposes* that there are individuals with which we are unknowingly acquainted while disputing whether there are individuals.

individual, and not just some of its properties, that we experience. Yet – I rejoin – what is a way of relating to (in your case, being acquainted with) something, if not a relation of a subject to a property? What you come to know through your experience is a property. By looking at a green cherry tree you cannot thereby conclude that you are looking at one individual.

Again, I do not take these arguments to be conclusive to show that the supporter of the *Indy* view is wrong. Yet, I believe they show that the *Propy* view has its own cards to play *vis à vis* the *Indy* view.

### III.

Our opponent could, at this point, start pressing a somewhat different line. Instead of trying to solve the problems I faced her with, she could respond by pointing out problems within my position. Thus far, I have given for more or less granted what counts as a property. You watch in front of you, and you see a green. You assume that your experience is veridical, and you hence conclude that there is a property – *Greenness* – in front of you. But is it really all that easy? Little reflection might reveal that things are not so simple. It seems that the very same troublesome questions that we were asking with respect to justifying the existence of individuals can now be raised also with respect to the existence of properties. For once, how can one know

that *Greenness* is a property, and that it exists? Secondly, how do you know that *Greenness* exists once, rather than two or twenty-five times there?<sup>155</sup> Although (as I specified in the Introduction) I am not committing to the existence of any specific property in this work, both questions are very serious indeed, and it seems opportune to dedicate some space to them here. I will start replying from the last one.

The last question poses a version for properties of the so-called *Problem of the Many*. Suppose that, in an ordinary non-theoretical context, you have committed yourself to the following claim:

- (10) There is a green region now in front of me.

If you are a *Radical Universalist*, you will read (10) as saying something like:

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<sup>155</sup> With repeatable entities, sometimes the distinction is made between their existence and their instantiation. Instantiation is given into discrete unities. A repeatable entity can be instantiated once, twice, or thirty times. Instantiation, thus, takes care of the intuition of repeatability. Existence, instead, is an all or nothing affair. Either an entity exists or it does not. For some (the *Platonists*) certain repeatable entities – namely, properties – can exist even without being instantiated. For others (the *Aristotelians*) a repeatable entity cannot exist unless instantiated at least once. I shall not endorse this terminology, and will introduce a more refined one in Chapter 4. Until then, I will use "exist" all the times. Even though it might sound sometimes awkward, I hope it will keep the discourse clearer.

(11) *Greenness* exists here and now.<sup>156</sup>

Now, if not wholly homogeneous, *Greenness* is such that it can exist at small, tiny areas. It is enough to have a tiny red area to claim that *Greenness* exists. So, suppose that the spot in front of me is ten square feet, how many times is *Greenness* repeated in front of me now? Start with the assumption that it exists once. To better represent this claim, let's label the region at which *Greenness* exists here and now  $S_1$ . Now, I know that the region could have been, here and now, also slightly smaller than what it is. That would have not prevented it from being green, though. And hence, *Greenness* would have existed even if the spot would have been smaller. For simplicity, let's call the smaller spot of *Greenness*,  $S_2$ .

$S_1$  and  $S_2$  contain the very same property. Now, if the property in  $S_2$  would exist, it would occupy a sub-region of the one occupied by the property in  $S_1$ .<sup>157</sup> But, such sub-region of space is indeed occupied by an entity exactly like the one which occupies  $S_2$ . Then, why couldn't I say that *Greenness* exists twice in front of me? Surely though, as I found one additional instance of *Greenness*, I could find many more, perhaps infinitely many. Does, then, *Greenness* exist infinite times in front of me?

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<sup>156</sup> The proper *Universalist* language will be discussed in Chapter 4.

<sup>157</sup> The language adopted here to discuss properties is not exactly proper to the theory of properties I will defend. I employ it in so far as the theory has not yet been introduced.

The problem just outlined is analogous to a well-known problem concerning individuals, proposed to the recent debate by Peter Unger in 1980: the Problem of the Many.<sup>158</sup> Since then, many tentative solutions have been advanced. I will not venture to analyze them here. For once, because it would bring us too far a field from the theme under discussion. But, most importantly, because I believe that, when addressed with respect to properties, the Problem is not as urgent as it is for individuals. The Problem of the Many (from here on, simply: the Problem) is a problem insofar as pre-theoretical intuitions, or our theoretical *desiderata*, induce us to interpret (10) as asserting the existence of a restricted number of individuals, possibly one and only one, that is, a green region. And, since the bulk of the Problem forces, on the contrary, the existence of an infinite amount of individuals, the *Particularist* is in trouble. With a *tu quoque* argument, however, the *Nominalist* could – as I just showed – lay out a parallel problem for the *Universalist*. But, there is a key distinction between these two cases. Troubles adduced by the Problem are negligible for the *Universalist* but worrisome for the *Particularist*. Let me explain why.

The infinity of individuals is an infinity of *distinct* individuals. For the *Particularist*, to have such infinity is problematic in two ways. First, if one of the tasks of ontology is to explain how individuals should be counted, such task is undermined

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<sup>158</sup> See (Unger, 1980). More recently – (Unger, 2005) – Unger showed that an analogous puzzle holds also for minds.

by the Problem. Second, the Problem forces the *Particularist* to accept a definitely non-parsimonious plurality of entities.<sup>159</sup>

Things are different, however, for the *Universalist*. In its *Universalist* version, the Problem does not commit to the existence of infinite distinct properties, but to the infinite repetition of the very same property. This version of the Problem, hence, is not non-parsimonious as to the number of existing properties, nor does it skew the task of counting individuals. The lack of parsimony affects how many times each property exists. Pre-theoretical intuition, or theoretical *desiderata*, might suggest that (10) commits to the one-time existence of one, and only one, property. The Problem (in its *Universalist* version) agrees that there is one, and only one, property, while forcing to the conclusion that it exists infinite times. You might believe that this clashes with our pre-theoretical intuition, or theoretical *desiderata*. If so, you should try and find a solution, by drawing inspiration from the one you preferred for solving the *Particularist* version of the Problem. As I said, I will not take up this issue here for two reasons: it might take as too far a field from our target topic; and, most importantly, I do not think that the threat is that worrisome. If you are a *Universalist*, you are ready to accept that each property can exist infinitely many times *independently of the Problem*. So, the Problem is not really a problem for you. Just raise the cardinality of the infinity at hand.

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<sup>159</sup> This might be the most urgent problem for the *Particularist*. A sign of it is the fact that the goal of (Lewis, 1993) was exactly to try and fix this problem.

This is enough for the second question previously raised. We should move, now, to consider the first question, that is, how can one know that *Greenness* is a property, and that it exists?

As I stated in the Introduction, I will not discuss which properties do exist, and I will not discuss how to individuate a property, that is, under which conditions we can come to know that a property exists. There is, however, a wide literature on the argument. In the following, I will sum it up in five distinct criteria of individuation for a property.<sup>160</sup>

The first *criterion* takes sensorial experience as a guide:

- (A) Whatever comes off as perceptually distinct from a surrounding<sup>161</sup> (that is, distinct for color, figure, connectedness, movement/behavior, ... ) is a property.

This *criterion* serves well the purposes of the so-called *minimalism* about properties (the thesis that denies that for every predicate there is a property); in particular, of those

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<sup>160</sup> For a survey of the topic, see (Swayer, 2000), (Swayer, 1996), (Armstrong, 1983), and (Armstrong, 1989b).

<sup>161</sup> To be intended, here, as another property.

minimalist that believe that properties are contingent beings, existing only in space-time, whose existence can, thus, be discovered only *a posteriori*.<sup>162</sup>

You could, however, believe that we need to postulate the existence also of properties that we cannot perceive. This is what so-called *maximalists* claim. According to them: every property that could exist, does exist. For example, there might be some lengths that are so great that they cannot exist in the spatio-temporal reality; still it would seem arbitrary to ban them from existing because of that contingent fact; so, for such lengths, there is a property.<sup>163</sup> Accordingly, one might want to revise (A) as follows:

- (B) Whatever comes off as perceptually distinct from a surrounding (that is, distinct for its color, figure, connectedness, movement/behavior, ... ), *or* whatever we have sufficiently strong *a priori* arguments for believing that it might exist, or might have existed, is a property.

(A) and (B) are, at least partially, grounded in subjective perception. You might believe that perception is not a reliable guide when it comes to discovering properties,

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<sup>162</sup> Minimalism has been defended, most famously, by (Armstrong, 1978) and (Armstrong, 1997). But, see also (Swoyer, 1996).

<sup>163</sup> For a defense of *maximalism*, see, for example, (Linsky and Zalta 1995) and (Jubien, 1989).

but that this task is of exclusive domain to scientists. An ultimate catalogue of which properties there are will hence be provided through the predicates and/or concepts<sup>164</sup> that will figure in an ultimate scientific theory of the world:<sup>165</sup>

- (C) All and only those entities represented by predicates and/or concepts that will figure in the ultimate scientific theory of the world are properties.

On the other hand, some advocate that common sense ontology (sometimes called also folk ontology) is right.<sup>166</sup> According to those, the *criterion* of individuation of a property will be as follows:

- (D) All and only those entities represented by predicates and/or concepts of common sense are properties.

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<sup>164</sup> The inclusion of the clause "and/or concepts" is in place to allow the fact that also concepts such as "cherry tree," that *prima facie* are not treated as predicates and hence as expressing a property, will be included.

<sup>165</sup> This position has been defended by many authors, most notably David Armstrong. See, for example, (Armstrong, 1978), (Armstrong, 1997).

<sup>166</sup> See, for example, (Hirsh, 2004), (Hazlett, 200+).

Finally, you might have the liberals (or, as sometimes they are called, the naïve) about properties, those for which every predicate and/or concept whatsoever counts as a property. These, take a boldly positive stance even in front of controversial properties, such as those that give rise to a version of Russell's Paradox.<sup>167</sup> According to them:

- (E) For every predicate and/or concept whatsoever there is a property.

The criteria could also be combined among themselves. For example, if you believe both in the truth of the sciences, and allege a special importance to empirical knowledge, then the combination of (C) and (A) will be your *criterion* for individuating properties. Also, some – the so-called *dual-entity accounts* – endorse different *criteria* depending on the sphere of discourse, or the context of enquiry.<sup>168</sup> So, you might endorse (D) when doing ontology of social entities, while (C) while doing ontology of the natural world. I am sympathetic to (B), (C), and (D). But, as I said, I shall not carry this discussion further.

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<sup>167</sup> For a recent and comprehensive defense of the naïve conception of properties, see (Field, 2004).

<sup>168</sup> See, for example, (Lewis, 1986) and (Bealer, 1982).

§3.3.2 *The Conceptual Independence of Properties*

The discussion in the previous section brought support to the thesis that properties (with the exception of those that define individuality) are conceptually independent of individuals. The expression "conceptually independent," however, is rather vague, if left at that. For this reason, in the following I will try to be more specific about what I mean by the claim that properties are conceptually independent of individuals.

To pick out conceptual dependence, it is important to distinguish it from the other kind of dependence relevant to the present discussion, namely ontological dependence. The two definitions that I propose to endorse are the following:

OD: An entity  $x$  depends ontologically on an entity  $y$  when  $x$  cannot exist unless  $y$  exists.<sup>169</sup>

CD: An entity  $x$  depends conceptually on an entity  $y$  according to theory  $T$ , when every claim, within  $T$ , for  $x$ 's existence is at the same time, or entails within  $T$ , a corresponding claim to  $y$ 's existence.

Ontological and conceptual dependence are distinct. What is ontologically independent can be regarded as conceptually dependent according to a theory  $T$ . To

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<sup>169</sup> Clearly, one's specific definition of dependence will be provided only upon a more precise rendering of the "cannot." This subtlety, certainly relevant for the project I am defending in general, should however not concern us for present purposes. I will fully address it later, in Chapter 5.

make an example, consider *Being a mother* and *Being a wife*. Arguably, they are ontologically independent. *Being a mother* could have existed, even if *Being a wife* would not exist, and *vice versa*. On the other hand, consider a theory  $T$ , according to which. *Being a mother* is defined as "that which is always accompanied by *Being a wife*." In  $T$ , *Being a mother* is conceptually dependent on *Being a wife*, in that – because of the definitional tie – in  $T$  you cannot commit to the existence of *Being a mother* without thereby committing to the existence of *Being a wife*.

Also, what is ontologically dependent can be regarded as conceptually independent, according to a theory  $T$ . *Being a wife* is dependent on the existence of *Being a husband*. You cannot have the former unless you have the latter. However, consider a theory  $T$ , according to which *Being a wife* is defined as "*Being a woman* and *Being a mother*." Those who uphold  $T$  need to know nothing about *Being a husband*. For them, there might be wives without there being husbands. To assert the existence of one does not commit to asserting the existence of the other. Hence, the two are conceptually independent according to  $T$ .

A question arises at this point. Suppose you support theory  $T_1$  and, according to it,  $x$  and  $y$  are conceptually independent ( $x$  is independent of  $y$ , and *vice versa*.) Can you maintain without contradiction that, within  $T_1$ ,  $x$  depends ontologically on  $y$ , or *vice versa*? If the concept of entailment mentioned in the definition of conceptual dependence is logical entailment, the answer seems to be "No." If you were to hold,

within  $T_1$ , that  $x$  depends ontologically on  $y$ , any predication, within  $T_1$ , on  $x$ 's existence will entail  $y$ 's existence, therefore  $y$  will depend also conceptually on  $x$ , *contra* our initial assumption.

We should not suppose, however, that all theories at hand are complete. Sometimes, in fact, we are in the process of building the theory, and not all entailments have been established. You might have included  $x$  and  $y$  in the domain of the theory without having yet explored their ontological relationships. And you might have introduced them at separate times, without them being conceptually dependent within the theory. In this case, you can maintain, within your theory, that  $x$  and  $y$  are not conceptually dependent, while leaving a gap as to their ontological relationships. This countenances a scenario under which  $x$  and  $y$  are indeed ontologically interdependent.

Many popular philosophical positions are incomplete theories in this sense. To be a *Nichilist*, you have to believe that there are some individuals that are indivisible, and that there are no fusions of individuals. However, you need to say nothing about properties. Thus, *Nichilism* is an incomplete theory of individuals and properties; it fixes only a part of the theory, but leaves many questions – such as the dependence between individuals and properties – open.

It is an incomplete theory of individuals and properties that I have argued for thus far. It is a theory, in that it purports that properties are conceptually independent

of individuals (taking for granted that they are distinct kinds of entities.) It is incomplete. in that it leaves open to investigation whether the two categories of entities are ontologically interdependent.<sup>170</sup> I will complete the theory over the next three chapters, where I will argue for an ontology of universals only.

Now, from a strictly combinatorial point of view, sixteen sorts of dependence relations between individuals and properties can be devised. In fact, both individuals and properties can be regarded as *either* conceptually dependent (CD) *or* conceptually independent (CI), and *either* as ontologically dependent (OD) *or* ontologically independent (OI). This makes for four types of *statuses* that can be ascribed to each category with respect to the other category: (1) CD & OD; (2) CD & OI; (3) CI & OD; (4) CI & OI. Since both individuals and properties can each be in one of the four *statuses*, we will have sixteen combinations (both individual and properties are (1); both are (2); both (3); both (4); individuals are (1) while properties are (2); individuals are (1) while properties are (3)...). Finally, if you also admit that there are gaps in the relations (say, properties are only conceptually dependent, yet ontologically not related

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<sup>170</sup> As a purely historical and exegetical gloss, it seems that in "Proper Names" Russell also argues first for the conceptual independence of properties from individuals (secured by the thesis that properties can function as names in the logical language); to this result he then adds a thesis of ontological parsimony that: if we could dispense from individuals, we should do so (thesis that I guess was suggested also by the will to avoid conflating into one logical category – proper names – two distinct ontological categories – individuals and properties.) My argument parallels the one by Russell, although the Ontological package that I will propose is a very different one. Cfr. (Russell, 1940, Ch. 6).

to individuals, in that they are non-existent, fictional entities) then you will have eighty-one combinations. Here below is an illustrative table:

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
Properties	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									
	— —									
	— —									
	— —									

Table 1. The eighty-one possible relations of dependence between individuals and properties.

Through our eighty-one combinations, we can reconstruct the debate on the relationship between individuals and properties. Indeed, the most popular positions do not commit to a particular combination, but to a subset of them, thereby being incomplete in the sense above specified. It is clear, however, that a fully developed theory should pick one and only one combination.

It is important to keep in mind that the ontological/conceptual dependence between individuals and properties is a distinct, although often confused, terrain of dispute from the one between repeatable and unrepeatable entities illustrated earlier. Having said that, it is common to find the *Realists* opposed to the *Particularists* also when it comes to discussing dependence relationships between individuals and properties. Also, to have a position on both disputes is necessary to formulate the theory I am defending. In fact, if *Universalism* stresses the fact that the fundamental entities in my theory are repeatable, it does not, by itself, secure that properties are the sole fundamental ontological category. It does not because it is silent with respect to the conceptual and ontological relationships between individuals and properties.

One way to portray the debate on the dependence relationships is to see two opposing traditions. The first – which I label *Indy* – stresses the dependence (of either or both sorts) of properties on individuals. The second – which I will label *Propy* – stresses the dependence (of either or both sorts) of individuals. Some words of caution are in order before proceeding. Probably, no author ever expressed his or her position through a clear-cut principle as the ones I will formulate below. One's position is, usually, more multifarious, because expressed in conjunction with other philosophical claims. With this in mind, let us briefly see the principles characterizing the two traditions.

The *Indy* tradition is best characterized by the claim, dear to the Aristotelian Medieval tradition, that individuals are *prior* to properties. The claim is open to two different readings, each associated with a different subset of combinations, which are illustrated in the tables below:

- A. Properties are conceptually and ontologically dependent on individuals.
- B. Our concept of a property is dependent on our concept of an individual.

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
<b>Properties</b>	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									
	— —									

Table 2. *Indy*, formulation A.

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
<b>Properties</b>	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									
	— —									
	— —									
	— —									

Table 3. *Indy*, formulation B.

As you can see, although the difference between A and B seems small, there are actually eighteen possible theories among which the supporter of B (the weaker thesis) can choose.

Both A and B are popular views. For instance, a *Radical Nominalist* will typically regard B as true, *and* the ontological relation between individuals and properties as void in that, properly speaking, there are no properties, but only logical constructions out of individuals.<sup>171</sup> On the other hand, *Moderate Nominalists* (the thesis according to which among the denizens of reality, some are unrepeatable, and they lack any

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<sup>171</sup> Cfr. (Goodman and Leonard, 1940) and, for a more recent example, (Rodriguez Pereyra, 2002).

qualitative aspect) as well as those who defend a property-substance ontology (that is, the view according to which both individuals and properties figure among the fundamental ontological entities),<sup>172</sup> argued for A.

The *Propy* tradition is most notably represented with the early Medieval and the Scholastic interpretation of Plato, according to which:

- C. Properties are both ontologically and conceptually independent of individuals.

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
Properties	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									

Table 4. *Propy*, formulation C.

<sup>172</sup> Cfr. (Armstrong 1997, Ch. 7), (Martin, 1980), and (Heil, 2003).

That is to say, for this tradition properties are in *status* (4) – the exact opposite of what A maintains. The thesis I have been endorsing thus far is entailed by C, and is the opposite of B:

D. Our concept of a property is independent of our concept of an individual.

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
Properties	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									
	— —									
	— —									

Table 5. *Propy*, formulation D.

Both C and D have been endorsed by empiricists and idealists. For a Neo-Positivist, for example, sense data (that is, properties) are conceptually independent of mind-independent entities (that is, individuals.) You could commit to the existence of a sense data without thereby committing yourself to the existence of a mind-independent entity.

In chapters 4, 5, and 6, I maintain that, although there are no individuals, and properties are conceptually and ontologically independent of individuals, we do possess the concept of an individual, and that this concept is independent of the concept of a property. Thus, my position is the following:

- E. Our concept of a property is independent of our concept of an individual and (since properties are the sole denizens of reality) there is no ontological relation among the two.

		Individuals								
		CD OD	CD OI	CI OD	CI OI	CD —	CI —	— OD	— OI	— —
Properties	CD OD									
	CD OI									
	CI OD									
	CI OI									
	CD —									
	CI —									
	— OD									
	— OI									
	— —									
	— —									
	— —									

Table 6. *Radical Universalism*, the formulation I defend.

I take it that certain of those who defended the so-called *Bundle Theory* (the theory according to which individuals are but bundles of properties) subscribed to E. By itself, however, E does not deliver the bundle theory. It is still neutral with respect to *Universalism* or *Trope Theory*. E might also be endorsed to defend a version of idealism, taking individuals to be material entities and properties to be ideas.<sup>173</sup> In any case, for the time being my goal has been to secure D, a task that I regard as ontologically significant on its own.

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<sup>173</sup> Berkeley might have subscribed to this view, if we concede that, for him, we can entertain the concept of a material entity.

§3.3.3 *Logical Form and the Independence of Properties*

Finally, we should say something about logical form. In fact, despite their merit of having given a clearer representation to relations, those who first characterized contemporary formal logic at the turn of the twentieth century did endorse A or B. The standard interpretation that they proposed of our ordinary language is, hence, biased towards the *Indy* tradition. This, of course, is not to say that a theory within the *Propy* tradition cannot be represented within a logical language, and I will in fact provide such representation in Chapter 4. It is by no means trivial, however, to bring home this result, and this is because we do not have a standard language to express a *Propy* theory, in particular a *Universalist* one. We are used to think that our world is best portrayed by the *Indy* tradition.

In predicate logic, that some property  $P$  is present in the world is, in fact, expressed by the sentence:

$$(12) \quad \exists xPx,$$

that is, by asserting that there is an individual which has  $P$ . A sentence such as:

$$(13) \quad \text{There is a cherry tree now in front of me,}$$

is thus represented as follows:

$$(14) \quad \exists x Cx,$$

where "*C*" stays for the property *Being a Cherry Tree*.

Against this method of formalizing English sentences, a *Propy* could raise the exact same questions discussed in A Dialogue (at the beginning of this work). Why should we claim that there is (at least) one individual to which *C* belongs? At best, if (14) has some chance of guiding us in counting individuals, it is because we have already established that *C* is a monadic property (along with the principle that we do not want to admit in our ontology more individuals than needed.) Even worst, (14) presses the assumption that there are individuals, provided that there is anything at all. In fact, it renders impossible to predicate the existence of a property without recurring to the existence of some individual. In other words, the logical form we are used to seems to subscribe to B (if not A), and hence it is not ontologically neutral.

"Not so!" – might at this point cry out our *Propy*. One *can* express the existence of a property without quantifying over individuals. Just use second order quantification, and represent (12) as:

$$(15) \quad \exists X(X=P).$$

I think this reply fails to justify the *Propy* theory, however. In fact, in standard predicate logic, properties are defined as sets of individuals. For this reason, (15), even if indirectly, still quantifies over individuals. It is in fact equivalent to the claim that there is a set of individuals which has the same members as the set defining  $P$ .

But, suppose that you deny this standard interpretation of properties. After all – one could say – logicians define properties in terms of individuals just to keep their theory simple, not because they intend to make an ontological point. Predicates can, hence, be interpreted as picking out primitive entities, that is, properties. There is no question that this way of proceeding would be fair. The question is whether it would produce any ontological progress. What kind of information about the world can you get from (15)? Can you understand where the property is located? Can you understand whether the property is repeated or is repeatable? As I shall argue at the beginning of Chapter 4, a different representation from the one provided in standard predicate logic is needed in order to fully represent an ontology in which the existence of properties is predicated independently of the existence of individuals.

So, here is our moral: *if you want to render properties conceptually independent of individuals, then you need to revise the logical form that standard predicate logic assigns to sentences of a given language.* This will be my first goal in the beginning of Chapter 4. I will develop

a method for extrapolating the logical form of a sentence in which only reference to properties is made. This will allow to take properties as the starting point for ontological enquiry, and to support the thesis that properties are the sole denizens of reality.

### **§3.4 Conclusions**

In this chapter I laid down the foundation of my view. After introducing the main theoretical distinctions and terminology, I presented two results upon which my view will crucially rest: a certain conception of repeatability, and the thesis that properties are conceptually independent of individuals. In the next chapter, I will present an analysis of predication according to which universals (repeatable entities with a qualitative character) are the sole denizens of reality. In Chapter 5, I will argue that all universals are extrinsic. Finally, I will round my view by considering more complex cases of predication in Chapter 6.

## **CHAPTER 4**

# **Radical Universalism and the Adverbial Theory of Properties**

### **§4.1 Introduction**

In this chapter, I will start outlining the details of my view. In particular, I will study the predication of existence of a universal.

The overall theory I will present over the next three chapters develops two results, obtained in the previous chapter, and announced in the Introduction and A Dialogue. The first result is that our knowledge can be interpreted as knowledge of universals, that is, as knowledge of repeatable entities with a qualitative character. It will be the goal of this, and the next two chapters, to provide the right metaphysical and ontological grounds for such a view. The second result is that repeatability can be defined by appealing to the number of truth-makers that a certain existential proposition can have. An entity is repeatable when the existential proposition, according to which the entity exists, can have more than one truth-maker. One of the tasks of this chapter will be to provide a language and a semantics in which a proposition can have more than one truth-maker.

I call the view bringing together these two results the *Adverbial Theory of Properties* (and I will explain what "adverbial" stands for in a moment). The theory gives support to the thesis that extrinsic universals are the sole denizens of reality by providing an interpretation of predication compatible with such thesis. In this chapter, I will introduce the basic interpretative machinery. Chapter 5 will expand it by discussing several relations of ontological dependence that can account for the extrinsic character of universals. Chapters 6, finally, will round the interpretation of predication by considering cases that require a more multifaceted discussion.

The name of the theory might be slightly misleading, and is, therefore, in need of a brief clarification. By "Adverbial Theory" I do not mean that universals are linguistic entities, namely adverbs. The label stresses the fact that, according to the theory, every spatio-temporal occurrence of a universal  $U$  can be expressed by a sentence which asserts the existence of  $U$  adverbially modified by the spatio-temporal region at which it exists. That is, the occurrence of  $U$  is expressed by saying that it exists *here-and-there-ly* – or, as I should say, "at- $t$ -in- $s$ -ly."

The author that more seriously undertook a similar path of research is Bertrand Russell, in a series of writings published between the 1940 and 1971: *Enquiry Into Truth and Meaning* (1940), *Human Knowledge* (1948), *My Philosophical Development*

(1959), "On the Relations of Universals and Particulars" (1971).<sup>174</sup> Russell's idea, followed by other authors such as John Hawthorne and Jan Cover (who, however, do not explicitly recognize their debt)<sup>175</sup> was to build an ontology of sole universals. The main motivation was that "we experience qualities, but not the subject in which they are supposed to inhere."<sup>176</sup>

Although this work shares a similar motivation to Russell's, it was developed independently of its ancestor, and ultimately differs from it in a number of respects:

- (ii) In my view, the epistemic priority of universals is but one of the main aspects of the thesis that universals are the sole denizens of reality; a theory of repeatability (that I will provide in this chapter) is in order as well;
- (iii) The present inquiry takes at face value the fact that the existence of universals is problematic, in that they are repeatable entities. This is a point

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<sup>174</sup> See especially "Proper Names" in (Russell, 1940, Ch.6).

<sup>175</sup> (Cover and Hawthorne, 1998).

<sup>176</sup> (Russell, 1940: 122), (Russell, 1948), (Russell, 1959), (Russell, 1971). On this particular aspect of Russell's thought see also (Bergmann, 1947), (Bergmann, 1967), and (Casullo, 1981).

that neither Russell nor other authors, that more recently discussed the issue, seriously pondered;<sup>177</sup>

- (iv) The present inquiry is not considered a piece of radical empiricism, as I explained in the Introduction. In my theory, universals need not be identified with sense data, as Russell did. They might as well be objective, mind-independent entities, some of which we can come to know only via rational argumentation;
- (v) In the writings developing his view, Russell vacillates between different conceptions of space and time, ending up with a theory according to which space-time location is a positional quality.<sup>178</sup> I will opt (without defending to a great length) the view that space-time manifolds are conceptual structures with no correlative entity in reality. We use such structures to think of real entities, that is, universals. Predication of spatio-temporal localization of a universals is expressed via adverbial ad-sentences.

## §4.2 On Three Interpretations of Ordinary Language

As I stressed in the previous chapter, there are some striking similarities between *Endurantism* and *Universalism*. Now, there are three versions of *Endurantism*, differing in

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<sup>177</sup> It strikes me as curious, almost surprising, that neither the Bundle Theory debate, nor the one on the multiple-localization of universals and endurant entities ever faced the evident paradoxes related to the existence of the entities at hand.

<sup>178</sup> On this point, see (Casullo, 1982).

their interpretation of sentences of ordinary language involving the having at time  $t$  of an accidental property  $P$  by an individual  $a$ :<sup>179</sup>

(i)  $a$  has P-at- $t$  <sup>180</sup>

(ii)  $a$  has-at- $t$   $P$ <sup>181</sup>

(iii) At  $t$ :  $a$  has  $P$ <sup>182</sup>

In (i), the property is relativized to a certain time; in (ii), it is the having relation to be modified; in (iii), it is the whole state of affair to be modified by the adverb "at  $t$ ." The theory I will defend is analogous to (iii). It departs, however, from the defense of (iii) that has been given thus far by André Gallois in some relevant semantic respects, which will be cleared later on.<sup>183</sup>

Correspondingly, you would expect three versions of *Universalism* analogous to (i), (ii), and (iii). What you have, instead, are three versions of a *Propy* view, only two

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<sup>179</sup> For an introductory exposition of *Endurantism*, see (Loux, 2002, Ch. 6), (Haslanger, 2003), (Hawley, 2004).

<sup>180</sup> This view has been defended by (Mellor, 1981: 111-114), who is the only one, to my knowledge, to have defended such view in print.

<sup>181</sup> This view has been defended, among others, by (Johnston, 1987).

<sup>182</sup> This view has been defended, among others, by (Lowe, 1987), (Haslanger, 1989), and (Gallois, 1998).

<sup>183</sup> See (Gallois, 1998). Most importantly, I will offer more "liberal" rules of inference for sentences containing spatio-temporal adverbs; this avoids some of the problems with Gallois's theory as outlined by (Varzi, 2001).

of which are *Universalist*, the other being *Tropist*. The three options for expressing the existence of a property P at a spatio-temporal region  $\Delta$  are as follows:

(A) P-at- $\Delta$  exists

(B) P exists-at- $\Delta$

(C) At  $\Delta$ : P exists

To give an illustration of each of them, consider the following sentence of natural language:

(1) The region *s* is blue at time *t*.

According to, respectively, (A), (B), and (C), (1) is interpreted as:

(2) *Blueness-at-t-in-s* exists.

(3) *Blueness* exists-at-t-in-s.

(4) At-t-in-s: *Blueness* exists.

(The reason why I prefer one symbol,  $\Delta$ , for representing the adverb, and not two, lies in the fact that I reject the principle of distribution of a property over the spatio-temporal adverb. For example, with respect to (C), the principle is as follows:

(F) For any  $t$  and  $s$  and property  $P$ , at- $t$ -in- $s$ :  $P$  exists iff at- $t$ :  $P$  exists and at- $s$ :  $P$  exists.<sup>184</sup>

I reject this principle because it would render possible to conclude from:

(5) at- $t$ -in- $s$ :  $P$  exists,

and:

(6) at- $t_1$ -in- $s_1$ :  $P$  exists,

that, for example:

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<sup>184</sup> A parallel reasoning would hold for (A) and (B).

(7) at- $t_1$ -in- $s$ :  $P$  exists,

which is not generally valid.)

(A) is the option defended by trope theorists. (B) is the first option for a *Universalist*, consisting in modifying existence while taking properties at face value. (C) is the second option for a *Universalist*, which consists in modifying the whole sentence expressing the existence of some properties. I will not endorse (A) because, as I explained in Chapter 3, I deny that there can be primitive similarity. I will not endorse (B) either. The meaning of "to exist" is one of the few topics over which most hands might agree nowadays. And, even if this is not the case, and if this cannot be adduced as a valid reason for not endorsing (B), to modify existence as in "to exist-at- $t$ -in- $s$ " calls for such a high theoretical price, that I would be willing to pay only if forced to do so. I will thence explore (C).

The idea is rather simple. A sentence expressing the existence of a universal  $U$  has two main components: the first expresses the existence of  $U$ , via a function that I will introduce at the beginning of the next section; the second locates the universal in the spatio-temporal manifold by means of a sentential operator  $\Delta$ , grammatically to be intended as a sentential adverb.<sup>185</sup>

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<sup>185</sup> Adverbialist approaches have been adopted also with respect to other philosophical problems. See for example (Chisholm, 1957), (Sellars, 1975), (Jackson, 1975), and (Tye,

I shall clarify immediately that the sentential operator is intended as a way of thinking of the universal. Yet, space and time are not to be intended as real. Indeed, if they would be real, the *Adverbial Theory* would be false: R would be a manifold of individuals, whose existence is independent of the existence of universals. Space and time are, I argue, conceptual structure, employed by us to think of universals. Thus, only the first component carries an ontological commitment (a commitment to the existence of a universal); the second, instead, commits to a certain conceptual entity, space and time, through which a universal is thought.<sup>186</sup> After this informal introduction, let's now see the specific language and semantics of the theory.

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1989) for an adverbialist approach to visual experience, and (Lowe, 1987), (Johnston, 1987), and (Haslanger, 1989) for an adverbialist approach to the problem of persistence through time of an individual.

<sup>186</sup> Two précis. Perhaps it is possible to think of a universal in isolation from any other universal and from any space-time region. Yet, following my discussion in Chapter 3, I will distinguish between ontological and conceptual dependence. My view is that, if it is possible to think of a universal in isolation, this does not imply the ontological independence of the universal from other universals. Perhaps you can think of a *Being a chair* without thinking of *Being a tree*, but you cannot have a *Being a chair* without having *Being a tree*; you can think of *Being a person* without thinking of *Being oxygen*, but you cannot have *Being a person* without *Being oxygen*. Secondly, I remind that the present discussion concerns the natural, material world. Perhaps there are universals which cannot exist in space and time, such as *Being a perfect square* or *Being third*. These will not be part of the present discussion.

### §4.3 The Language and Formal Semantics of the Adverbial Theory

#### §4.3.1 The Language

The minimal language  $L$  of the *Adverbial Theory of Properties* (which will be expanded with the addition of existential and universal quantifiers and identity in the next chapter) contains:

- An infinite stock of names for universals:  $A, B, C, \dots$
- An infinite denumerable stock of adverbial operators:  $\Delta_0, \Delta_1, \Delta_2 \dots$
- A complete set of connectives:  $\neg, \&, \vee$
- A sentence-forming operator:  $\wedge$

Now, there are two alternative ways of defining the well-formed formulas (from now on: wffs) of  $L$ . In the definitions below, intuitively, if 'B' is, for example, "*Being a Dog*", then ' $\hat{B}$ ' can be read as "It dogs" or, perhaps better, "It's dogging."<sup>187</sup>

(WFF1)

1. *Atomic formulas.* All and only the expressions of the form  $\hat{\beta}$ , where  $\beta$  is any name for universal.

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<sup>187</sup> See (Quine, 1985) and (Quine, 1958). More on this point below.

2. *Compound formulas*. If  $\phi$  and  $\psi$  are wffs, then so are:  $\neg\phi$ ,  $\phi \ \& \ \psi$ ,  $\phi \ \vee \ \psi$ ,  $\Delta_n\phi$  (for every  $n \geq 0$ ).
3. Nothing else is a wff.

(WFF2)

1. *Atomic formulas*. All and only the expressions of the form  $\hat{\beta}$ , where  $\beta$  is any name for universal.
2. *Compound formulas*.
  - 2.1. If  $\phi$  and  $\psi$  are wffs, then so are:  $\neg\phi$ ,  $\phi \ \& \ \psi$ ,  $\phi \ \vee \ \psi$ .
  - 2.2. If  $\phi$  is an atomic wff and  $\Delta_n, \dots, \Delta_{n+k}$  are adverbial operators ( $k \geq 0$ ), then  $\Delta_n, \dots, \Delta_{n+k}\phi$  is a wff.
3. Nothing else is a wff.

Formally, the two definitions differ in the characterization of compound formulas built up with the help of the adverbial operators. On the first account, these operators act like any sentential operator; on the second account, they act in a restricted fashion, taking as initial input only atomic formulas. This difference corresponds to two different ways to cash out the *Adverbial Theory*. On the first, we are allowed to adverbially modify claims that: (a) negate the existence of a universal; (b) posit the conjunctive, or disjunctive, existence of two or more universals; and (c) re-combine

claims of type (a), (b), or obtained by adverbially modifying claims of type (a) and (b).

None of these adverbial modifications is allowed on the second account. Now, it seems to me that the first account does not add any theoretical benefit to the *Adverbial Theory*, while it would bring about a more convoluted, and less intuitive, semantic account of the *Theory*. For this reason, I will adopt the second account.

### §4.3.2 *The Semantics*

The model of the *Adverbial Theory of Properties* is a sextuple,  $M = \langle U, R, l, f, d, s \rangle$ , thus composed:

- U: domain of universals;  $U: \{A, B, C, \dots, A_t, B_t, C_t, \dots\}$ ;
- R: spatio-temporal universe containing an infinite denumerable set of regions;  $R: \{r_1, r_2, r_3, \dots\}$ ;
- l: function associating for each  $u \in U$  a set of regions in R, that is:

$$l(u) \subseteq \{r: r \in R\};^{188}$$

- f: interpretation function associating for each predicate B in the object language one element of U, that is:

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<sup>188</sup> The reader should be alerted that, as is, l is a partial function. Indeed, for those names of universals that do not denote any u in U, l is not defined. One could stipulate that l assigns to any such name the empty set, or an entity in a fictional domain. I will here leave the solution to the issue open.

$f(B) \in U$ , if defined;

- d: interpretation function associating for each  $\Delta_n$  in the object language, a non-empty sub-region of  $R$ , i.e.,  $d(\Delta_n) \subseteq R$ ;
- s: localization function associating for each well formed sentence  $\phi$  in the object language a set of regions in  $R$ , that is:

1.  $s(\hat{B}) = I(f(B))$
2.  $s(\neg\phi) = R - s(\phi)$
3.  $s(\phi \ \& \ \psi) = s(\phi) \cap s(\psi)$
4.  $s(\phi \vee \psi) = s(\phi) \cup s(\psi)$
5.  $s(\Delta_n\phi) = s(\phi)$ .

With a model at hand, we can now proceed to spell out the truth conditions for sentences in  $L$ :

I. If  $\phi$  is an atomic sentence, " $\hat{B}$ ":

$$\models_M \phi \text{ iff } \models_M f(B) \in U$$

II. If  $\phi$  is a negation " $\neg\psi$ ":

$$\models_M \phi \text{ iff not } \models_M \psi$$

III. If  $\phi$  is a conjunction, " $\psi \ \& \ \xi$ ":

$$\vDash_M \phi \text{ iff } \vDash_M \psi \text{ and } \vDash_M \xi$$

IV. If  $\phi$  is a disjunction, " $\psi \vee \xi$ ":

$$\vDash_M \phi \text{ iff } \vDash_M \psi \text{ or } \vDash_M \xi$$

V. If  $\phi$  is a sentence of the form " $\Delta_n \psi$ ":

$$\vDash_M \phi \text{ iff } \vDash_M d(\Delta_n) \subseteq s(\psi) \text{ and } \vDash_M \psi.$$

Note that clause V is stated generally, as it applies regardless of whether  $\psi$  is any wff (WFF1) or a wff with no other logical operator than adverbs (WFF2).

### §4.3.3 *Inferential Patterns*

A first, noteworthy feature of the *Adverbial Theory* is that it renders the adverbs at hand, even when nested, unrelated (thus avoiding the problems of Gallois's outlined by Varzi).<sup>189</sup> Several of the sentential adverbs in our ordinary language are of this sort. Suppose I tell you that:

(8) At the beach in the evening  $P$ .

This is equivalent to:

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<sup>189</sup> (Gallois, 1998) and (Varzi, 2001).

(9) At the beach  $P$  and in the evening  $P$ .

Or, suppose I tell you that:

(10) In the park next to Bill  $P$ .

This is equivalent to:

(11) In the park  $P$  and next to Bill  $P$ .

Grammatically, the adverbs of the *Adverbial Theory* behave in the same way as "At the beach," "In the evening," "In the park," and "Next to Bill." You can hence swap, drop, and distribute adverbs within sentences of the theory, without changing the truth conditions of sentences. This is reflected in the following inferential patterns (where  $\phi$  and  $\psi$  are wffs of  $L$ ) whose validity follows from the semantic truth conditions laid out in §4.3.2:

$$(i) \quad \Delta_n \Delta_m(\phi) \equiv \Delta_m \Delta_n(\phi)$$

$$(ii) \quad \Delta_n(\phi) \Rightarrow \phi$$

$$(iii) \quad \Delta_n \Delta_m (\phi) \equiv \Delta_n \phi \ \& \ \Delta_m \phi,$$

## §4.4 Explicating the Theory

### §4.4.1 *On Interpretation Again*

First of all, I will show that the semantics of the *Adverbial Theory* captures the intuitive features of repeatable entities *vis à vis* those of particular entities. To this effect it is useful to contrast (C) with (A). For a *Tropist*, each particular will have a name, specifying its quality and its spatio-temporal location. A *Tropist's* interpretation of:

(1) The spot  $s$  is blue at time  $t$ ,

is:

(2) *Blueness-at-t-in-s* exists.

Now, it is crucial not to be deceived by the structure of (2). In fact, all that (2) contains is a name, "*Blueness-at-t-in-s*," plus the predicate "exists." For a *Tropist*, the qualitative characters of different spatio-temporal regions are similar, yet not identical. In other words, in (2), "*Blueness*" does not express a universal entity which is located at  $s$  and  $t$ , and that it could be elsewhere too. "*Blueness*" is just part of the name of the

property-instance at hand, as it is "B" in the name "Brutus." This is a key point for spelling out the sentential inferences allowed by the *Tropist vis a vis* those allowed by the *Universalist*.

In what respect, then, does:

(4) At-*t*-in-*s*: *Blueness* exists

differ from (2)? Let us begin answering this question by spelling out a bit more of the theory underlying (4). Consider the following sentence of natural language:

(12) The spot *s*<sub>1</sub> is blue at *t*<sub>1</sub>,

where *s*<sub>1</sub> and *t*<sub>1</sub> are distinct from *s* and *t* in (1). Following (2), the *Tropist* will represent (12) by:

(13) *Blueness-at-t<sub>1</sub>-in-s<sub>1</sub>* exists.

Now, for a trope theorist, it seems plausible to say that, from (4) and (13), follows:

(14) *Blueness-at-t<sub>2</sub>-in-s<sub>2</sub>* exists,

where  $t_2$  and  $s_2$  stand for, respectively, the temporal and spatial mereological sum of  $t$  and  $t_1$ , and  $s$  and  $s_1$ . That is: in the same way in which a *Nominalist* has the theoretical opportunity to claim that the bread and the cheese are two non-overlapping individuals that compose one individual – the sandwich – which contains all and only them as parts, so the *Tropist* has the theoretical opportunity to claim that "*Blueness-at- $t_2$ -in- $s_2$* " is a particular which happens to overlap all and only  $t, s, t_1, s_1$ .<sup>190</sup>

On the other hand, the *Tropist* cannot infer, from (2) and (13), that *Blueness* is *wholly* at- $t$ -and- $s$  and *wholly* at- $t_1$ -in- $s_1$ . That is, the *Tropist* cannot maintain that (2) and (13) have some entity in common. It is not as if there is this entity, *Blueness*, which each sentence attributes two different spatio-temporal locations. As explained before, for the *Tropist* every expression of the form "*Blueness-at- $t_n$ -in- $s_n$* " functions as a proper name. *Blueness-at- $t$ -in- $s$*  is a distinct individual from *Blueness-at- $t_1$ -in- $s_1$* . So is *Blueness-at- $t_2$ -in- $s_2$*  distinct from both *Blueness-at- $t_1$ -in- $s_1$*  and *Blueness-at- $t$ -in- $s$* . And *Blueness-at- $t_2$ -in- $s_2$*  is *partially* in *Blueness-at- $t_1$ -in- $s_1$*  and *partially* in *Blueness-at- $t$ -in- $s$* , but not *wholly* in both. So, according to the *Tropist*, from (2) and (13) it follows that:

(15) *Blueness-at- $t$ -in- $s$*  and *Blueness-at- $t_1$ -in- $s_1$*  exist.

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<sup>190</sup> For the suggestion of applying mereology to trope theory, see also (Paul, 2002).

But this is different than saying that *Blueness* is *wholly* at both  $t\&s$  and  $t_1\&s_1$ . Hence: the *Tropist* has no resources for maintaining that (2) and (13) have some entity in common. This is not a surprising result, considering that, for the *Tropist*, all that there is, is particular.

Let us now move to consider (4). If the theory I am proposing succeeds at distinguishing universals from tropes, (4) will allow for different inferences than (2). Let us consider again the situation in which both (1) and (12) hold, but this time *Blueness* is a universal. If the *Adverbial Theory* correctly represents *Universalism*, it should allow us to claim that:

(16) *At-t-in-s at-t<sub>1</sub>-in-s<sub>1</sub>: Blueness exists.*

Now, recall that, in the theory I presented, you cannot disentangle space and time: there are spatio-temporal regions, not spatial regions *and* temporal regions. Thus, if "at-t-in-s" is represented by " $\Delta_r$ ," and "at-t<sub>1</sub>-in-s<sub>1</sub>" by " $\Delta_{r_1}$ ," (16) can be expressed in the following way:

(17)  $\Delta_r \Delta_{r_1} \hat{B}$ ,

which entails, in virtue of inferential pattern (ii), both:

$$(18) \Delta_r \hat{B},$$

and:

$$(19) \Delta_{r1} \hat{B}.^{191}$$

Some remarks are in order. First, (17) captures the *Universalist's dictum* that a general entity can be wholly at more than one place. This is what the *Tropist* could not state, namely that *Blueness* (the very same entity) is wholly here and wholly there. It is this additional expressive power of (4), then, to render (2) and (4) distinct.

Secondly, both (18) and (19) are structured representations. They contain an adverbial modifier *plus* an existential claim. For the *Universalist*, the former is not required for having a well-formed sentence. And there is a relationship between a

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<sup>191</sup> Note that this entailment is not in contradiction with the rebuttal of the principle of distribution (F). Indeed, (F) forbids the distribution of a property over a spatial region *and* a temporal region. In (17), (18), and (19), instead, the distribution is over two distinct spatio-temporal regions. Put it in another way: you can distribute over entire spatio-temporal regions, but you cannot distribute over single spatial or temporal regions. If *Being red* is *here-now-ly and there-beforely*, then it is also *here-now-ly*; but it need not be *here-before-ly*.

formula with, and a formula without a modifier. In the present case, such relation is expressed by saying that both (18) and (19) entail, in virtue of inferential pattern (ii):

$$(20) \hat{B}.$$

Thirdly, the *Universalist* counterpart of (14) is not a thesis of the *Adverbial Theory*. Indeed, (18) and (19) do not logically entail:

$$(21) \Delta_{r2} \hat{B},$$

where the region referred to by " $\Delta_{r2}$ " is the mereological sum of the regions referred to by " $\Delta_r$ " and " $\Delta_{r1}$ ". Suppose *Being a Dog* is a universal. (21) is saying that, if you have *Being a Dog* at *this* region and *Being a Dog* at *that* region, you also have *Being a Dog* at the region overlapping all and only *this* and *that* regions.

Now, I believe that the entailment from (18) and (19) to (21) should not be a theorem of the *Adverbial Theory*. It might be true in some cases. But, in others, it does not seem to be true; for two main reasons. The first is that the inference from (18) and (19) to (21) is not valid if the universal in question is a determinate of a determinable universal, such as *Being One Kilogram* (more on determinable and determinate properties later on in this chapter). If you have *Being One Kilogram* at *this*

region and *Being One Kilogram at that region*, you do not thereby have *Being One Kilogram* at the region that overlaps all and only *this* and *that* region; at such larger region you have *Being Two Kilograms*. Hence, at best, (21) works for properties which are neither determinate, nor determinable. So, it should not be a theorem of the *Adverbial Theory*.

The second reason why the entailment from (18) and (19) to (21) should not be a theorem of the *Adverbial Theory* is that such entailment seems to undermine the main intuition beyond (17). If this is correct, then the entailment never holds true (not as a matter of logic, but as a matter of Metaphysical necessity). Now, (18) and (19) jointly entail both (17) and (21); and, in *lieu* of this, one could legitimately ask whether (17) entails (21), or *vice versa*, or both. If it does, what is, then, the difference between (17) and (21)? If what we aim at capturing through the adverbial modifier is the distinction between a particular and a repeatable entity, then we should reject that (21) is entailed by (18) and (19). (17) captures a key feature of our reasoning, one that should have a primary role in ontology. (21), instead, derives from the habit of applying mereology to all sorts of entities. But mereology is a theory of particular, not repeatable entities. While it works perfectly within trope theory, it fails to capture the intuitions beyond *Univeralism*. For these reason, I believe that the entailment from (18) and (19) to (21) never holds true within the *Adverbial Theory*.

Finally, the notation introduced allows us also to distinguish between a *Platonist* and an *Aristotelian* theory of universals (for a definition of the two, see Chapter 3). The latter, but not former, in fact, will accept the following principle:

$$(22) \neg \hat{B} \vee \Delta_n \hat{B},$$

where  $n$  stands for a spatio-temporal region. That is, the *Aristotelian* maintains that, if a universal exists, it exists in at least one spatio-temporal region.

#### §4.4.2 *Three Alternative Notations and Why They Are Wrong*

My treatment of nested adverbs of space and time allows them to be switched and dropped. In other words, they do not really affect each other when they are found together in a sentence. This is not the only treatment of adverbs you can think of within the theory. I will consider three more here, which might at first sight seem appealing, while in fact they are not. Before doing that, however, let me respond to a possible objection.

You might protest that the quantifiers of the *Adverbial Theory* more closely resemble the ones in the following sentence, rather than the examples given in (8) and (10):

(23) It was warm yesterday *and* today.

Unlike (23), (8) and (10) do not line two adverbs ranging over the same dimension, for example: time. On the other hand, the *Adverbial Theory* does line adverbs ranging over the same dimension, namely space-time regions. But, in (23) you have the conjunction "and", which is missing in (8) and (10). One could argue that such conjunction calls for a different interpretation of quantifiers than the one inspired by (8) and (10); for example, an interpretation in which the quantifiers are sentential operators that deliver, even when nested, only one region at which the sentence is supposed to be evaluated. So, one could argue, the "and" compels a different reading of nested quantifiers than the one given by the *Adverbial Theory*.

I deny this line of reasoning because it gets the ontology wrong. When I say that *P* took place on the evening and on the beach I am qualifying *one entity* – *P* – in two ways. That is what I am doing also when uttering (23), from a *Universalist* perspective. You have one entity – *Being Warm* – which is qualified in two ways – it occurred yesterday and today. As we have seen in Chapter 3, *Universals* are repeatable in time and space. Hence, they can be qualified in multiple different ways along the spatial and temporal dimension. That we express, in ordinary language, those multiple qualifications via the conjunction "and" has to do with a superficial grammatical structure, one built on a prejudice towards repeatable entities. Now, the treatment of

adverbs, I propose, is entirely in keeping with these considerations; on the contrary, the one inspired to (23) is not. To understand this point better, let us consider the three alternative treatments of nested adverbs I might have adopted.

First, one might think to avoid nested adverbs. Any time you have to express the existence of a property at two regions, instead of a notation like " $\Delta_{r_1}\Delta_{r_2}$ ," use something like " $\Delta_{r_1\&r_2}$ ". The problem with this is to spell out what "&" stands for. It cannot stand for mereological composition, otherwise *Universalism* would turn out to be no different from *Tropism*. Also, mereological composition doesn't work for determinate properties:<sup>192</sup> if you have *Being-One-Kilogram* both in this region and in that region, it does not follow that you have *Being-One-Kilogram* in the mereological sum of the two regions – you will have *Being-Two-Kilograms*.

Another possible notation also does without nested adverbs while inserting the regions in the scope of the adverb. For example, that universal *B* exists at region  $r_1$  is expressed thusly: " $\Delta(\hat{B}, r_1)$ ." Nested adverbs would hence be expressed by sentences such as " $\Delta(\hat{B}, r_1 \& r_2)$ " or " $\Delta(\hat{B}, r_1, r_2)$ ." This, however, would suggest that we have, respectively, one adverb or a few classes of adverbs (one class for sentences adverbially modified by exactly one region, another for sentences modified by exactly two regions, and so on). On the contrary, I hold we have one adverb for each

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<sup>192</sup> This is a point on which I will come back later on in the chapter.

different region. It is not as if there is one way of being for a universal at one (any one) region; a way of being which is then qualified differently at different regions. One would have, in fact, to explain what each of those ways of being have in common. And, I believe that they have nothing in common. So, there are as many ways of being for a universal as there are regions. As I shall explain more below, universals are determinable entities, which are rendered determinate by a specific existence at a region.

A third option would be to take spatial and temporal adverbs as delivering *at most one region* at which, the sentence in which they figure, is supposed to be evaluated. Gallois's treatment of the temporal adverb of the form "at time *t*" is of this form.<sup>193</sup> According to him, a sentence such as:

(24) Maria is happy in the evening

is interpreted as

(25) In the evening: Maria is happy,

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<sup>193</sup> (Gallois, 1998).

where "in the evening" is a temporal sentential adverb specifying the time at which the sentence "Maria is happy" has to be evaluated; the reading is something like: "In the evening it is true that." Thus, for a sentence such as:

(26) In the evening: In the afternoon: Maria is happy,<sup>194</sup>

the reading would be something like "In the evening it is true that in the afternoon Maria is happy." Now, as Varzi has shown in his review of Gallois's book, this theory has some difficulty in explaining the meaning of some nested adverbs.<sup>195</sup> But, aside from this difficulty, there is another problem, more pressing for present purposes. The representation proposed by the theory does not allow for an interpretation of (26) according to which "Maria is happy" is true more than once. Yet, this is the bulk of repeatability, as I explained in the previous chapter. And it is one of the imports of the *Adverbial Theory*. For this reason, I believe that Gallois's interpretation cannot work for present purposes. (And, as a matter of fact, since the entities *Endurantism* is concerned with are also repeatable, I believe that Gallois's view is inadequate to express *Endurantism* as well. But there is no point in pressing this line here.)

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<sup>194</sup> It is to recall, however, that Gallois's goal is to defend *Endurantism*, so he moves within an *Indy* approach. For this reason I here employ an example involving a proper name.

<sup>195</sup> See (Varzi, 2001: 4-5).

§4.4.3 *On the Spatio-Temporal Manifold*

In Chapter 7 of *Individuals*, Strawson considers a view that comes very close to the *Adverbial Theory*. Needless to say, his conclusion is that "This is a project which I leave to anyone whose taste for exercising ingenuity for its own sake is greater than mine."<sup>196</sup> However, Strawson does not refrain from considering the option in some details. While doing this, he also discusses the role that spatio-temporal regions would have to play in the "project." Despite some promising remarks, he deems the projects as fated precisely because it needs to appeal to spatio-temporal regions. What are these – asks Strawson – if not individuals? If you had an individual "which maintained its position and its boundaries unchanged," its criteria of identity would be the same as those of the spatio-temporal region it occupies. In other words, spatio-temporal regions are but particulars of a certain sort. Strawson's remark certainly touches an important aspect of the *Adverbial Theory*. The threat is that *R* is a domain of real individuals, in which universals are instantiated, and hence cannot support a form of *Radical Universalism*, such as the one I am defending here. How should the spatio-temporal manifold *R* be intended, in order to avoid such a threat?

I believe that a somewhat Kantian reply, here, is the most appropriate. *R* is not part of the ontology. It is not a piece of the real world. It is but a cognitive structure that we employ to think of universals. I am not denying here that we do

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<sup>196</sup> (Strawson, 1959: 221).

possess the concept of individual. What I am denying is that individuals are part of reality. *R* is a conceptual structure, a structure whose components are individuals, through which we think of what is real.

There is, nonetheless, a more bold reply to Strawson's question, a reply that tries to construe space and time from universals. I will outline it briefly, although, in order to gain trust, it would need further (too long for present purposes) development.

There are two opposite positions when it comes to the metaphysics of the spatio-temporal manifold. One – the so-called *substantialist* tradition – treats the manifold as an individual such that: (i) its existence is independent of the existence of any other entity; and, (ii) it contains as proper parts many, perhaps infinite other individuals, namely spatio-temporal regions. If *substantialism* were true, the *Adverbial Theory* would be false. In fact, *R* would be a manifold of individuals, whose existence is independent of the one of universals. Strawson's objection would then go through.

*The Adverbial Theory*, hence, goes together with the second tradition: *Relationalism*. According to *Relationalism*, the space-time manifold can be construed starting from the fundamental entities which are said to occupy it. There are various ways of spelling this out, differing on the entities which are taken to be fundamental and on the type of explanation offered for the dependence between the manifold and

the fundamental entities.<sup>197</sup> The problem is whether there is one way that avoids to take individuals other than space-time regions as primitive. I am not convinced that there is one. Here I try to offer the best *Relationist* story which fits the *Adverbial Theory* that I could devise. I leave for further discussion whether we should accept or reject it.

Suppose that the primitive entities, out of which all that there exists is made of, are events. Suppose, next, that some events are more fundamental than others, and that there is a group of the most fundamental events. Each fundamental event is constituted by one, and only one, universal represented by expressions such as " $\hat{X}$ " (where "X" stands for a universal). Each universal will have some boundaries. These, however, can be traced independently of the spatio-temporal manifold. We can do so until we do not bring into the picture additional events. Once we start regarding an event as part of a network of events, the need arises to explicit relations among events. This is done by providing a metric for the network, which determines relations among universals. The spatio-temporal manifold is the byproduct of the metric. Thus, the adverbs typical of the Adverbial Theory have the role of placing each universal within a network of events. The spatio-temporal regions, which are predicated of each universal, *determine* the place in the network. In this sense, universals can be thought of as determinables and the adverbs as determinating blocks.

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<sup>197</sup> For an introduction to the various theories, see (Hofer and Huggett, 2006).

What is key is that the metrics defining the spatio-temporal manifold is a concept under which the events are subsumed. Without the fundamental events, there would be no metric. Moreover, the choice of the specific metric is contingent. The adverbs of the Adverbial Theory expressing spatio-temporal location of universals are sentential and not nominal adverbs. This is because they do not pertain to one universal at a time, but to a universal as related to others. Adverbs do not express features of a universal taken singularly, but of it as taken as part of a network of universals. Hence, formulations such as (v), (vi), and (vii) are crucial to the theory, in that they allow adverbs to express the relations between universals in the network.

#### §4.4.4 *The Transition from the Name of a Universal to Its Existential Expressions*

In *Individuals*, Strawson also argues that universals are incomplete entities, while particulars are complete. The alleged incompleteness stems from the fact that you cannot express the existence of a universal, if it is not particularized, or at least embedded in an existential fact:

At the limit [of the distinction between particulars and universals] we find the feature-placing fact in which no particular is a constituent, though a universal is. *At this limit, then, the universal appears as still something incomplete for thought, a constituent of a fact.*<sup>198</sup>

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<sup>198</sup> (Strawson, 1959: 212).

According to Strawson, you cannot express the existence of a universal without considering the universal as part of a particular fact; a fact in which the universal appears as one of the constituents, alongside some individual. On the other hand, the existence of an individual can be expressed also without making reference to an individual, as when we say that Socrates exists.

We should not test Strawson's point against the *Adverbial Theory of Properties*. Allegedly, you could see in the transition from a universal,  $X$ , to its existential assertion, " $\hat{X}$ ," the transition from an incomplete entity to a fact; a fact which is particular. The friend of the *Indy* view could thus object that, by committing to expressions of the form " $\hat{X}$ ," the *Adverbial Theory* abandons its *Propy* spirit. There is no way of expressing the existence of universals without rendering such existence a particular fact. At the bottom of the *Adverbial Theory*, thus, lie particular entities, that is facts expressing the existence of universals.

To this, I rebut that the existence of a universal, as expressed in " $\hat{X}$ ," is neither *particular* nor a *fact*. It is not particular, since particularity cannot apply to what is repeatable. And ,universals are repeatable because they can be said to exist at more than one spatio-temporal region at a time, as in (i), (ii), or (iii). Nor it is a fact, since facts are complete entities; they cannot be completed by additional qualification. Expressions such as " $\hat{X}$ ," on the contrary, can be qualified in infinite ways. For this reason, I believe that Straws's challenge can be met by the *Adverbial Theory*.

You could, however, insist that, if " $\hat{X}$ " is not a particular fact, it is because it is incomplete. It was my suggestion, after all, to regard " $\hat{X}$ " and like expressions as determinable entities. And, what else is a determinable entity, if not one which is incomplete, or in need of being determined?

I will not deny that, in a sense, " $\hat{X}$ " is incomplete. There are many ways in which " $\hat{X}$ " can be modified. But this does not render " $\hat{X}$ " a particular fact, since it would still be repeatable. In the *Adverbial Theory*, there are facts which you can call particulars; they are the facts which embed one set of all com-possible modifications of a situation such as " $\hat{X}$ ." " $\hat{X}$ " could be modified in many ways, but there are clusters of modifications which could all modify it at once: " $\hat{X}$ " could occur at a certain region, quickly, largely, suddenly...By producing one exhaustive list of such modifications, we express a particular fact, one that cannot be repeated. Still, its component, " $\hat{X}$ ," will not be a particular.

#### §4.4.5 *On Determinable Properties*

Thus far, I did not take stance as to which universals exist, and I shall not take one within this work. When we come to certain controversial cases, however, it matters which stance you take also to the *Adverbial Theory*. A particularly interesting case is the one of predicates which appear to refer to determinable properties, such as "To have

weight." (I will call those predicates "determinable predicates.") There are two positions that one could take regarding determinable predicates.

On the one hand, one could hold that for each determinable predicate there is a correspondent universal. Thus, to the predicate "To weigh" corresponds the universal *Having weight*. *Having weight* cannot exist but in one out of infinite determinate ways, and it cannot exist in the same determinate way more than once at each space-time region.

On the other hand, one could hold that there is no general, determinable universal such as *Having weight*. Rather, there are a variety, perhaps an infinity of universals, such as *Being one gram*, *Being three kilograms*, *Being thirty kilograms*, and so on. Each of those universals is incompatible with the others, in the following way: if you have one of them – for example, *Being one kilogram* – at a region, you cannot have another – for example, *Being two kilograms* – at the very same region. (This incompatibility can be spelled out in terms of one of the relations of ontological dependence that I will illustrate in Chapter 5.) Which of the two views is correct?

I tend to favor the latter. The main reason relates to the criteria of identity for universals I defend. As I shall illustrate in Chapter 5, universals are identified (roughly) by the way they affect and are affected by other universals. Now, *Being one kilogram* and *Being three kilograms* interact in a different way with other universals. Thus, you cannot regard them as two determinate modifications of the same universal, but

as two universals altogether. In other words, a determination of weight, or of color, would affect the identity of a universal, and for this reason cannot be accepted.

Still, one could believe that universals should not be identified through their relations with other universals, but through the so-called *quiddities* (which I introduced in Chapter 2). Each *quiddity* is a non-qualitative aspect of a property, an aspect which individuates the property. If there are *quiddities*, and determinable universals, you have a mean to individuate determinable universals. Thus, how does one express the determinate aspects of such universals, within the *Adverbial Theory*?

My proposal is to regard the determinate aspects of a universal as adverbs. But, this time, the adverbs are nominal, rather than sentential. Each universal will have a *space of determinates* defining it. For example, the space of determinates associated to *Having weight* – which I will refer to as " $\Sigma$ " – will be given by all the positive real numbers:<sup>199</sup>

$$\Sigma: \{x: x \geq 0\}.$$

On the other hand, the space of determinates associated with *Having color* – " $\Omega$ " – will be the whole space of the color chart:

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<sup>199</sup> This supposing that there is only one scale – say, the one in grams – for weight. For expressing different scales one could use a quantifier other than " $\Sigma$ ".

$$\Omega: \{x: x \geq CC\},$$

where  $CC$  stands for the color chart. To make an example, the following sentence:

$$(27) \quad \Delta_{r_1}(\Omega_3 \hat{C} \ \& \ K_5 \hat{W}),$$

expresses the existence, at region  $r_1$ , of: the determinate color, that occupies position three in the color chart – say, brown; and, of the determinate weight, that occupies position five in the space of determinate weights. Hence, if we represent *Being a dog* as  $D$ , the sentence:

$$(28) \quad \Delta_{r_1}(D \ \& \ K_3 \hat{C} \ \& \ \Omega_5 \hat{W}),$$

is saying that there is a five kilograms brown dog at region  $r_1$ .<sup>200</sup>

As I said, however, I do not favor this interpretation. In the following, I will thus assume that there are no determinable universals, such as *Having weight*, but only universals such as *Being two kilograms*.

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<sup>200</sup> On determinables, see also (Armstrong, 1989b), (Armstrong, 1978) and (Campbell, 1990: 66).

## §4.5 Conclusions

The *Adverbial Theory of Properties* thus lays the foundation for an ontology in which universals are the sole denizens of reality. Look in front of you. You will see green here, red there, a table in front, a person on the right. Provided you trust your eyesight as accurate, and ontologically salient, all these are – I maintain – universals. What you come to know is that:

- (29) *Greenness* exists here-and-now-ly
- (30) *Redness* exists there-and-now-ly
- (31) *Being a table* exists in-front-and-now-ly
- (32) *Being a person* exists on-the-right -and-now-ly.

These are your initial data on the basis of which to build an ontology. The next chapter will deepen into the analysis of universals: the criteria for their existence and the existential joints among them. Chapter 6, then, will round the theory by considering more complex cases of predication. The *Adverbial Theory* is a rather bold and unpopular view. As such, it raises a host of questions, and at the same time it

lands itself also to novel treatments to philosophical problems. About those questions and problems I will talk in the "Conclusion."

## CHAPTER 5

### Extrinsic Universalism

Le cose di ogni giorno raccontano segreti  
a chi le sa guardare ed ascoltare.

Per fare un tavolo ci vuole il legno  
per fare il legno ci vuole l'albero  
per fare l'albero ci vuole il seme  
per fare il seme ci vuole il frutto  
per fare il frutto ci vuole un fiore  
ci vuole un fiore, ci vuole un fiore,  
per fare un tavolo ci vuole un fio-o-re.

Per fare un fiore ci vuole un ramo  
per fare il ramo ci vuole l'albero  
per fare l'albero ci vuole il bosco  
per fare il bosco ci vuole il monte  
per fare il monte ci vuol la terra  
per far la terra ci vuole un fiore  
per fare tutto ci vuole un fiore

- Gianni Rodari<sup>201</sup>

#### §5.1 Introduction

In Chapter 4, I started laying down the foundation for an ontology in which the sole denizens of reality are universals. I did so by presenting the *Adverbial Theory of*

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<sup>201</sup> "Everyday things reveal secrets to us / to those who know how to look and listen to them. / To make a table it takes wood / to make wood it takes the tree / to make the tree it takes the seed / to make the seed it takes the fruit / to make the fruit it takes a flower / it takes a flower it takes a flower / to make a table it takes a flo-w-er. / To make a flower it takes a branch / to make the branch it takes the tree / to make the tree it takes the forest/ to make the forest it takes the mountain / to make the mountain it takes the earth to make the earth it takes a flower / to make everything it takes a flower."

*Properties*, whose aim is to capture the repeatability of universals, while avoiding commitment to the existence of individuals. As we have seen, the theory might not succeed in treating universals as conceptually independent of individuals, since the spatio-temporal manifold, through which repeatability is expressed, does, arguably, involve the concept of an individual. Still, since the spatio-temporal manifold can be thought of as a conceptual tool through which we think of universals, the *Adverbial Theory* supports the thesis that universals are the sole denizens of reality. Thus, perhaps Plato was right: universals are the real entities; individuals are shadows of universals, created by our mind.

However, in order to have a more refined theory, more needs to be said about universals. My aim in this chapter will be to exploit an ontological path which seems tempting after the discussion of Part I: What if all universals were *extrinsic*? That is, what if the world would be a manifold of *extrinsic* universals? More specifically, in this chapter I am going to defend two theses:

T4: *Every universal is extrinsic.*

T5: *A universal is identified by the relations of ontological dependence it entertains with other universals.*

T4 is in accordance with one of the main results of Chapter 2, namely the claim that we have no reasons to believe that there are intrinsic properties, and that it is not even clear whether we are capable of conceiving of such properties. I will define extrinsicness in terms of existential dependence. My first task will hence be to enrich the *Adverbial Theory of Properties* in order to express existential dependence.

T4 has some philosophical appeal only when paired with T5. The alternative would be to individuate universals, at least partially, via *quiddities*. Yet, as we have seen in the second part of Chapter 2, *quiddities* are most usefully paired with intrinsic properties. If the identity of *Blueness* is fixed by a *quiddity*, *Blueness* seems to be an intrinsic universal. It would be, indeed, lonely of accompaniment, since the existence of the *quiddity* of *Blueness* does not depend on anything that is not *Blueness* itself.

I will, however, distinguish T5 from the following thesis:

I: *A universal is individuated by the relations of ontological dependence it entertains with other universals.*

That is, when it comes to universals, I will distinguish between individuation and identity. The former is given in a plurality of ways, as we have seen in Chapter 3: through spatio-temporal relations, through phenomenal experience, through some relations of ontological dependence. The latter, instead, is fixed by relations of ontological dependence.

The chapter is thus divided. In §5.1 I will define the various relations of ontological dependence, thus providing a rationale for T4. In §5.2., then, I will defend T5 by arguing that properties are identified through their nomic role and not through *quiddities*.

## §5.2 Existential Dependence

Thus far we learned how to express the existence of one or more universals within the *Adverbial Theory*. We should, now, move on to express ontological relations among universals. The only type of relations that I envisage for my theory are dependence relations among universals. An example is the relation between *Being a cherry tree* and *Being oxygen*. The basic relation, in terms of which I propose to define more complex relations, is existential dependence. I will, at first, offer a brief informal characterization of the way in which such relation can be employed to express more complex ones. Afterwards, I will introduce the relation, and its derivative relations, within the *Adverbial Theory*.

Famously investigated at the end of nineteenth century by Edmund Husserl, existential dependence has since then been object of a few close studies. One of the most relevant questions, for our present purposes, is whether existential dependence is adequately characterized by expressing the existential link between the two *relata* by means of a necessity operator (understood as usual in a system of modal logic, that is, as expressing the truth of the proposition upon which it operates in every possible

world).<sup>202</sup> Two of the most recent studies devoted to this question – authored, respectively, by Kit Fine and Fabrice Correia – suggest a negative answer. An analysis of existential dependence in terms of the necessity operator (the "modal-existential approach" as Fabrice Correia calls it) is not adequate, because existential dependence has, sometimes, a direction, which the modal-existential approach cannot capture.

A typical example adduced to illustrate the directionality of existential dependence is the dependence between a singleton (a set with only one member) and its sole member. The singleton depends on its sole member for its existence, in a way that its sole member does not. Socrates and its singleton are either both existent or both non-existent; yet, the way they depend on each other is asymmetric. Socrates is *more fundamental* than its singleton – argue Fine and Correia – because you can identify Socrates without identifying its singleton, but not *vice versa*. Yet, such difference – Fine and Correia allege – cannot be captured within the modal-existential approach. To them, the solution lies in adding a new operator, expressing either the *essence* (Lowe and Fine) or the *ontological foundation* (Correia) of an entity. Hence, the asymmetry is cashed out by saying that: the singleton is not part of Socrates's essence, while

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<sup>202</sup> For an introduction to modal logic, see (Chellas, 1980); for an illustration of the position in question, which goes by the name of "modal-existential approach", see (Simons, 1987).

Socrates is part of the singleton's essence; or, alternatively, that: the singleton is ontologically founded in Socrates, but not *vice versa*.<sup>203</sup>

Now, I believe that the language I have provided thus far, equipped with modal operators, will be enough to express existential dependence within the *Adverbial Theory*. I also believe that, in order to give a metaphysically neutral analysis of dependence, the modal-existential approach is not fine-grained enough. The present work is not metaphysically neutral, however; and, in the ontology I am discussing, there are no singletons, or other entities that can raise problems for the modal-existential approach analogous to the one illustrated above. But, even if this would turn out to be incorrect, or of one would want to expand the ontology by adding – for example – singletons, the characterization of existential dependence I will provide will not be lost. Indeed, it will be translatable into Lowe's "essentialist approach," or Fine's "essentialist-existential approach," or Correia's "foundational approach."<sup>204</sup> This is because all of them are (logically speaking) "stronger" than the modal-existentialist approach. For these reasons, here I will stick to a simpler, more conservative definition of existential dependence.

Before proceeding, let me add that the essentialist, essentialist-existential, and foundational approaches share, at least partially, my view on the tie between identity

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<sup>203</sup> See (Lowe, 1994), (Lowe, 1998), (Fine, 1994), (Fine, 1995a), (Fine, 1995b), (Fine, 1995c) and (Correia, 2005).

<sup>204</sup> The labels, again, follow those employed throughout (Correia, 2005).

and dependence of an entity. We all believe that the entities  $Y$ , from which a given entity  $x$  depends, somewhat (that is: *at least partially*) define  $x$ 's identity. As explained more above, the view I will defend is that the totality of the entities  $Y$ , upon which an entity  $x$  depends for its existence, or which depends on  $x$  for their existence, define the identity of  $x$ ; there are no two universals which have the same "dependentees" and dependents. Although I shall not argue for this until §5.2, I will stress that this point is shared also by the main accounts of existential dependence that have been offered.

### §5.2.1 *Modal Modifiers*

First of all, in order to introduce dependence relations, let us expand the language of the theory with the two sentential modifiers expressing modalities,

□: which reads as "it is necessary that."

◇: which reads as "it is possible that."

The metaphysical, and ontological, imports of expressions such as "it is necessary that" and "it is possible that" is a controversial matter, and a thorough discussion of it eludes from the scope of the present work.<sup>205</sup> The *Adverbial Theory* does not commit to one specific conception of the metaphysics of modality; and neither does it leave

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<sup>205</sup> For an introduction to the main issues in the metaphysics of modality, see (Loux, 1998, Ch.5), (Divers, 2002), and (Melia, 2003).

open all possible conceptions. Modal realism, for example, with its commitment to the existence of concrete spatio-temporal manifolds, is not an option. And, it is not an option any metaphysics of modality that commits to the existence of particulars of one sort or another. As I see it, there are two options available. One, which is developed in connection to a theory of possibility which I defended elsewhere,<sup>206</sup> the other which develops along the lines of a more orthodox theory, which treats modalities extensionally. Let us see both of them, starting from the latter.

#### §5.2.1.1 *The Adverbial Theory and Extensional Modalities*

Thus far, the model of the adverbial theory contained only one spatio-temporal manifold. But, really, there could be infinitely many, as infinitely many are the spatio-temporal structures that one can come up with. Let us, then, suppose to modify our semantics to accommodate the conjecture of their being infinite spatio-temporal structures. The model-system is a class of models  $\mathcal{S}$ , such that:

$$\mathcal{S}: \{M_i: i \in I\}.$$

Each model  $M$  will still be a sextuple:

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<sup>206</sup> See (Borghini and Williams, 200+).

$$\mathbf{M} = \langle \mathbf{U}, \mathbf{R}, \mathbf{l}, \mathbf{f}, \mathbf{d}, \mathbf{s} \rangle,$$

where  $\mathbf{l}, \mathbf{f}, \mathbf{d}, \mathbf{s}$  are defined as in the model given in Chapter 4. This time, however, we will have different models, differing in their  $\mathbf{R}$  (the spatio-temporal structure) and, perhaps, in their  $\mathbf{U}$ . I say "perhaps" since to accept that there are models which differ from our own in the domain of universals means to accept that there are worlds/realities which differ from ours. Needless to say, one would need to make sense of them, if she were to accept them; but I am not going to pursue this issue further.

The truth-conditions for a sentence involving the modifiers  $\square$  and  $\diamond$  are, then, as follows:

V. If  $\phi$  is a sentence of the form ' $\square\psi$ ':

$$\text{for all } M, \models_M^S \square\psi \text{ iff } \models_M^S \psi, \text{ for all } M'$$

VI. If  $\phi$  is a sentence of the form ' $\diamond\phi_1$ ':

$$\text{for all } M, \models_M^S \diamond\psi \text{ iff } \models_M^S \psi, \text{ for some } M'$$

Instead of introducing a model-system  $\mathbf{S}$ , of course, one could refine the basic model  $\mathbf{M}$  given in Chapter 4, by replacing the spatio-temporal manifold  $\mathbf{R}$  with a class  $\mathbf{R}$  of spatio-temporal manifolds. It is important to notice the opportunity of this

choice, as some might place a specific ontological burden on the use of a model-system *vis-à-vis* the use of a class of spatio-temporal manifolds. The latter solution, however, would relativize all definitions give in Chapter 4 to an  $R_i \in \mathbf{R}$ , and for the sake of having a more simple exposition, I prefer to use the model-system above.

§5.2.1.2 *The Adverbial Theory and the Dispositional Theory of Possibility*

Although most might be content with the account just given, I endorse a different account of possibility, which I call the *Dispositional Theory of Possibility*. According to it, roughly:

(P): State of affairs  $S$  is possible iff there is some actual disposition  $d$ , the manifestation of which is (or includes)  $S$ .<sup>207</sup>

Now, the *Adverbial Theory of Properties* is not necessarily tied to the *Dispositional Theory*. You could treat modalities extensionally or you could take them to express dispositions. If you opt for the latter, the sentence:

(1) Region  $s$  could be blue at  $t$ ,

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<sup>207</sup> For a thorough exposition of the account, see (Borghini and Williams, 200+). For a discussion of dispositions, see (Armstrong, Martins, and Place, 1996), (Mumford, 1998), (Molnar, 2003), and (Pargetter and Prior, 1982).

would be interpreted as:

(2) Region  $s$  has the disposition to be blue at  $t$ .

Since dispositions are a kind of properties, within the *Adverbial Theory* they will be treated as a kind of universals. Not to enter into a discussion which would go beyond our present interests, let's grant that there is an explanation of the kind of universals dispositions are, and of the reasons for believing that such kind does indeed exist.<sup>208</sup> (2) would, thus, be interpreted in the *Adverbial Theory* as follows:

(3)  $\Delta_{r1}(\hat{D}_B)$ ,

where "r1" stands for the region  $s$ - $t$ , and " $\hat{D}_B$ " stands for something like "The disposition to be blue."

More generally, supplementing the *Adverbial Theory* with the *Dispositional Theory of Possibility*, yields the following. A sentence of the form:

(4)  $\diamond (\hat{B})$ ,

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<sup>208</sup> See, again, (Borghini and Williams, 200+).

is interpreted as:

$$(5) \hat{D}_B.$$

And an expression such as:

$$(6) \diamond \Delta_{r1}(\hat{B}),$$

is interpreted as:

$$(7) \Delta_{r1}(\hat{D}_B).$$

More generally, a sentence of the form:

$$(8) \diamond \phi,$$

where " $\phi$ " stands for an arbitrary sentence, will be interpreted as:

$$(9) \hat{D}_\phi.$$

Sentences expressing necessity will be expressed via possibility. Thus, a sentence of the form:

$$(10) \quad \Box \phi,$$

is interpreted as:

$$(11) \quad \neg \hat{D}_{\neg\phi}.^{209}$$

By a minimal revision of the model at hand, the *Dispositional Theory*, thus, provides the *Adverbial Theory* with the means of expressing our modal talk. In fact, all that we have to do in order to accommodate the new request is to enlarge our domain of universals  $D$ , so to include dispositions.

The truth conditions for the two modal modifiers are, hence, as follows:

VII. If  $\phi$  is a sentence of the form ' $\Box\psi$ ':

$$\models_M \Box\psi \text{ iff there is a } D \in \mathbf{U} \text{ such that } \models_M \neg \hat{D}_{\neg\psi}$$

VIII. If  $\phi$  is a sentence of the form ' $\Diamond\psi$ ':

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<sup>209</sup> Things are actually a bit more complicated in some cases. For a more thorough discussion of the issue, see (Borghini and Williams, 200+).

$$\models_M \Diamond \psi \text{ iff there is a } D \in U \text{ such that } \models_M \hat{D} \psi.$$

*Inferential Patterns for Modal Modifiers*

No matter which interpretation you will give to the modal modifiers, the following inferential patterns will apply to them (" $\phi$ " and " $\psi$ " stand for any sentence of the language  $L$ ):

$$(viii) \quad \Box \Delta_n(\phi) \equiv \Delta_n \Box(\phi),$$

$$(ix) \quad \Diamond \Delta_n(\phi) \equiv \Delta_n \Diamond(\phi),$$

$$(x) \quad \Box (\psi \rightarrow \phi) \rightarrow (\Box \psi \rightarrow \Box \phi)$$

$$(xi) \quad \Box \phi \rightarrow \phi$$

$$(xii) \quad \Box (\phi) \equiv \neg \Diamond \neg \phi$$

§5.2.2 *Dependence*

Equipped with modal modifiers, we can now move on to express existential dependence among universals within the *Adverbial Theory*. Now, I believe that there are four types of fundamental relations among universals. All of them are similar in that each involves the spatio-temporal adverb. Hence, all of them express relationships given only within a spatio-temporal structure  $R$ . They differ, instead, in the topological constraints they pose on the adverbs.

Most scientific laws and, more generally, most of our characterization of worldly phenomena, is given in terms of connections which are local: they take place within certain kind of topological constraints. As a matter of fact, we are better off to introduce an *ad hoc* conceptual tool to express them. Consider the stock of the specific partitions of the spatio-temporal manifold  $R$ . Let us add to the language of the theory the following symbol: " **$\Delta$** " (which differs from the adverbs of the theory just in its being in bold character). Each partition is an ordered n-ple of regions that can be defined as follows:

$$\Delta_N: \{r_1, r_2, r_3, \dots\}$$

For instance,  $\Delta_1$  will partition  $R$  in regions of square cube size and one second length;  $\Delta_2$  will partition  $R$  in regions of square cube size and two second length; and so on.

One could, hence, refer to a member of a partition, without having to individuate it, by expressions of the following form:

$$\Delta_{R_{n \in 1}}$$

which refers to the  $n^{\text{th}}$  member of partition 1 of the spatio-temporal manifold  $R$ .

With the conceptual resource of partitions at hand, we can now define the relations of interest to us. The first dependence relation is *supervenience*, which obtains when the two parties in the dependence relation are co-located:

$$(12) \quad \Box(\neg\Delta_{Rn \in n} \hat{B} \vee \Delta_{Rn \in n} \hat{G}),$$

where " $\Delta_{Rn \in n}$ " refers to the  $n^{\text{th}}$  member of partition  $\mathbf{n}$ .

The second dependence relation is *Local Dependence*:

$$(13) \quad \Box(\neg\Delta_{Rn \in 1} \hat{B} \vee \Delta_{Rn \in 2} \hat{G}),$$

where " $\Delta_{Rn \in 1}$ " and " $\Delta_{Rn \in 2}$ " respectively refer to the  $n^{\text{th}}$  members of partitions  $\mathbf{n}$  and  $\mathbf{m}$ . Of course the partitions will have to be suitably chosen so that, members which figure at the same  $n^{\text{th}}$  position within a partition, will be regions which share the time but whose places are distinct; the particular topological relation between distinct places being dependent on the specific dependence relation at hand.

The third relation is *Temporal Dependence*:

$$(14) \quad \Box(\neg\Delta_{Rn \in n} \hat{B} \vee \Delta_{Rn \in m} \hat{G}),$$

where  $\mathbf{n}$  and  $\mathbf{m}$  stand respectively for any ordered partitions such that they share the same places, but different time.

Finally, the fourth relation is *Local and Temporal Dependence*:

$$(15) \quad \Box(\neg\Delta_{R\mathbf{n}\in\mathbf{n}}\hat{B} \vee \Delta_{R\mathbf{n}\in\mathbf{m}}\hat{G}),$$

where  $\mathbf{n}$  and  $\mathbf{m}$  stand respectively for any ordered partitions such that they differ both in time and place.

Note that, in order for (15) to capture the intended meaning of a causal relation, certain restrictions on implications among adverbially quantified sentences should be appropriately built. Thus, I accept that:

$$(16) \quad \neg\Delta_{r_1}\hat{B} \vee \Delta_{r_2}\hat{G},$$

if  $r_1 \leq r_2$ . But I reject that:

$$(17) \quad \vee\Delta_{r_1}\hat{B} \vee \Delta_{r_2}\hat{G},$$

if  $r_1 \geq r_2$ .

Finally, there might be a dependence relation among a spatio-temporally conceived universal, and one which is not so conceived. Although abstract universals (that is, those universals which are not spatio-temporally conceived) are not part of this study, it might be significant to know that the *Adverbial Theory* could be adapted so to treat them. So, suppose you want to express the dependence relation between *Being a brain* (expressed in  $L$  as " $\hat{B}$ ") and *Being a mind* (expressed in  $L$  as " $\hat{M}$ "). One, less refined, way to do so would be to treat universals which are not spatio-temporally conceived as universals which exist without any adverbial qualification:

$$(18) \quad \square (\neg \Delta_{R_{\mathbf{n}} \in \mathbf{n}} \hat{B} \vee \hat{M}),$$

where  $\mathbf{n}$  stands for an ordered partition.

On the other hand, (18) might be liable of being unable to discriminate among abstract entities. As some concrete universals are determinable in other respects beyond the spatio-temporal ones, abstract universals could also be determinable under different respects. You could believe that minds and meanings, for example, are determined under different respects. Minds are determined under the logical space of beliefs; meanings under languages. So, consider again (18). We could now refine it by specifying a certain adverbial modification of  $\hat{M}$  – represented by " $\Lambda$ ". " $\Lambda$ " is a

modification specifying the beliefs entailed by the spatio-temporal location of the brain expressed by the antecedent " $\Delta_{Rn \in n} \hat{B}$ ". We could, thus, replace (18) with:

$$(19) \quad \square (\neg \Delta_{Rn \in n} \hat{B} \vee \Lambda_n \hat{M}).$$

Each of the four (five, if you consider also the latter) types of relations would deserve a close study on its own. This is a discussion that, however, I leave for future research, as it would take us too far into topics that have not yet been touched upon in this work. What is relevant is that the relations in question can be expressed within the *Adverbial Theory* and, thus, they can be incorporated into the *Radical Universalist* ontology I am proposing .

Equipped with the four kinds of relations of ontological dependence among universals, it is now possible to capture thesis T4, "Every universal is extrinsic," within the *Adverbial Theory*. The thesis is saying that every universal is related to at least another universal through at least one of the four relations of ontological dependence. The next step will be to discuss T5, the thesis according to which the relations of ontological dependence in which a universal is involved define its identity.

### §5.3 On the Identity of Properties

As anticipated in the Introduction, in this work I am not taking a stance regarding the question of which universals exist. For this reason, I am also not taking a stance regarding the question of how to single out a universal. As I discussed in Chapter 3, there are a few options at hand for a supporter of universals. But, to express a preference regarding how to single out a universal, would amount to expressing a preference towards which type of knowledge guides us in gaining knowledge about reality: common sense, scientific, sensorial, and so on. Thus, once we would know how to single out a universal, we would also have a method in place for answering the question of which universals exist. But, this is what I want to avoid; thus, I should avoid also answering the question regarding how to single out universals.

One might protest, at this point, that I am avoiding the question that I regarded as key in rebutting an ontology based on individuals. This is not so, for the following reason. As I argued in Chapter 1, the problem of singling out individuals start from recognizing that we single out individuals out the basis of the properties at hand. Without taking a stance on which properties exist and what their nature is, I then investigated the criteria on offer for singling out individuals from the properties at hand, and concluded that none is plausible. It was a methodological issue concerning the singling out of individuals that I discussed, not any specific answer to the question of which individuals exist. On the other hand, as I illustrated in Chapter

3, there are a few ways to single out universals that do not appeal to the individuals at hand. In other words, you can single out universals without appealing to individuals; yet, to single out individuals you have to appeal to universals. Now, you might be unsatisfied with my discussion of this thesis, which is confined to what I argued in Chapter 1 and Chapter 3. And, I recognize (as I did in Chapter 3) that a more thorough argument in its favor is in order, one that would enter into the specifics of the epistemological issues involved. But, such argument requires an inquiry on its own, which I cannot provide here.

There is a relevant question, however, that one can address without having to skew the discussion of which universals exist. It is the question concerning the identity of a universal, or: what is it about a universal that makes it *that* universal, and not another one? To answer this question, it is not necessary to specify the means through which we can come to know which universals do exist.

To this question there are, mainly, two replies and, by now, we are familiar with both. According to the first one, a universal is identified through the way in which it affects and is affected by other universals. Here, I am interpreting "affects and is affected" as synonym of "enters into relations of existential dependence," any one of the relations specified in the previous section. The first reply is, in other words, thesis T5:

T5: *A universal is identified by its nomic role, that is by the relations of ontological dependence it entertains with other universals.*

The second reply is *Quidditism*, the doctrine introduced in the second part of Chapter 2, where I showed that it is closely tied to the thesis that there are intrinsic properties. More precisely, if you believe that there are intrinsic properties, you should also believe that their identity is fixed by their *quiddities*, since an intrinsic property is one that does not enter into any sort of existential dependence with other property.

Now, even though I reject commitment to intrinsic properties, this is not enough to reject commitment to *Quidditism*. As I explained in Chapter 3, however, *quiddities* are obscure entities. If possible, I would prefer to do without them. Is there any reason why we should include *quiddities* in our ontology? Jonathan Shaffer has recently put forward an argument to the effect that, if we reject *quiddities*, we reject the possibility of knowing external truths.<sup>210</sup> I believe that this argument is incorrect, and, in the following, I am going to present the argument and the reasons why I think it is incorrect. Before doing that, however, a few more words are in place regarding T5.

Since T5 is incompatible with the thesis that there are intrinsic properties – and, hence, intrinsic universals – T5 entails that all universals are extrinsic. Indeed, each universal is tied to some other via one of the four relations of existential

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<sup>210</sup> See (Shaffer, 2005).

dependence presented in the previous section. The *Radical Universalist* ontology I am advocating for could, consequently, be labeled *Extrinsic Universalism*. (In the sequel, I shall refer to it by this name.) Now, because I am not going to investigate which universals exist, I am also not going to investigate which specific relations of existential dependence take place among which specific universals. For this reason, I will limit myself to explain why *Quidditism* is not *required*. This will help clarify also T5; but, I shall not pursue further any exemplification of T5.

### §5.3.1 Quidditism and Realism

#### §5.3.1.1 Preliminaries

Rudolf Carnap distinguished between two types of description of a very same fact or entity: *state description* and *structure description*.<sup>211</sup> Let **L** be a language with an infinite denumerable stock of names (*a, b, c, d...*) and predicates (*P, Q, B,...*) A *state description* of a fact **F** is a complete description of **F**, that is, an assignment to any individual *a* involved in **F** of all properties *a* instantiates in **F**.<sup>212</sup> A *structure description* of **F** is an equivalence class of state descriptions of **F**.

In the present perspective, two kinds of structure descriptions are particularly interesting:

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<sup>211</sup> Cfr. (Carnap, 1947), (Lewis, 200+), (Leuenberger, 200+).

<sup>212</sup> In this section, I will not distinguish between types of properties (for example, universals or tropes). The discussion, clearly, will apply to universals too.

*Haccetistic Structure:* An equivalence class of state descriptions of  $\mathbf{F}$ , containing all possible permutations of all individuals involved in  $\mathbf{F}$  that constitute a state description.

*Quiddistic Structures:* An equivalence class of state descriptions of  $\mathbf{F}$ , containing all possible permutations of all properties involved in  $\mathbf{F}$  that constitute a state description.

Consider now the following definitions:

*Appearance of fact  $\mathbf{F}$ :* The class of state descriptions of  $\mathbf{F}$  that an observer  $\mathbf{O}$  can entertain, that is, state descriptions such  $\mathbf{O}$  has (in principle) the means to individuate and identify its individuals and properties.

*External Truth concerning  $\mathbf{F}$ :* The class of state descriptions of  $\mathbf{F}$  which does not depend on the entertaining abilities of any observer  $\mathbf{O}$ .

*Nomic Structure:* Another name for *Quiddistic Structure*.

*Causal Power:* Function from a set of properties to a property. The function is supposed to spell out an aspect (contingent or necessary) of a property. (The set of properties might not be unique, but we can ignore this difficulty for present purposes.)

Thesis T5 is in direct opposition to the existence of *quiddistic* structures; basically, T5 states that there are no *quiddistic* structures, or, that universals are identified through their causal powers (which I represent through relations of ontological dependence among universals). *Quiddistic* structures, indeed, are compatible with the existence of distinct properties that have the same causal powers. In a *quiddistic* structure, in fact, the identity of a property – for example, *Being water* – is not given in terms of its causal powers. *Being water* might have, for example, the power to freeze at eighty-two degrees Celsius, or to poison human beings. *Being water* might come to have the causal powers of *Being wood*, while *Being wood* in turn would come to have the causal powers of *Being water*. The identity of a property in a *quiddistic* structure is given by a *quiddity* belonging to a property, the *quiddity* being a non-qualitative (non-manifestable through causal powers) feature of the property, which makes it what it is. Since T5 has it that the identity of a universal is given by the relations of ontological dependence in which the universal is embedded, T5 cannot accept the existence of *quiddistic* structures.

Recently, a remarkable argument has been given, by Jonathan Shaffer, to the extent that the rejection of *quiddistic* structures amounts to the rejection of the possibility of knowing external truths. This argument, if correct, constitutes a reason

to include *quiddities* into one's ontology, and to reject T5. For this reason, I shall discuss it in the sequel.

### §5.3.1.2 *Two Skeptical Arguments*

Consider now the following two arguments:

- (S1) If there is a world  $w$  that matches @ (the actual world) with respect to nomic structure, but not with respect to which property has which causal powers, then we cannot distinguish between @ and  $w$ .
- (S2) If there is a world  $w$  that matches @ with respect to appearances, but not with respect to external truths, then we cannot discriminate between @ and  $w$ .

Jonathan Shaffer has argued that S1 and S2 are parallel arguments:<sup>213</sup>

- (i) *Quiddistic* skepticism is just a species of skepticism about the external world; and (ii) whatever answer one offers to skepticism about the external world will thereby answer quiddistic skepticism.

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<sup>213</sup> See (Shaffer, 2005).

In other words, if you advance reasons for doubting that any fact *F* concerning the existence of some *quiddity* is entertainable, you thereby doubt that any fact *F* concerning the existence of the external world is entertainable.

For Shaffer, S1 and S2 both have three spill-over objections:

*Semantic Objection:* (For S1) If there are properties which are not entertainable, they do not fall within the scope of the expression "property" as we use it. (For S2) If there are conditions under which the whole external world might be which are not entertainable, they do not fall within the scope of the expression "external world" as we use it.

*Scientific Objection:* (For S1) If there are properties which are not entertainable, they do not fall within the scope of our scientific enquiries. (For S2) If there are conditions under which the whole external world might be which are not entertainable, they do not fall within the scope of our scientific enterprise. Scientific explanations function equally well when thought of as being about appearances.

*Methodological Objection:* (For S1) To pose an armchair distinction to the effect that there are properties which are not entertainable serves no purpose. (For S2) To pose an armchair distinction to the effect that the whole external world might be not entertainable serves no purpose.

### §5.3.1.3 *Relations Between the Arguments*

Shaffer, however, does not provide a sufficient reason for securing the analogy between S1 and S2. Is it really the case that, if you are skeptical about *quiddities*, you are thereby skeptical also about the existence of the external world? How is it possible that denying the existence of one kind of entities entails the denial of the existence of all kinds of entities?

Now, the reasons of the entailment cannot lie within the logical structure of S1 and S2. Even though the structure is the same, and the arguments are both logically valid, there is no logical entailment from S1 to S2. If one accepts S1 as sound, that does not entail that S2 is also sound.

Thus, if S1 entails S2, it has to be in virtue of the propositions expressed by the steps in S1 and S2. Which component of the propositions? It cannot be the entities embedded in such propositions. In fact, doubts about the existence of one kind of entity cannot entail doubts about the existence of another kind, unless the two

kinds are shown to be existentially dependent on one another. Yet, none of the party involved in the debate over *quiddities* ever claimed that the existence of all kinds of entities depends on the existence of *quiddities*; and Shaffer does not advance such an argument either.

The third (and last, as far as I can think) option is that the entailment is at the level of verification of the propositions expressed by the steps in S1 and S2. In particular, at the level of the operations involved in verifying the existence of the kinds of entities of which S1 and S2 are about. This seems a plausible interpretation. The entailment might rest on the fact that, whatever method you use for verifying the existence of *quiddities*, you also use the very same method for verifying the existence of the external world (that is, the existence of any category of entity whatsoever). So, if you doubt the method in the case of *quiddities*, you thereby doubt the method also in the case of the external world.

This is certainly an interesting thesis. But, is it true? Why is it wrong to think that *quiddities* are not entertainable, while the existence of the external world is? Why is it wrong to think that the methods for verifying the existence of *quiddities* are different from those of verifying the existence of the external world, that is, the existence of any category of entity whatsoever? To answer these questions we should look into the ways in which *quiddities* are known, and compare this result with knowledge of other types of entities.

*Contingetists* (as Shaffer calls them) are those who need to argue for the existence of *quiddities*. In fact, they maintain that the relation between properties and their causal powers is contingent. *Contingetists* maintain that *quiddities* lie aside from the causal powers of the properties they identify. A property  $P$  has quiddity  $Q$ ; and it would have  $Q$  no matter which causal powers are associated with  $P$ . Suppose that  $C_1$  and  $C_2$  are two distinct and mutually exclusive causal powers. A *contingetist* will maintain that  $P$  is identified by  $Q$ , and for this reason  $P$  could have  $C_1$  and  $C_2$  at different times or in different scenarios. Thus, knowledge of  $Q$  and  $P$  is independent of causal powers. Now, among the causal powers of  $P$ , there will be the power of producing a certain mental representation of  $P$  within, say, George Bush. And, along the same lines there will be a causal power for any other knowing agent. Thus, knowledge of  $Q$  cannot come through the senses, since this knowledge is causal.<sup>214</sup> Knowledge of  $Q$ , then, will have to be epiphenomenal.

With this result in place, we can now raise two objections to the argument that S1 entails S2. *First objection*. Presumably, it is not our goal to assess whether there can really be epiphenomenal knowledge. The issue here is whether this knowledge is verified in the same way as phenomenal knowledge. Now, in order to test a phenomenal belief, you will produce experiments in the facts of which you want to have knowledge, by changing the structures of causal powers at play. Yet, you do not

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<sup>214</sup> On this see also (Shoemaker, 1980) and (Robinson, 1993).

do the same in the case of epiphenomenal knowledge. The two types of knowledge are wholly separate. Hence, if you are skeptical about the latter, you need not be skeptical about the former (and, indeed, most – if not all – of those who are skeptical about the latter, aren't skeptical about the former).

*Second objection.* To conclude from the skepticism about one specific entity to the skepticism about any kind of entity seems to trespass the fact that we might have metaphysical reasons for accepting the former into our ontology, while rejecting the other. Sometimes the reasons for accepting or not something into the ontology are related to the specific properties of the entities at hand, not to the way in which we come to believe that they exist. For example, you might be skeptical that there are holes, not because you doubt of the way you came to know them, but because you doubt that there is anything having the metaphysical features of holes. These are genuinely metaphysical issues – one could say – whose evaluation rests on metaphysical considerations only.

In the case of *quiddities*, it seems that, besides any skepticism related to the method of verification, skepticism about the specific metaphysical features of *quiddities* is also at play. Not only it is suspicious that there is epiphenomenal knowledge. It is also suspicious that there are these entities, which sit there doing no work in letting the world exist, if not square nicely within a certain conception of properties. Thus, one could be skeptical about the existence of *quiddities* without being skeptical about

the method of verification of their existence. Thus, one could be skeptical about the existence of *quiddities* without being skeptical about the existence of the reality of the external world.

In *lieu* of those two arguments, I conclude that skepticism about *Quidditism* does not entail skepticism about the reality of the external world. There is no incoherence in believing that we can gain knowledge of the external world, while believing that we cannot gain knowledge about *quiddities*. And, that is what I believe.

## §5.4 Conclusions

In this chapter, I illustrated the fundamental relations of ontological dependence among universals, and I argued that they fix the identity of a universal. Those results fix the metaphysical view I am presenting. Still, many doubts can be raised at the level of predication. In Chapter 4, indeed, I analyzed only very simple sentences, such as "There is a blue region here and now." But, what about more complex sentences, such as "John and Bill are two miles apart?" It will be the goal of the next, final chapter to show that those statements can be accommodated as well.

## CHAPTER 6 Individuals Away

### §6.1 Introduction

In Chapter 4, I offered the basic formal apparatus of the *Adverbial Theory*, and I used it to provide a *Radical Universalist* interpretation of existential statements such as:

- (1) There is a cherry tree there now.

In Chapter 5, I refined the *Theory*, in order to express relations of existential dependence among universals, thus supporting *Extrinsic Universalism* (the thesis that the sole denizens of reality are extrinsic universals.) But, to what extent existential statements and relations of existential dependence can express the complex situations that one might want to attribute to reality? The existential statements characteristic of the *Adverbial Theory* seem of a particularly simplistic kind. They assert the existence of a property, adverbially modified in different ways. A plethora of remarkable philosophers regarded this type of statements as proto-thoughts, primitive forms of expression, like the ones used by a child when she first develops a language – for

example, "Blue there now," "Cold here before."<sup>215</sup> Besides asserting the existence of a cherry tree, for example, we might want to qualify it, as in:

(2) The cherry tree grew five inches over the last year,

or, we might want compare the cherry tree to other entities:

(3) The cherry tree is more beautiful than the peach tree in your backyard.

Certainly, the expressive power of natural language seems goes well beyond the information conveyed in existential statements and relations of existential dependence. And, even supposing that natural language is unnecessarily complicated for ontological purposes, it is unlikely that the language of the *Adverbial Theory* I provided thus far is sufficient for expressing an *Extrinsic Universalist* ontology. Is the *Adverbial Theory*, and thus the *Extrinsic Universalism* that I am advocating, just a project for those who have a "taste for exercising ingenuity," as Strawson judged it in *Individuals*?<sup>216</sup>

To address such a challenge, in this chapter I will round my theory by discussing the proper accusations of the various authors (such as Strawson, Quine,

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<sup>215</sup> See (Quine, 1958) and (Dummett, 1991).

<sup>216</sup> (Strawson, 1959: 221).

Dummett) to the effect that metaphysics and ontology cannot do without individuals. I will contend that universals suffice. Even when it comes to explain *numbering the world* – the fact, illustrated in the Introduction, that whenever we make an assertion about the world, we are involved in a counting of some sort – individuals are not necessary. After offering what I regard as the two chief reasons for believing that individuals are necessary for expressing an ontology, I will defend my view in two ways. I will first put forward a defensive strategy, analogous to one adopted by some *Nominalists* such as Sellars, according to which there is no need to explain the apparent commitment to individuals in language. Secondly, for those who rest unsatisfied with the first strategy (and I tend to be one of them), I will put forward an alternative explanation of the apparent commitment to individuals. I will consider the problematic linguistic entities, namely certain singular terms (such as proper names) and I will give an interpretation of them which is compatible with *Extrinsic Universalism*;<sup>217</sup> then I will provide an analysis of several typical kinds of predications, showing that they can be interpreted as ultimately referring to universals. I will conclude by rebutting one last objection to *Extrinsic Universalism*.

In *lieu* of the results of this chapter, we will thus be able to offer an analysis of the two sample sentences exposed in the fourth section of the Introduction. As we shall see, a sentence such as:

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<sup>217</sup> The interpretation is compatible also with *Radical Universalism*, although I shall speak only of the theory I defend, *Extrinsic Universalism*.

(4) Fido is a dog,

is interpreted as:

(5) *Being a dog* is part of the cluster of universals named "Fido,"

the idea being that some singular terms do not refer to a specific universal, but to a cluster of universals, a cluster that can change over time. On the other hand, a sentence such as:

(6) There are  $n$  dogs,

is interpreted as:

(7) There exist *Being a dog* such that it  $x_i$ -ses for each  $i$  (where  $x_1$ -sing, ...,  $x_n$ -sing are pairwise distinct regions in the spatio-temporal manifold),

the idea being that quantificational expressions can be interpreted as referring to the activity of properties. With the analysis of these sentences I will end my presentation

of *Extrinsic Universalism*. In the Conclusions, I shall outline a handful of issues that this metaphysical view raises.

## §6.2 Individuals Away I: Nominalism vs Radical Universalism on Predication

### §6.2.1 Two Routes to Individuals

In Part I, I assumed that there are individuals, and discussed the criteria for singling them out. I did not investigate, however, the reasons for believing that individuals are necessary denizens of reality. Before proceeding to argue that properties do suffice for expressing an ontology, we should, then, consider the reasons for thinking that individuals are necessary. These reasons will be shared by the *Mild Nominalist* as well as the *Nominalist*, as they were portrayed in Chapter 3. (For the sake of conciseness, in the sequel I will simply use the expression "*Nominalism*," intending with this both *Mild Nominalism* and *Nominalism*.)

Over centuries of debating this question, many arguments in favor of the existence of individuals have been put forward, moving from a wide range of terrains: logical, linguistic, epistemic, metaphysical, scientific, or religious. I cannot provide a full analysis of them here. I will, instead, concentrate on those arguments which I regard as most compelling. In my view, there are two of them: one moves from experience, the other from a very old theoretical interpretation of our language. I

believe that both can be resisted, although it should be clear since now that I won't be able to thoroughly analyze part of the first argument, concerned with the claim that the term "I," when applied to reality, entails the existence of individuals. I shall expand on this in the Conclusions. Let us examine the two arguments in order.

#### §6.2.1.1 *From Experience to Individuals*

Individuals are, by definition, non-repeatable entities, and there are two traits of our experience in which the uniqueness typical of non-repeatability can be devised and attributed to individuals. The first trait relates to the content of experience. Look at this red book now in front of you. Now look at that other identical copy of the book over there. Whilst they are exact copies of the same book, each of them is unique: you have *this* and *that* copy. Such uniqueness cannot be explained in terms of properties – argues the *Particularist*. We need some ultimate non-repeatable entities in order to account for the distinction. Those entities are distinct from the properties which are predicated of them; in fact, even if the properties of the two books were exactly the same, they would still be two distinct entities. Thus, those entities are distinct by any qualitative character of the world. Individuals, hence, seem to be the best candidate to fulfill the role of those entities. They are non-repeatable and, unlike tropes, they lack qualitative character. In conclusion:

(UE) *In order to explain the uniqueness of the content of some experiences, we need to postulate the existence of individuals.*

The *Nominalist* could even make her example trickier. Suppose that space-time is symmetric, and that the world under consideration contains only two books: how can the *Extrinsic Universalist* tell them apart, if they are just properties?<sup>218</sup>

On the basis of the theory I exposed in the previous chapters, the argument of the *Nominalist* can be resisted by the *Extrinsic Universalist*, in two ways. One could argue that the uniqueness of the two books can be explained in terms of a difference in the conception of the very same entity: to be different are the spatial locations which – as I argued in Chapter 4 – are ways of thinking of properties. Alternatively, one could argue that spatial location is a feature of properties; in other words: the adverbs of the adverbial theory express different ways in which properties exist; the uniqueness of the two books can, now, be explained in terms of a difference of the ways in which the very same properties exist. As explained in Chapter 3, I tend to prefer the first reply. But, perhaps, also the second is a viable option.

The *Nominalist* will at this point turn to the first-person experience. If not the experience of each book, *my* experience is unique. It is *my* seeing of this book, not

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<sup>218</sup> This is an example similar to one raised in (Black, 1952). For a reply somewhat similar to the one I offer, see (Hawthorne, 1995). I will come back to this example at the end of the chapter.

*yours*, that we are discussing. In other words, the seeing we are talking about can take place only within *me*. And it is unique because its subject is unique. "I" picks out an entity through an intuition which is purely existential; the intuition is not mediated by any property, it is void of any qualitative aspect. The entity "I" picks out, then, is distinct from any qualitative feature.<sup>219</sup> The very source of any experiential content, thus, compels us to commit to the existence of individuals.

To this I reply – again – that the concept I have of myself is confused. The conviction that each of us is able to think of herself without the need of recurring to any qualitative experience, but simply by having a pure intuition of herself (that is, one which is void of any qualitative character), is a myth. You can think of yourself only via considering some properties, as it is shown by the fact that the first-person concept is one of the latest to be developed in children.

But, the issue is not so easy to solve. The *Nominalist* will naturally deny my response, insisting that she can have a pure intuition of herself. Perhaps I could try on her a different argument (see the Conclusions). But, a serious examination of the problem would require an entirely new study. For the moment, thus, I will leave the problem open. I shall consider it again in the Conclusions, when I will illustrate five open questions for *Extrinsic Universalism*.

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<sup>219</sup> This point is found at many points throughout the history of philosophy; a particularly neat expression of it is in (Descartes, 1998: "Meditation II").

Summing up, according to the *Nominalist*, our experience brings us to individuals in two ways: by its content and by its very source.

#### §6.2.1.2 *From Language to Individuals*

The second route to individuals is implicit in and, thus, only partially familiar to, the ordinary way we represent a domain. This is because it stems from a linguistic category: singular terms. Now, there are three categories of singular terms: (i) demonstratives; (ii) definite descriptions; (iii) proper names. The following sentences exemplify, in this order, each category:

- (8) This is good!
- (9) The man I met on the beach is wise,
- (10) John is Irish.

According to the interpretation that the *Particularist* will give of (8), (9), and (10), "This," "The man I met on the beach," and "John" all purport to pick out a particular. The *Particularist* will make appeal to the fact that (8), (9), and (10) are sentences with a subject-predicate structure. The subject – argues the *Particularist* – refers to an individual, which is qualified by the referent of the predicate. The subject does not have a qualitative aspect; the latter, is expressed by the predicate. For

example, in (8), "this" picks out an individual, a non-repeatable entity with no qualitative character; "is good," instead, qualifies the individual. If you are a *Mild Nominalist*, you will probably argue that "is good," if satisfied, picks out a qualitative entity, be it a trope or a universal. If, instead, you are a *Nominalist*, you will argue that (8) is true without there being any entity that "is good" picks out; as we shall see in the next section, this is quite tricky a result to obtain.

Now, what prompts us to believe that there are linguistic categories and, especially, that there is one filled by singular terms? Ramsey asked this question in 1925 in his paper "Universals," with the goal of deriving some ontological import from it.<sup>220</sup> The question has been more recently revived by Fraser MacBride in a series of papers.<sup>221</sup> Ramsey and MacBride argue that there is no asymmetry of roles in sentences such as (8), (9), and (10) between "This apple," "The man I met on the beach," "John," on the one hand, and the remaining expressions in each sentence, on the other. What is in a subject position can be in an object or predicate position. For example, compare (10) with:

(11) Ireland nurtured John

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<sup>220</sup> See (Ramsey, 1990).

<sup>221</sup> See (McBride, 1998a), (McBride, 1998b), (McBride, 1999), (McBride, 2004), and (McBride, 2005).

In (11) – one might argue – you have an inversion of the linguistic roles of the very same terms: "John" and "Ireland," and the same overall meaning is preserved. Yet, if linguistic roles can be exchanged, and if roles justify the assignment of a certain referent to one term, why thinking that one term refers to a certain category of entity, and the other to another category? Do terms change the category of entity they refer to when they change linguistic role? If so, how could they be the same terms?

The way out is to protest that the terms in (11) are not the same as the ones in (10).<sup>222</sup> "To be Irish" is not "Ireland": the former is a predicate, the latter a singular term. The former stands for a property, the latter for an individual. To this reason, others might be added, coming for example from modern Linguistics, in which the distinction between singular terms (nouns) and predicates (noun phrases) plays a central role. As I argued elsewhere,<sup>223</sup> I believe that these arguments are convincing enough. There are several ways in which we can draw a distinction between the two categories of entities in question. Looking closely, there is indeed a difference of roles in our language, which is reflected also in a difference of the terms employed in each role. Getting back to our topic, the question then becomes: What should follow from the existence of these two linguistic categories with respect to the ontology?

Grammatical, linguistic, and logical categories are, in fact, sometimes regarded as a guide to ontology. As we have seen in Chapter 2, there is a long tradition dating

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<sup>222</sup> On this, see, for example (Strawson, 1974) and (Keller, 200x).

<sup>223</sup> (Borghini 200+).

back at least to Aristotle's *Categories* advocating this view. However, I believe that this position has two major problems and, therefore, it should not be followed.

The first problem concerns the ontological conclusions that one can draw from the existence of logical concepts that are not language-specific. Consider concepts such as subject and predicate, existential quantifier, conjunction, and negation. At least one of those concepts is at play in every possible language. Moreover, they are useful in providing the logical form of a sentence, no matter in which language it is expressed. Thus, one could believe that they should find a correlative in the world.<sup>224</sup>

However, what can one infer from the existence of such categories at the ontological level? Suppose you have a sentence such as (10), and you agree that it is a subject-predicate sentence. As we have seen, this would not be enough to make a decision as to whether the sentence commits to the existence of an individual, a universal, or both. Certainly, it has a subject, and a predicate; but, which is the subject: "John" or "Ireland"? Once the logical form of the sentence is fixed, we still have room for significant ontological maneuvers.<sup>225</sup> In order to have a more transparent ontological interpretation of the sentence you need to provide an analysis such as the one I offered in Chapter 3, when distinguishing my position from the various forms of *Particularism*. That is, you need to specify to what kind of entity (if any) "John" is

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<sup>224</sup> See (Carnap, 1947).

<sup>225</sup> On this point see also the remarks in (Bianchi and Bottani, 2003: 11-15).

about, and to what kind of entity (if any) "Ireland" is about. If you do this, however, you are not anymore considering only grammatical, linguistic, and logical features of the sentence.

A clarification is, here, in order. I am not arguing that grammatical, linguistic, or logical considerations are not relevant to an ontology. On the contrary, I believe that they play a key role. Through them it is in fact possible to argue for many ontological theses which are content-independent. Indeed, in the following, I will rely on an analysis of certain linguistic categories (singular terms) and on the analysis of certain kinds of predication in order to bring home the thesis that individuals are not necessary in doing ontology. Still, my thesis would not be complete if I were not to provide a genuinely metaphysical (that is, not grammatical, not linguistic, and not logical) explanation of what the entities in my theory are. The characterization of universals as repeatable entities with a qualitative character cannot be given only in terms of grammatical, or linguistic features, or logical form.

The second problem stems from a closer consideration of the relationship between language and reality. The world is not always the way our language purports it to be. It is not, if you maintain that reflected judgments are to be preferred to extemporaneous judgments, when it comes to determine what there is. Sometimes, in fact, directions as to which ontological choices to make are given only upon a careful reflection on our language. You cannot read-off the ontology from the language,

precisely because you have alternative ontologies to choose from within the very same language.

We are familiar with examples concerning sensorial experience, which show us that reflected judgments are more to trust rather than extemporaneous. As you look at the glass of water in front of you, and you see a bent straw entering the water, you form the belief that the straw is bent. But, as soon as you take the straw out of the water, the straw *becomes* straight. Was the straw straight the whole time? Little reflection shows that indeed it was. It suffices to put the straw back in the glass, and follow with a hand its shape as it penetrates the water, to realize it. Unless you believe your hand is bending too as it enters the water (without you feeling it) your sight will be disproved. Senses deceive, sometimes.

Language is often not different from the senses. Here are three examples, the first two concerned with singular terms, the other with a predicate. (i) Close to Christmas everybody is talking about Santa Claus, but that does not mean that there is a physical entity corresponding to it. Just because they have "Santa Claus" in their vocabulary, tax collectors should not look for a person named Santa Claus to force him pay taxes next year. Just because you have a name in your language, it does not mean that there is some individual corresponding to it. (ii) You say that there is a difference in age between John and Rebecca. That does not mean that differences in age are individuals. Perhaps there is a *better* way of saying that. You can rephrase the

sentence by using a predicate, such as *Being older*: "John is older or younger than Rebecca." Which one is the right interpretation? (iii) Predicates are not anymore to be trusted than singular terms in this respect. Consider the sentence:

(12) John has a lot of fun in his life!

You could rephrase it as:

(13) Being John must be a lot of fun!

Which form is correct, (12) or (13)? Why should you believe that there is this property, *Being John*, of which (13) is about, when you could spare employing that predicate?<sup>226</sup>

Thus, from the fact that there is the linguistic category of singular terms, it does not follow that there are individuals. In the following, I will develop two strategies that go in this direction. The first consists in accepting the existence of two categories – that is, individuals and properties – while denying the ontological import of the first. This strategy parallels one followed by *Nominalists*, and for this reason I

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<sup>226</sup> On this point, see (Alston, 1958). The literature on ontological commitment is wide; see, for example, (Quine, 1948), (Lewis, 1970), (Casati and Varzi, 1994) and (van Inwagen, 1998).

will begin §6.2.2 with an analysis of the *Nominalist* strategy for avoiding commitment to predicates. The second strategy – explored in §6.2.3 – will, instead, show that the use of singular terms is not necessary at the linguistic level; that is, even postulating that the language of the *Adverbial Theory* is void of singular terms, we end up with a language with an expressive power sufficiently strong for ontological purposes. Let us consider the two strategies in order.

#### §6.2.2 *Two Problems for Nominalism*

*Extrinsic Universalism* stands, ontologically speaking, in direct opposition to *Nominalism*: the first claims that all denizens of reality are repeatable, and have a qualitative character; the latter claims that all denizens of reality are non-repeatable, and have no qualitative character. It will not be surprising, thus, that the two positions might use a similar strategy in trying to avoid any ontological commitment of one of the two linguistic categories (singular terms and predicates). As the *Nominalist* will ask, regarding predicates and properties: "What is the ontological commitment of predicates? Do they commit us to the existence of properties?", so the *Extrinsic Universalist* will ask, regarding singular terms and individuals: "What is the ontological commitment of singular terms? Do they commit us to the existence of individuals?" As the *Nominalist* will give a negative reply to the question regarding her theory, so will the *Extrinsic Universalist* give a negative reply to the question regarding her theory.

To have a closer look at the replies thus far provided by the *Nominalists* could thus cast some light about the plausible solutions we might have at hand in defending *Extrinsic Universalism*, and the differences between the two positions. This is what I will do in the following four sections. I will first introduce two problems encountered by the *Nominalist* in trying to avoid commitment to properties. I will, then, show that, for the *Extrinsic Universalist*, only one such problem exists, and I will offer a solution for it. I will not rest content of this solution, however, and in section §6.3 I will offer a different strategy to avoid commitment to individuals, one that shows that singular terms are ways to talk about properties, ways that differ in form from the one of predicates.

#### §6.2.2.1 *The Problem of Predication*

When trying to avoid commitment to properties, *Nominalism* encounters two difficulties. The first is the so-called *Problem of Predication*. Consider the following two sentences:

- (14) John is happy,
- (15) John is Italian.

Suppose that (14) and (15) are two predications about the same person, namely John. As such, they can be true or false. Suppose that (14) is true while (15) is false. The

problem of predication consists in explaining what is it, for the *Nominalist*, that renders one true and the other false. Indeed, it cannot be the fact that there are these properties, *Being Happy* and *Being Italian*, such that the former, but not the latter, belongs to John. For the *Nominalist* there are no properties. Then, what renders one true and the other false?

The so-called *Ostrich Nominalism* has a straightforward answer to offer: the difference in truth value between (14) and (15) is a brute fact. There is nothing to explain. (14) is true because John is happy, while (15) is false because John is not Italian.<sup>227</sup> There is nothing in virtue of which happiness is ascribed to John. To search for such an explanation means to follow in the trap of the friend of properties. She will say that happiness is ascribed because there is a qualitative entity, repeatable or not, which is responsible for the happiness. But – says the *Ostrich Nominalist* – the explanation of the friend of properties is deceiving. According to her, the friend of properties is in no position to explain what the qualitative entity in question is. There is no clear account of the primitive resemblance which should lie at the base of trope theory; and, there is no clear criterion of identity for universals. Hence, to say that John is happy in virtue of the fact that the property picked out by "is happy" belongs to John does not solve the problem of predication; it simply moves it to the

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<sup>227</sup> On this see the exchange between (Devitt, 1980) and (Armstrong, 1980).

explanation of what a property is. Better to stop earlier, then, and bite the bullet: "John is happy" is true because John is happy.

Other *Nominalists* disagree with the *Ostrich Nominalist*. For them it is possible to give a non-brute reply to the problem of predication without committing to the existence of qualitative entities. For example, *Class Nominalists* claim that "is happy" refers to the class of all happy things. A class is an individual as well, a non-repeatable entity with no qualitative character. Perhaps, you could even think of a class of individuals as a whole whose parts are all the individuals.<sup>228</sup> Thus, "John is happy" is true because John belongs to the class of happy things.

Parallel arguments, where classes are replaced by concepts or predicates, are drawn by other *Nominalists*. There is no need here to enter into their details. What matters is to illustrate the two kinds of answers that *Nominalists* have offered to the problem of predication. As we shall see, only one of these is available to the *Radical Universalist*, although the *Radical Universalist* has another way out that I am going to discuss in §6.3.

#### §6.2.2.2 *The Problem of Abstract Reference*

The second difficulty encountered by the *Nominalist*, when trying to avoid commitment to properties, is more serious than the problem of predication.

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<sup>228</sup> See (Armstrong, 1980) and, for an indirect response, for example (Lewis, 1991).

Sometimes we find, in the role purportedly covered by singular terms, a term referring to a property. Consider the following sentences:

- (16) Arrogance is a vice,
- (17) Blue is a primary color.

I take it that (16) and (17) are true sentences, and one can plausibly assume that the *Nominalist* will not deny this. Yet, both contain a name of a property in the role covered by singular terms, respectively, "generosity" and "blue." Clearly, then, as they are, (16) and (17) entail the existence of some properties. How can the *Nominalist* account for this? The only way out seems to provide an alternative interpretation of the sentences. The task of providing one goes under the name of *the problem of abstract reference*.

At least two different solutions to the problem have been offered. Before presenting them, let me say that both deserve a far more thorough treatment than the one I reserve them. After all, the goal here is not to reveal a vice of *Nominalism*, what I regard as the main one, namely the lack of a criterion for singling out individuals, has already been discussed at length in Part I. Rather, the goal is to compare the kind of problems and solutions connected with *Nominalism vis à vis* those connected with

*Extrinsic Universalism* when it comes to avoid commitment to, respectively, properties and individuals.

The first solution is the one offered by the *Ostrich Nominalist*. The strategy she is going to follow is to translate any sentence that, like (16) and (17), seemingly commits to the existence of properties, into a sentence which commits to individuals. In other words, the trick is to find, for each sentence like (16) and (17), a sentence which is equivalent in meaning, yet contains some genuine singular term(s) in the singular term role, instead of a name of a property. Thus, for example, (16) will be interpreted as talking about arrogant and vicious people instead of arrogance and viciousness:

(18) Arrogant people are vicious people.

As one can easily see, however, (18) is not a good interpretation of (16): it does not preserve the same truth-conditions. While (16) seems to be true, (18) is certainly not. It might not be enough for a person to be vicious that she is arrogant, although arrogance is a vice. One could thus try and refine the interpretation of (16), so that it comes to have exactly the same truth-conditions as (16). For example, one could prefix to (18) the clause "sometimes:"

- (19) Sometimes arrogant people are vicious people.

It will be left to a specific theory of arrogance, then, to explain under which conditions arrogant people are vicious – that is, what other vices or virtues are, or are not, required in order to an arrogant person to be vicious.

Without entering into the details of the possible interpretations, however, we can immediately see that this strategy has a relevant limit: it is not general, but it is established on a case-by-case basis. What will grant, hence, that the *Ostrich Nominalist* will be able to find a suitable translation for any sentence of the ordinary language in which a term referring to a property plays the role of a singular term? In conclusion, the first solution to the problem of abstract reference is not satisfying, and this constitutes a serious limit for the tenability of *Ostrich Nominalism*.

The second solution is the so-called *Metalinguistic Nominalism*, most notably defended by Rudolf Carnap and Wilfrid Sellars.<sup>229</sup> According to *Metalinguistic Nominalism*, the problematic sentences, although apparently committing to the existence of properties, should be interpreted as being metalinguistic assertions about the use of singular terms. The first to develop this idea was Carnap. He proposed to interpret sentences like (16) and (17) as:

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<sup>229</sup> Cfr (Carnap, 1959) and (Sellars, 1963). This *Nominalistic* view can be traced back to authors such as Roscelin of Compiègne, Peter Abélard, and William of Ockham.

- (20) "Arrogance" is a vice-predicate
- (21) "Blue" is a primary-color-predicate.

Although this view is a step in a promising direction, it still has some problems. The main one is that to quote the term "arrogance" is to render the interpretation relative to a language. (20) tells us that "arrogance" is a vice-predicate in English, but what about other languages?

Sellars refined this view by introducing an *ad hoc* symbol for the problematic terms: "•". An expression such as "•arrogance•" stands not only for arrogance in English, but also for the corresponding expressions in any other language. Since there are many such expressions, we will speak of "•arrogance•s" in order to refer to all of them. Thus, for Sellars, (16) and (17) are interpreted as:

- (22) •Arrogance•s are vice-predicates
- (23) •Blue•s are primary-color-predicates.

Sellars went on, then, to consider more complex examples, such as those involving comparisons among properties. Overall, *Metalinguistic Nominalism* proves quite successful in solving the problem of abstract reference. The price to pay is a very laborious interpretation of a number of different sentences. Whether the price is

worth it or not, the metaphysical view it allows to support (that is, *Nominalism*) is something that I am not going to consider here.

### §6.2.3 *One Problem for Radical Universalism*

*Nominalism* faces two problems when it comes to avoid commitment to properties. The first one is rather easy to solve; the second one, however, is a source of serious concern for *Ostrich Nominalism*. What about the (metaphysically speaking) converse position, *Extrinsic Universalism*? As we shall see, surprisingly enough, *Extrinsic Universalism* suffers from only one of the two problems: the *Problem of Predication*. Its solution, however, is more complex than its *Nominalist* correlative.

#### §6.2.3.1 *The Problem of Predication*

Consider the two following sentences:

(24) Mary is happy

(25) Taylor is happy,

and suppose that (24) is true and (25) is false. As for the *Nominalist* it is problematic to explain in virtue of what (14) is true, while (15) false, so for the *Extrinsic Universalist* it is problematic to explain in virtue of what (24) is true, while (25) false. It cannot be because there is this universal, *Being happy*, and these two individuals, John and Taylor,

such that *Being happy* belongs to John but not to Taylor. For the *Extrinsic Universalist* there is no individual.

The *Extrinsic Universalist*, however, does not have two possible solutions at hand, but only one, the correlative to *Ostrich Nominalism*, a view that we could label *Ostrich Extrinsic Universalism*. According to this view, there is no explanation to be given for the fact that (24) is true, while (25) false. The very existence of the universal *Being happy* is sufficient to ground both facts. To put it differently, that *Being happy* is satisfied by John, but not by Taylor, is a brute fact.

Although probably tenable, this solution is somewhat problematic. The *Ostrich Nominalist* had a point on its behalf, the fact that the entity to which it is committed is the subject of both (14) and (15), while the entities it avoids commitment are predicates. This made the assertion of the brute fact straightforward. John is named in (14) and (15), and John grounds both (14) and (15). The case of *Ostrich Extrinsic Universalism* is different, however. *Being happy* is not named in either (24) or (25). *Being happy* is a noun; (24) and (25), instead, contain the predicate "to be happy". To claim that (24) or (25) are about *Being happy* one has to do some interpretative effort. What justifies such interpretation? Also, is there a general interpretative strategy that holds for any sentence of the language?

So, the *Extrinsic Universalist* does not have an *Ostrich* way out for free as the *Nominalist* does. Once you have to answer those questions, the *Ostrich* stance loses its

force, and becomes one interpretation as any other one. Perhaps a better one, but this needs to be proved. In §6.3, my task will be to offer a solution to the problem of predication. I will not try to support the *Ostrich* stance, however. Rather, I will try to show that singular terms can be systematically interpreted as referring to universals. But, before exploring this, we shall see how *Extrinsic Universalism* fares with respect to the problem of concrete reference.

#### §6.2.3.2 *No Problem of Concrete Reference*

*Nominalism* has a difficulty in explaining sentences such as (16) and (17), which apparently commit to the existence of properties by containing a term referring to a property in the singular term role. Is there a parallel problem for *Extrinsic Universalism*? First of all, it is important to isolate what the problem is supposed to be. The first option that comes to mind is that, as *Nominalism* has a problem with terms referring to properties covering the role of singular terms, *Extrinsic Universalism* has a problem with terms referring to individuals covering the role of singular terms. This problem, however, is not novel, since it is no different from the problem of predication. In (24) and (25) the problem is precisely that the role of singular terms is covered by terms apparently referring to individuals, namely "John" and "Taylor." Thus, the problem of concrete reference, if there is one, cannot be this.

As a second option, the problem might lie in the fact that some term, apparently referring to individuals, covers the role of predicates. For example, in the following sentence:

(26) *Being happy* taylor<sub>s</sub>,

where "*Being happy*" stands for a universal, while "taylor<sub>s</sub>" stands for a predicate. Needless to say, however, sentences such as (26) are never used in ordinary language. But, suppose that it would turn out that somebody does, did, or will use them. Do they pose a problem for *Extrinsic Universalism*? I believe that they do not. In fact, (26) is a prototypical kind of sentence for the *Extrinsic Universalist*, a sentence committing to the existence of a universal and qualifying such existence in terms of a predicate. What such predicate means will be explained in the next section, where I will regard (26) as the canonical *Extrinsic Universalist* interpretation of (25).

In conclusion, when it comes to avoiding commitment to, respectively, individuals or properties, the *Extrinsic Universalist* has an advantage over the *Nominalist*: she faces one problem less. This is no minor point. I take it to show that, not only *Extrinsic Universalism* has some plausibility; it has even more titles than *Nominalism*.

On the other hand, one could rejoin that, even if the problem of abstract reference is a serious one for the *Nominalist*, on the other hand, *Ostrich Nominalism* has

a straightforward answer at hand for the problem of predication. *Extrinsic Universalism*, instead, does not have such a straightforward answer. Hence, *Extrinsic Universalism* is in a worst position when it comes to explaining predication. In reply to this, I must point to the next section, where I will show that the *Extrinsic Universalist* has a systematic solution for the problem of predication.

In conclusion, while *Ostrich Nominalism* fares well with respect to the problem of predication, it failed to solve the problem of abstract reference; hence, it is not in a better position than *Extrinsic Universalism*. Besides, when a different form of *Nominalism* is considered, such as *Class Nominalism*, more work is needed also to solve the problem of predication, thus bringing *Extrinsic Universalism* on an equal footing with these kinds of *Nominalism*.

### **§6.3 Individuals Away II: An Analysis of Singular Terms and Predication**

The *Class Nominalist* usually predicates a one-one correspondence between predicates and classes, perhaps denying the correspondence in some troublesome cases generating paradoxes.<sup>230</sup> For any (non-troublesome) predicate there will be a class. The referent of "to be red"? It is the set of red things. The referent of "to be in love"? It is the set of the pairs of things such that the first loves the second. The *Extrinsic*

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<sup>230</sup> See (Field, 2004).

*Universalist* solution to the problem of predication that I want to offer is similar to the one given by the *Class Nominalist*. As seen above, there are three categories of singular terms: (i) demonstratives; (ii) definite descriptions; (iii) proper names. My claim is that they all do refer to clusters of properties, properties sometimes appropriately modified. The kinds of clusters, however, change at the changing of the category of singular terms.

Before moving ahead, I should make a disclaimer about the use of the term "cluster." I deliberately use such term in a neutral way. I don't believe that it is necessary, in order to provide an *Extrinsic Universalist* analysis of predication, to specify what clusters are. There are at least three options at hand, here, each of which has been widely studied in connection with other philosophical pursuits. Let me briefly introduce them.

(i) The term "cluster" stands for a plurality of universals at once. This positions could be labeled *Plural Extrinsic Universalism*. That is, singular terms are means of plural quantification over universals. Plural quantification is familiar in the analysis of statements such as:

(27) Tauruses are faithful,

where – is argued – "Tauruses" refers plurally to each and any person whose sign of the zodiac is Taurus.<sup>231</sup> In a similar fashion, one could argue that a name like "John" refers plurally to a number of universals (to which universals it refers to will be explained more below).

(ii) The term "cluster" stands for classes of universals. This position could be labeled *Class Extrinsic Universalism*. In the same way in which *Class Nominalism* argues that predicates pick out classes of individuals, *Class Extrinsic Universalism* argued that singular terms pick out classes of universals. One way to spell out this view moves, for example, from the claim that a classes is entirely present anywhere one of its members is entirely present. A thorough investigation of this issue would, however, bring us too far from our present project, and I shall, thus, leave it at that.<sup>232</sup>

(iii) The term "cluster" stands for concepts involving several universals. This position could be labeled *Concept Extrinsic Universalism*. In the same way as some *Nominalists* argue that predicates pick out concepts, the *Concept Extrinsic Universalist* argues that singular terms pick out concepts. In particular, they pick out complex concepts, containing several universals related in different ways. In which ways they are related, we shall analyze in the next section.

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<sup>231</sup> On plural quantification, see for example, (Hazen, 1983), (Boolos, 1985), (Lewis, 1991), (Hossak, 2000), and (Linnebo, 2004).

<sup>232</sup> For a survey of issues related to the topic, see (Shapiro, 2000). For a Platonist interpretation of mathematics, see, for example, (Resnik, 1997).

I believe any of those three options is open to the *Extrinsic Universalist*. I tend to favor the first one, but I will not argue for that. There is no reason to make a choice here. The point is to bring support to *Extrinsic Universalism* overall. With this in mind, let us now move on to discuss the analysis of predication.

### §6.3.1 *On a Certain Interpretation of Singular Terms*

That all expressions in a language can be interpreted as referring to a unique category of entities, namely universals, is not a novel claim. Already some decades ago, Montague developed a semantics which seemed to move in this direction. There, singular terms are treated as properties of properties, that is, as higher-order properties. For example, a sentence such as:

(28) John smiles,

is analyzed as:

(29) Smiling has the higher-order property of being instantiated by John.<sup>233</sup>

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<sup>233</sup> Cfr. (Cresswell, 1973: 131ff). On Montague semantics see also (Montague, 1970) and (Dowty, Wall, and Peters, 1981: 107 and 193).

This interpretation of (28) does not give us yet an analysis of singular terms that employs only universals. Indeed, it still makes reference to the instantiation relation, as well as to higher-order properties. But, it certainly moves in a direction that is similar to the one I aim for.

Building on Montague Semantics, Edward Keenan and Leonard Faltz made a further step, in the direction I am advocating, when they presented their Boolean Semantics.<sup>234</sup> Without the need to enter into complex details, they offered an interpretation of natural language based on the assumption that the sole primitive ontological entities are properties.<sup>235</sup> This study, together with Montague Semantics, is primarily concerned with linguistic interests, which lie outside the present investigation. However, both of them show that the thesis of *Extrinsic Universalism* has some reasons to be beyond the strictly metaphysical ones that I gave in Chapter 3. Moreover, they also show that, even at the highly technical linguistic level, it is possible to furnish an interpretation of natural language that is compatible with the metaphysical tenets of *Extrinsic Universalism*. The latter consideration brings support to the interpretation of singular terms, and of predication, I am going to offer. Let us, thus, proceed with the interpretation of the three kinds of singular terms – demonstratives, definite descriptions, and proper names – in this order.

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<sup>234</sup> Cfr (Keenan and Faltz, 1985).

<sup>235</sup> Cfr (Keenan and Faltz, 1985: 29-31).

According to the *Extrinsic Universalist*, a demonstrative **D** serves to qualify the position of the universals embedded in a sentence. Consider the following sentence:

(30) This is a banana.

The *Extrinsic Universalist's* interpretation of (30) is:

(31) *Being a banana* exists  $r_1$ -ly,

where  $r_1$  is a spatio-temporal region nearby the speaker. Within the language of the *Adverbial Theory*, (30) is thus expressed as follows:

(32)  $\Delta_{r_1} \hat{B}$ ,

where  $r_1$  is a spatio-temporal region nearby the speaker. Similarly, if instead of the demonstrative "this" the demonstrative "now" is employed, the spatio-temporal region will be one the region which encompasses all the spatial portion of the world of the speaker at the time at which the speaker is uttering the sentence. And so on, for other demonstratives.

A definite description  $T$ , instead, serves to pick out a cluster of specific exemplifications of certain specific universals. The number of properties in the cluster can vary, from one to possibly infinite. Thus, for example, the description:

- (33) The lady with a brown shirt sitting under the Leaning Tower in Pisa at 12:00 p.m. on Saturday, September 23, 2006 exists,

is rendered as follows:

- (34) *Being a lady, Having a brown shirt, Being sitted* exists  $r_1$ -ly,

where  $r_1$  is the spatio-temporal region under the Leaning Tower in Pisa at 12:00 p.m. on Saturday, September 23, 2006. In order to represent (33) in the language of the *Adverbial Theory*, we now need to add a new symbol to the language, namely the one for clusters. I will use: " $\Sigma$ ." Expressions such as: " $\Sigma\langle B \rangle$ " will thus say that universal  $B$  is *clustered*. To say that of one single universal that it is clustered, it is tantamount to say that it exists, that is:

- (i)  $\Sigma\langle B \rangle \equiv \hat{B}$ .

Thus, " $\Sigma$ " carries with it a presupposition of existence. The following will be a logical truth in the *Adverbial Theory*:

$$(ii) \neg(\Sigma\langle B, C\rangle \ \& \ \neg(\hat{B} \ \& \ \hat{C}))$$

(33) is thus expressed as follows:

$$(35) \quad \Delta_{r_1}(\Sigma\langle L, B, S\rangle),$$

where  $r_1$  is the spatio-temporal region under the Leaning Tower in Pisa at 12:00 p.m. on Saturday, September 23, 2006. As for definite descriptions within a sentence containing a predication other than a predication of existence, I will treat them in the next section, where I will offer an analysis of predication.

A Proper Name  $\mathbf{N}$ , finally, serves to pick out a cluster of universals. The number of universals in the cluster cannot be determined by looking at  $\mathbf{N}$ , but is given by previous knowledge of the speaker using  $\mathbf{N}$ . Thus, "John" does not denote, by itself, any universal; only once the name is uttered in a certain context, some universals are attached to it. Proper names, hence, function as *variables over clusters of universals*. Such clusters, of course, are clusters of compatible universals. Apart from this restriction, they can denote clusters of any kind, from the most complex to the

empty ones. In the language of the *Adverbial Theory*, I will represent this by writing in bold the symbol standing for the Proper Name. Thus, suppose that the symbol for "John" in the language of the Theory is "J," " $\Sigma$ " will stand for the cluster of properties over which "John" varies. Thus, an expression such as " $\Sigma_{\mathbf{J}}\langle B \rangle$ " says that universal *B* belongs to the cluster of universals to which "John" refers.

### §6.3.2 *An Analysis of Predication*

With an analysis of singular terms in place, we can now move on to give an analysis of predication. I propose to do so by discussing a number of examples. Let us start from the first sentence I used in the "Introduction" to expose my view:

(36) Fido is a dog

The analysis I propose should at this point be straightforward. As we have seen, "Fido" picks out a (not better defined) cluster of universals. "is a dog," instead, will be analyzed as expressing the existence of the universal *Being a dog*. (36), hence, says that *Being a dog* exists, and that it belongs to the cluster of properties picked out by "Fido". In the language of the *Adverbial Theory*, this is expressed as follows:

(37)  $\Sigma_{\mathbf{F}}\langle D \rangle$

Notice that the sentence does not contain any spatio-temporal modification. This is because, one could suppose, the fact that *Being a dog* fidizes is not ascribed to any particular spatio-temporal location. Perhaps it is just a speculation. If, however, the sentence would turn out to have a supposition of spatio-temporal existence, you could express it thusly:

$$(38) \quad \Delta_n \sum_{\mathbf{F}} \langle D \rangle,$$

where  $n$  varies over any spatio-temporal region.

Once expressing a proper name is made clear, we can also express a seemingly predication of existence of an individual. In order to so, in the most general possible way, we need to add an infinite and denumerable set of variables for universals in our language: " $x, y, z, \dots, x_1, y_1, z_1, \dots$ " Now Consider, for example, the sentence:

$$(39) \quad \text{John exists.}$$

In the *Adverbial Theory*, (39) expresses the existence of a cluster of universals labeled "John":

$$(40) \quad \sum_{\mathbf{J}} \langle x_1, \dots, x_n \rangle.$$

Again, if you believe that (39) carries a presupposition of spatio-temporal existence, you will represent it thusly:

$$(41) \quad \Delta_n \sum_{\mathbf{J}} \langle x_1, \dots, x_n \rangle.$$

What about relational statements? Consider first a comparative statement:

$$(42) \quad \text{John and Mary have a different weight.}$$

In the language of the *Adverbial Theory*, (42) will say that a certain weight belongs to the cluster of properties named "John," and a certain weight belongs to the cluster of properties named "Mary," and that these weights are different. In accordance with what I argued in Chapter 4, I will consider the two weights as two different universals. Thus, the referents of the expressions " $W_m$ " and " $W_n$ " do not have anything in common, although the expressions share the letter "W." Hence:

$$(43) \quad \sum_{\mathbf{J}} \langle W_n \rangle \ \& \ \sum_{\mathbf{M}} \langle W_m \rangle \ \& \ W_m \neq W_n.$$

Consider now:

(44) John weights more than Mary does.

This sentence requires a comparison between the two universals of weight included, respectively, in the clusters of universals named "John" and "Mary." This raises a difficulty related to the decision of considering different weights as different universals, namely: how are comparisons among weights expressed? Does it reflect some aspect of reality, or is it a purely subjective judgment? If the former, then we should include it in the interpretation of the sentence, that is:

(45)  $\sum_J \langle W_n \rangle \ \& \ \sum_M \langle W_m \rangle \ \& \ W_m > W_n.$

if the latter, then we should add it externally to the sentence, that is:

(46)  $\sum_J \langle W_n \rangle \ \& \ \sum_M \langle W_m \rangle,$

*and  $W_m$  is bigger than  $W_n$ .*

Now, (46) does not seem a plausible option to me. That the Leaning Tower in Pisa weights more than my laptop is not a purely subjective judgment. Certainly the

two weights are relative to certain physical conditions and to a system of measurement. But, once these have been fixed, there is no room for arbitrariness. Thus, (45) seems the best interpretation. Then the question that should be faced next is: what does the symbol ">" stand for? In Chapter 5, I identified properties with their *nomio* role. If  $W_m$  and  $W_n$  are different, then they have two different *nomio* roles. This means that they will interact differently with other properties. It is through the interaction with other properties that a certain ordering of universals is provided. This is the case also for the ordering of universals according to their weight. Weight is but an ordering of universals measured in accordance with a settled interaction. How to recognize a universal of weight, and how to set up a measurement is not the duty of the ontologist to establish. What matters is that there are ways to do so.

Consider next a classic relational statement, such as:

(47) John loves Mary.

In this work, I did not discuss whether, among the universals, there are some relations that cannot be reduced to non-relational ties. There are, hence, two options here. The first is to regard *Being in love with the cluster named "Mary"* as a non-relational universal which is part of the cluster named "John." In this case, (47) would be interpreted as:

$$(48) \quad \sum_{\mathbf{J}} \langle L_{\mathbf{m}} \rangle$$

If, on the other hand, (47) expresses a relation between clusters, we will need to introduce a symbol for relations to the language of the *Adverbial Theory*. Let us introduce, to this end, the symbol "**R**," which is read as "is in a non-reducible relation R with;" we can plausibly assume that relations have an order: they tie *n*-ple of universals and/or clusters of universals. (47), thus, becomes:

$$(49) \quad \underline{\mathbf{L}}(\sum_{\mathbf{J}} \langle x_1, \dots, x_n \rangle, \sum_{\mathbf{M}} \langle x_1, \dots, x_n \rangle)$$

It is useful also to discuss the case of a sentence apparently involving no universals, such as:

$$(50) \quad \text{This is closer than that.}$$

This sentence says that there are three clusters of universals, **X**, **Y**, and **Z** (one of which is the speaker) such that **X** is closer to **Y** than to **Z**.

$$(51) \quad \Delta_{\mathbf{m}} \sum_{\mathbf{X}} \langle x_1, \dots, x_n \rangle \ \& \ \Delta_{\mathbf{n}} \sum_{\mathbf{Y}} \langle x_1, \dots, x_n \rangle \ \& \ \Delta_{\mathbf{q}} \sum_{\mathbf{Z}} \langle x_1, \dots, x_n \rangle,$$

where the minimal connected region overlapping  $\Delta_m$  and  $\Delta_n$  is smaller than the minimal connected region overlapping  $\Delta_m$  and  $\Delta_q$ .

Finally, let us consider the second sentence given in the Introduction:

(52) There are  $n$  dogs.

In *lieu* of the results exposed thus far, (52) says that *Being a dog* exists at  $n$  different regions, that is, that it exists  $x_1$ -ly,  $x_2$ -ly, ...,  $x_n$ -ly, where  $x_1, x_2, \dots, x_n$  are pair wise distinct spatio-temporal regions. Thus, the interpretation of (52) is:

(53)  $\Delta_{x_1}, \Delta_{x_2}, \dots, \Delta_{x_n} (\hat{D})$ ,

where  $x_1, x_2, \dots, x_n$  are pair wise distinct spatio-temporal regions.

*Numbering* the world, for the *Radical Universalist*, is hence explained in terms of universals. There are at least three ways in which we *number* universals. (i) The first is when we count how many times a universal exists, as in (51). (ii) The second is when we count clusters of universals. Depending on which view one takes on clusters, you will give a different explanation of what it means to count them. If a cluster is a plurality of universals, then we are counting pluralities. Presumably, a plurality will be some kind of mental or verbal activity, or a certain behavior. *They* will be the subjects

of our counting then. If a cluster is a class, we will be counting classes. If a cluster is a concept, we will be counting concepts. (iii) The third way to *number* a universal is when we assign to it a number on a scale after comparing it with other universals. This happens, for example, when we say that *Being three kilograms* exists. The number two enters to be par of the name of the universal in question only as a comparison of the universal with other universals. We could have named the very same universal *Being six pounds and ten ounces*, thus numbering it differently.

In this work, I just scratched the surface of the problem of *numbering* the world. The goal was to establish *Extrinsic Universalism*. Once this view is in place, it is now possible to start a novel exploration of the role numbers play in ontology. This I shall leave for another work.

#### **§6.4 On the Possible Existence of Mirroring Worlds**

Before concluding, I wish to disperse a suspicion that *Extrinsic Universalism* is liable to an objection, famously raised by Max Black in 1952, and directed against those who allege that properties are sufficient for individuating individuals.<sup>236</sup> The objection goes as follows. Suppose that there were spatio-temporal regions, each with one, and only

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<sup>236</sup> See (Black, 1952). The version of the objection I present is slightly modified; slightly strengthened, I believe. Although I developed my position with respect to the objection independently, (Hawthorne, 1995) offers an answer similar, in the conclusion, to the one I provide.

one, universal arranged in the very same way. Suppose, moreover, that the universal is the very same one. For simplicity let us imagine that no universal is repeated within one region; suppose moreover that the two regions are facing one another, so that an observer in between the two regions gazing at one of them would feel like watching through a mirror when turning on its back to face the other one. This scenario does not seem to be contradictory, and thus one might claim that it is a possible one. Imagine you were to play the role of the observer in such a scenario: how could you tell apart the universal in one spatio-temporal region from the universal in the other?<sup>237</sup>

I believe this puzzle can be solved by reasoning on the criterion for the identity of properties I have given in Chapter 5. The first question to ask is whether I, the observer, make any difference within the two spatio-temporal regions. I presume that my opponent wants to deny that I do. Of course, if I would, the puzzle would be solved: the two regions would be different, since the observer makes a difference in them (for example, by watching one but not the other, or by having its heart, or her eyes closer to one than to the other). Although it is not clear to me that the observer does not make any difference to the two regions, and I believe an argument to secure this is in order, I am willing to concede this point to my opponent.

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<sup>237</sup> I am extremely grateful to Andrea Bottani for having brought to my attention, with great clarity, the relevance of this objection.

Now, if the two spatio-temporal regions contain a universal arranged in the same way, and they entertain the very same relationships of existential dependence, on the basis of what I argued in Chapter 5, they are the very same universal. They, in fact, have the same *nomic* role. But, unlike those who allege that properties suffice for individuating an individual – towards whom this style of objection was initially raised by Black – this is not a problem for a *Radical Universalist* that endorses the *Adverbial Theory*. The very same universal can exist more than once. Actually, in order for it to do so, it is required that it has the same *nomic* role in more than one situation.

Thus, clearly it is possible for a *Radical Universalist* that there are two confining regions exactly alike. There is nothing contradictory in imagining that. What would be puzzling for such a situation is that, for an observer (which would make no difference to the regions) it would be impossible to tell them apart. This would not entail that the universal does not exist twice, however. The observer could tell them apart in her representation of it. In order to do so, it would be sufficient to represent the two regions in a unified space-time and to assign different spatio-temporal adverbs to each assertion of existence of the universal.

Clearly, however, this distinction would be a pure stipulation. The observer would not know of which adverbial modification of a universal she is actually talking. But, neither the observer that Black is imagining possesses that kind of knowledge. The condition of the *Radical Universalist* would not be different from the one faced by

the *Particularist* who accepts *haecceities*. Certainly, this kind of *Particularist* has a ready solution to the puzzle. She can tell apart the entities in the two regions by assigning a different *haecceitas* to each of them. However, as we have seen in Chapter 1, the assignment of *haecceitates* is as arbitrary as the assignment of a certain adverbial modification to a universal. Thus, also the *Particularist* who accepts the existence of *haecceitates* would be in no better position to tell apart the entities in the two regions than the *Radical Universalist* is.

Thus, I conclude, assuming that there is a puzzle (that is, assuming that the observer does not make any difference between the two regions) the *Radical Universalist* has a solution to it which matches the one of the *Particularist* who accepts the existence of *haecceitates*.

## CONCLUSIONS: FIVE OPEN QUESTIONS

Hence that the city-state is natural and prior in nature to the individual is clear. For if an individual is not self-sufficient when separated, he will be like all other parts in relation to the whole. Anyone who cannot form a community with others, or who does not need to because he is self-sufficient, is no part of a city-state – he is either a beast or a god. (Aristotle, 1998: 5-6)

*Extrinsic Universalism*, the thesis that the sole denizens of reality are extrinsic universals, is not a popular view, and I devoted the entire second part of this work to convince the reader that it is a viable metaphysical option. This might not be enough, however, to prove that my position is worth endorsing. This is but a part of an ontological theory; thus, the way in which it interacts with the remaining elements of the theory is relevant to achieve a summon of the theory as a whole.

Since *Extrinsic Universalism* is a rather novel view, it suggests a need for modifications – sometimes majors revisions – in other areas of philosophical research. A thorough study of these revisions is a long-term project that cannot be pursued here. As the conclusion of this work, then, I will present the perspectives and problems raised in five major areas of philosophical research by an endorsement of *Extrinsic Universalism*.

## §A. Material Objects

When I started the research for the dissertation, my intention was to write on the concept of environment. Although the concept of the individual and the one of the environment are often regarded as ontologically and theoretically related, in metaphysics and philosophy of biology great attention has been given solely to the concept of the individual. The concept of environment, on the other hand, often invoked as necessary, and perhaps essential, to the existence of an individual, has been left in obscurity. My conviction was that to illuminate the concept of environment would also clarify the concept of individual, and bring new insights into metaphysics and philosophy of biology.

As I progressed in my research, however, it became increasingly clear to me that environments were nothing more than arrangements of properties, and that such arrangements could not elucidate the concept of individual, unless a criterion for individuality was already in place. In order to tell apart the properties of an environment from the ones of one of the individuals it hosts, it is vital to have prior knowledge of how single out an individual. Thus I started to study the criteria for singling out individuals. The result of this study is the first part of the dissertation.

Yet, after some research, I was left unsatisfied with the criteria for singling out individuals on offer. Since I could not see any other viable criterion, I took a different route. An environment is a plurality of properties interrelated in various ways: what if

the whole reality would be just a vast array of properties, interrelated in various ways?

This is the view I presented in the second part of the dissertation.

The concept of environment has been kept out of the picture for two reasons: (i) the complexity of the metaphysical argumentations I faced, imposed to leave aside the philosophy of science questions in which my research had originated; (ii) the concept of environment is usually used in opposition to the concept of individual; yet, I argue that there are no individuals; so, to use the concept of environment might be misleading.

Now, notwithstanding my arguments to the effect that there is no viable way to single out an individual, and that properties suffice for providing an ontology, one might still remain unsatisfied. In Chapter 6, I showed how our talk involving material objects and biological individuals can be interpreted so as not be false. Still, I deny that the sentence:

(I) There are material objects and biological individuals,

is true. And, this you might find simply unacceptable. How can it be that all our talk about material objects, biological individuals, and people (or subjects) is in need of re-interpretation? If so, the theory is wrong, not our talk – one might protest.

I tried to show, in Chapter 3, that our talk is mostly about properties. "Cherry tree" expresses a property, not an individual; it expresses *Being a cherry tree*. We can and

should abandon the habit of looking for individuals in any sentence we utter. Talk of properties suffice. This point, however, might require a more thorough examination. Sellars wrote a whole book to show that his *Nominalism* (the thesis that only individuals exist) is a viable option *vis-à-vis* the appearance that our talk about properties is in some cases unavoidable – as, for example, when I say that wisdom is a virtue. *Extrinsic Universalism* encounters (as discussed in Chapter 6) very similar difficulties to the ones associated with *Nominalism*. Hence, a more thorough study of the notion of material object, and biological individual, than the one offered in Chapter 6 might be in order; and, along with such study, it might be fruitful to finally provide a definition of environment in terms of extrinsic universals.

## **§B. Properties**

In this work, I have been arguing that the sole denizens of reality are extrinsic universals. Nowhere, however, I faced what some might regard as the fundamental question of ontology, namely: which universals *do* exist? I did not take up this question, as explained in the Introduction and repeated at various points during the work. The main reason, in a nutshell, lies in my belief that metaphysics is not concerned with finding the main data for providing an ontology. These come from the sciences, from ordinary observations and beliefs, and, possibly, from any intelligible source of information. In other words: as a philosopher, I believe I am not in a better position to tell which universals do exist than anybody else.

This view had an import, for example, over my discussion of the relations of ontological dependence in Chapter 5. There, in fact, I did not purport to argue for the existence of any specific kind of relations of dependence; I simply laid out all the (main) relations that *could* exist. The view also made me abstain from committing to any criterion for individuating properties, in Chapter 3.

At this point you might charge me with the pretense of assuming a questionable distinction, the one between *a priori* and *a posteriori* intellectual enterprises. To discern which universals exist is an *a posteriori* enterprise; metaphysics is an *a priori* one. Indeed, as I argue, the latter can be formulated independently of the former.

I believe this charge is inaccurate, however. When I engage in metaphysical issues I do not completely forget about what is going on in the rest of the world. metaphysics is not merely indulging in purely theoretical speculation. Certainly, our research should be independent in many respects of other researches in order to allow a sufficient intellectual autonomy (which is key to intellectual production). On the other hand, when I do metaphysics I am bringing my contribution to the civic society. My research, as well as any other aspect of my life, has no meaning, not even an existence, without a society, as the passage from Aristotle quoted above remarks. For this reason, a certain balance between intellectual autonomy and societal needs is always at play also when doing metaphysics. Since among the societal needs there are also empirical findings, here you have some empirical constraints on metaphysics. I,

thus, refrain from embracing a sharp distinction between metaphysical studies (intended as *a priori* forms of investigation) and ontological data (intended as *a posteriori* findings). Metaphysics and the data are part of the same enterprise. You cannot fully disentangle them.

Thus, *which* universals do exist? Is there one systematic method for answering this question? Are all universals knowable in principle, or are there some that cannot be known by us? In general, metaphysicians do not have to answer these questions. But, once you embrace *Extrinsic Universalism*, the questions become pressing, and they call for future study.

### §C. "I"

Even though I gave an analysis in Chapter 6 of singular terms based on the *Adverbial Theory of Properties*, one could argue that the analysis falls short in the case of the indexical "I." "I", indeed, seems capable of referring even without referring to any universal at all. This is not because it is an indexical term. As I showed in Chapter 6, on par with other demonstratives, indexicals can be interpreted as making explicit certain restriction on the spatio-temporal region that a speaker is talking about. Yet, "I" – one could argue – seems to have a special status, which distinguishes it from all other indexicals. "I" expresses an intuition, which cannot be framed in terms of spatio-temporal regions, and not even in terms of universals. When you think of yourself in the first person, through the concept "I," you intuit yourself as an

individual; you do not think yourself under any qualitative respect, nor as placed in any spatio-temporal region. Properties are not involved when it comes to the first person. Your intuition of yourself is *pure*: it embeds no qualities.<sup>238</sup>

If this analysis of "I" is correct, *Extrinsic Universalism* is in trouble. According to this view, the only denizens of reality are universals, that is, repeatable entities with a qualitative character. Yet, according to the thesis, the term "I" does not refer to any qualitative entity. What is the reference of "I," then, according to an *Extrinsic Universalist*? To provide an answer to this question is rather complex. Here I shall point to three options that I think are available to the *Extrinsic Universalist*, leaving their careful examination for future research.

The first option is to deny the analysis of "I" in question. Appeals to intuition are always questionable since they cannot be justified. What if I have the intuition that "I" refers always to at least one universal, such as *Being a person*, or *Being a mind*, or *Being a body*? What if "I," as Hume claims in the *A Treatise of Human Nature*,<sup>239</sup> refers to a bundle of properties which varies from time to time? One person's *modus ponens* is another person's *modus tollens*. If "I" expresses an intuition one has of oneself, an intuition void of any qualitative character, then there are non-qualitative entities to which "I" refers. You can accept the antecedent, and hence accept the consequent. Or, you can deny the consequent, thereby denying the antecedent. An *Extrinsic*

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<sup>238</sup> For a general introduction to self-knowledge, see (Gertler, 2003).

<sup>239</sup> (Hume, 1985: Book I, Section VI).

*Universalist* denies the consequent (that is, that there are no qualitative entities), thereby denying the antecedent (that is, that "I" expresses an intuition void of any qualitative character).

The second option for the *Extrinsic Universalist* is to allow the existence of some non-qualitative entities, in order accommodate the thesis that "I" is a non-qualitative concept requiring a non-qualitative referent. There are two ways of doing this. You can allow the existence of individuals, or you can allow the existence of *haecceitates*. While to allow the former would amount to raise white flag in the debate with the friend of individuals, to allow the latter might be a less dramatic – hence preferable – move. In fact, as discussed in Chapter 1, *haecceitates* are a kind of properties, and they are non-qualitative. On the other hand, to include *haecceitates* raises a problem. An *haecceitas* is usually defined in terms of an individual which has it. But, if there are no individuals, how to define an *haecceitas*? Suppose that, when John says "I," he refers to an *haecceitas*: how do you know that, when Mary says "I," she is not referring to the very same *haecceitas* to which John was referring? In other words: how should we tell apart two *haecceitates* if not in terms of some individuals that have them? On the score of the discussion in Chapter 5, one could devise a criterion for identity of *haecceitates* on the basis of which two *haecceitates* would differ if their nomic role (all the relations of ontological dependence a property entertains with any other property) would differ. Yet, to explain what the nomic role of an *haecceitas* is not trivial. *Haecceitates*, in fact, seem to make no difference whatsoever in the causal net of

reality. They are epiphenomenal. One would have to answer these questions in order to adopt the second option.

The third option is to claim that "I" does refer to a universal: it is the same universal for all subjects, even though its qualitative character is unknown to us. Since I did not take up a position regarding the question of which properties do exist, I neither presupposed, nor ruled out, the possibility of realism, the thesis according to which there are some properties which we cannot know. All utterances of "I" would, according to the third option, gesture at one such property. We cannot know much more about it, although we do presuppose that it exists. First-person utterances would hence be presuppositions of existence of a property, which we cannot know. More would need to be said, at this point, about what grounds such a presupposition. Again, I will leave this exploration for later.

Even if each of the three options I briefly presented would need further development, I believe that they suffice to show that the *Extrinsic Universalist* probably has the means to avoid the challenge raised by the thesis that "I" refers to a non-qualitative entity.

## **§D. Knowledge**

In the Introduction, I sketched an argument in favor of the view that all our knowledge is knowledge of properties. Here, again, is the argument:

- (vii) We know something only to the extent that the entities of which we have knowledge are similar to others that we came to know;
- (viii) Two entities can be similar only if there is another entity, a general one, they have in common;
- (ix) From (i) and (ii), we know something only to the extent that there are general entities;
- (x) General entities are the only entities which are required to possess some knowledge;
- (xi) We know something;
- (xii) Thus (from (iii), (iv), and (v)) there are general entities, and they are the only things required in order to know something.

Fundamental to our discussion are (i) and (iv). I argued in favor of (iv) in Chapter 3. But, you might believe that a more thorough analysis of the alternative positions is in order. As I showed in Chapter 3, each of such positions has had, at one point or other, illustrious supporters; and, they also argue that their position has strong evidential support. For example, *Tropists* claim that one – perhaps the main – advantage of their theory is that tropes are *evidently* the objects of our knowledge. I see *this particular brown* and *that particular brown*. I judge of their similarity only at a later time

– or so they claim.<sup>240</sup> *Nominalists* claim that individuals are *evidently* the objects of our knowledge. The trouble with properties is that we do not have a clear criterion of identity for them; the only intelligible criterion relies on our knowledge of individuals: two properties are identical when they belong to the same individuals. It cannot be that properties are the direct object of our knowledge, since we identify a property only through individuals. Thus, we know directly individuals.<sup>241</sup>

Clearly, I believe that trope theorists and *Nominalists* are wrong. We do have a criterion of identity for properties: two properties are the same when they have the same nomic role. And I believe that *Tropism* rests on a mistake: primitive resemblance is a contradiction in terms; our knowledge is comparative because we do know general entities, not particular ones. Still, both these points would need further development than the one I could provide here. More specifically, an analysis of the epistemic issues involved in the dispute is in order.

As for (i), it is not the most popular conception of knowledge, although it is employed, especially in connection with the explanation of scientific knowledge. For example, Hume claimed that all our knowledge of the future is based on the assumption that the future will resemble the past.<sup>242</sup> A defense of this account of knowledge tailored to the ontological purposes of *Extrinsic Universalism* is in order to

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<sup>240</sup> See for example, (Campbell, 1990).

<sup>241</sup> See, for example, (Quine, 1960).

<sup>242</sup> See, for example, (Hume, 1993).

substantiate the theory, and also to provide an argument against *Tropism*. I leave this for further research.

## §E. Numbering the World

Another issue affected by *Extrinsic Universalism* concerns the problem, outlined in the Introduction, of *Numbering the World*. This is the problem of providing an explanation for the fact that we cannot make an ontological statement (a statement about reality) that does not involve some numbers, for example a count of the entities of which the statement is about. *Extrinsic Universalism* entails that when we count we are not singling out individuals, but attributing numbers to properties. It is the way in which properties can be *numbered*, then, which is in need of an explanation. A more detailed analysis of the various ways in which a property can be *numbered*, an analysis of a different terrain than the one on which this work is focused, is therefore in order. I shall not address it at present.

## §F. Ingenuity or Fantasy?

"This is a project which I leave to anyone whose taste for exercising ingenuity for its own sake is greater than mine," Strawson wrote almost fifty years ago.<sup>243</sup> I hope to

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<sup>243</sup> (Strawson, 1959: 221).

have proved that the project is not ingenuous. If anything, it might require some fantasy and the disposition to take some risks.

Certainly, as we have just seen, the thesis that the sole denizens of reality are extrinsic universals requires us to change our views on a number of issues. You can take this to show that the thesis sits ill with a number of other intellectual enterprises, and thus should be abandoned. But, you can also take this to show that the thesis opens up new theoretical possibilities. As expected, I uphold the latter. The project of a reality populated by extrinsic universals only is an extremely fascinating one to me. If we embrace it, we are required to change our views on what we are, and on what a biological individual, or a material object, is. Those are considerable changes, but that does not make them wrong. As I showed, we do have signs from a number of sources that this is a more than plausible track. Following Aristotle's quote at the beginning of these concluding remarks, a person is not a person without a society. In the language of the theory I defended, this amounts to say that *Being a person* is extrinsic. A similar *extrinsicist* stance can be taken towards a cherry tree – there is no *Being a cherry tree* without another number of other universals in place – a cat, a rock, or a table. We have just to take this stance more seriously than we did thus far. There is no individual; no independent or essentially qualified entity; there are only repeatable entities, with a qualitative character, each of which depends, for its existence, on others.

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