

Defining 'Intrinsic'*

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Something could be round even if it were the only thing in the universe, unaccompanied by anything distinct from itself. Jaegwon Kim once suggested that we define an intrinsic property as one that can belong to something unaccompanied. Wrong: unaccompaniment itself is not intrinsic, yet it can belong to something unaccompanied. But there is a better Kim-style definition. Say that *P* is *independent of accompaniment* iff four different cases are possible: something accompanied may have *P* or lack *P*, something unaccompanied may have *P* or lack *P*. *P* is *basic intrinsic* iff (1) *P* and not-*P* are non-disjunctive and contingent, and (2) *P* is independent of accompaniment. Two things (actual or possible) are *duplicates* iff they have exactly the same basic intrinsic properties. *P* is *intrinsic* iff no two duplicates differ with respect to *P*.

I. Kim and Lewis

Jaegwon Kim defined an *intrinsic* property, in effect, as a property that could belong to something that did not coexist with any contingent object wholly distinct from itself.¹ Call such an object *lonely* or *unaccompanied*; and call an object *accompanied* iff it does coexist with some contingent object wholly distinct from itself. So an intrinsic property in the sense of Kim's definition is a property compatible with loneliness; in other words, a property that does not imply accompaniment.²

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¹ Jaegwon Kim, 'Psychophysical Supervenience', *Philosophical Studies* 41 (1982), 51-70.

² This way of putting it simplifies Kim's formulation by foisting on him a view he is not in fact committed to: the view that things that persist through time consist of wholly distinct temporal parts at different times. Given that view, one way for you-now to be accompa-

David Lewis objected that loneliness itself is a property that could belong to something lonely, yet it is not an intrinsic property. He concluded that Kim's proposal failed. He also conjectured that nothing resembling Kim's definition would work, and if we want to define 'intrinsic' we had best try something altogether different.³

II. A Kim-style Definition

That sweepingly negative judgement was premature. Though Kim's definition does indeed fail, a definition in much the same style may succeed.

First step. One intuitive idea is that an intrinsic property can be had by a thing whether it is lonely or whether it is accompanied. It is compatible with either; it implies neither.

Second step. Another intuitive idea is that, although an intrinsic property is compatible with loneliness, a thing's being lonely is not what makes the thing have that property. Lacking the property also is compatible with loneliness. And likewise with accompaniment: if a property is intrinsic, being accompanied is not what makes something have that property. Lacking the property also is compatible with accompaniment.

Putting the first and second steps together, we have that all four cases are possible. A lonely thing can have the property, a lonely thing can lack the property, an accompanied thing can have the property, an accompanied thing can lack the property. For short: having or lacking the property is *independent* of accompaniment or loneliness.

So can we define an intrinsic property as one that is independent in this way? —Subject to some qualifications, yes; but not in full generality.

A first qualification is that the proposed definition, and likewise all that follows, is to be understood as restricted to pure, or qualitative, properties—as opposed to impure, or haecceitistic, properties. There may be impure extrinsic properties, such as the property of voting for Howard (as opposed to the pure extrinsic property of voting for someone). There may be impure intrinsic properties, such as the property of being Howard, or having Howard's nose as a proper part (as opposed to the pure intrinsic property of having a nose as a proper part).⁴ These impure properties are had only by

nied is for you to persist through time, so that you-now coexist with your past or future temporal parts. But Kim himself remains neutral about the metaphysics of temporal parts; so what he actually says is as follows. Property *G* is *rooted outside the time at which it is had* iff, necessarily, for any object *x* and time *t*, *x* has *G* at *t* only if *x* exists at some time before or after *t*; *G* is *rooted outside the things that have it* iff, necessarily, any object *x* has *G* only if some contingent object wholly distinct from *x* exists; *G* is *intrinsic*—Kim's term is 'internal'—iff *G* is neither rooted outside times at which it is had nor outside the things that have it. We shall ignore this complication henceforth.

³ David Lewis, 'Extrinsic Properties', *Philosophical Studies* 44 (1983), 197–200.

⁴ Pure and impure relational properties are described in E. J. Khamara, 'Indiscernibles and the Absolute Theory of Space and Time', *Studia Leibnitiana* 20 (1988), 140–59. The

Howard, and not by Howard's duplicates, or even (perhaps) his counterparts. Our proposal is offered as a way of distinguishing amongst the pure, or qualitative properties, those which are intrinsic, and those which are extrinsic. Impure properties are set aside as falling outside the scope of the present discussion. To be sure, we might eventually wish to classify impure properties also as intrinsic or extrinsic. But that is a task for another occasion.

III. The Problem of Disjunctive Properties

Our proposed definition, as it stands, plainly does not work for disjunctive properties. Consider the disjunctive property of being either cubical and lonely or else non-cubical and accompanied. This property surely is not intrinsic. Yet having or lacking it is independent of accompaniment or loneliness: all four cases are possible.

So we require a second qualification: our definition should be deemed to fall silent about disjunctive properties. All it does is to divide non-disjunctive intrinsic properties from non-disjunctive extrinsic properties.

(The same goes for any definition that selects some one or two or three of the four cases, and says that a property is intrinsic iff all the selected cases are possible. Again, the property of being cubical and lonely or else non-cubical and accompanied will be misclassified as intrinsic.)

If a property is independent of accompaniment or loneliness, its negation also is independent. Yet if a property is intrinsic, so is its negation; and if a property is not intrinsic, neither is its negation. So we would expect trouble with negations of disjunctive properties. The property of being neither cubical and lonely nor non-cubical and accompanied is independent of accompaniment or loneliness: all four cases are possible. Yet it is not intrinsic. So the definition proposed so far fails in this case too.⁵

What is a disjunctive property? Not just any property that can be expressed as a disjunction! Any property at all can be expressed as a disjunction: something is *G* iff either it is *G*-and-*H* or else it is *G*-and-not-*H*. But we think most philosophers will be willing to help themselves to some version or other of the distinction between 'natural' and 'unnatural' properties. Given

notion of pure and impure intrinsic properties, by analogy with Khamara's distinction, was raised by Rae Langton (in conversation) and discussed by Humberstone in 'Intrinsic/Extrinsic', *Synthese* 108 (1996), 205–67 (accepted for publication in 1992), and in Langton's *Kantian Humility* (Princeton University Doctoral Dissertation, 1995). The notion of an 'interior property' attributed by Humberstone to J. M. Dunn includes both impure and pure intrinsic properties (J. M. Dunn, 'Relevant Predication 2: Intrinsic Properties and Internal Relations', *Philosophical Studies* 60 (1990), 177–206). Humberstone distinguishes the family of duplication-related concepts of intrinsicness from the interiority conception, and from a notion he calls non-relationality of properties.

⁵ A neater example is due to Peter Vallentyne ('Intrinsic Properties Defined', *Philosophical Studies* 88 (1997), 209–19): the property of being the only red thing. This is the negation of the disjunctive property of being either non-red or else both red and accompanied by another red thing.

that distinction, we can go on to capture our intuition that some properties are 'disjunctive' in a way that other properties are not.

Some of us will help ourselves to some sort of primitive notion of naturalness of properties. Others will accept an ontology of sparse universals, or of sparse tropes, that has a built-in distinction between natural properties and other properties. Still others will wish to characterize the natural properties as those that play some interesting special role in our thinking—but for our present purposes, even this vegetarian metaphysics will suffice. One way or another, most of us will be prepared to grant such a distinction.⁶ Here we must say farewell to those who will not make so free, and carry on without them.

What matters for now is not how we begin, but how we continue. Given some or other notion of natural properties, let us define the *disjunctive* properties as those properties that can be expressed by a disjunction of (conjunctions of)⁷ natural properties; but that are not themselves natural properties. (Or, if naturalness admits of degrees, they are much less natural than the disjuncts in terms of which they can be expressed.) That done, we can cash in our previous partial success, as follows.

Third step: the *basic intrinsic* properties are those properties that are (1) independent of accompaniment or loneliness; (2) not disjunctive properties; and (3) not negations of disjunctive properties.

The basic intrinsic properties are some, but not all, of the intrinsic properties. Other intrinsic properties include disjunctions or conjunctions of basic intrinsic properties; and, indeed, arbitrarily complicated, even infinitely complicated, truth-functional compounds of basic intrinsic properties.

IV. Duplication

Now we pause to recall a familiar pair of definitions. Two things (actual or possible) are (intrinsic) *duplicates* iff they have exactly the same intrinsic properties. (That is: iff all and only the intrinsic properties of one are intrinsic properties of the other.) *Intrinsic properties*, on the other hand, are those properties that never can differ between duplicates. A tight little circle—and, like all circles of interdefinition, useless by itself. But if we can reach one of the interdefined pair, then we have them both.

And we can. For how could two things differ in their disjunctive properties if they differed not at all in their non-disjunctive properties? And that

⁶ See *inter alia* David Lewis, 'New Work for a Theory of Universals', *Australasian Journal of Philosophy* 61 (1983), 343–77; David Lewis, 'Against Structural Universals', *Australasian Journal of Philosophy* 64 (1986), 25–46, especially p. 26; Barry Taylor, 'On Natural Properties in Metaphysics', *Mind* 102 (1993), 81–100; Mary Kathryn McGowan, *Realism or Non-Realism: Undecidable in Theory, Decidable in Practice* (Princeton University Doctoral dissertation, 1996).

⁷ The point of the parenthetical insertion is to remain neutral on the question whether all conjunctions of natural properties are themselves natural.

goes for their disjunctive and non-disjunctive intrinsic properties as it does for their disjunctive and non-disjunctive properties in general. Likewise for all other forms of truth-functional combination, even infinitely complicated forms of truth-functional combination. So we have this:

Fourth step: two things are (intrinsic) *duplicates* iff they have exactly the same basic intrinsic properties.

Fifth step: a property is *intrinsic* iff it never can differ between duplicates; iff whenever two things (actual or possible) are duplicates, either both of them have the property or both of them lack it.

So our definitional circle has opened out into a little spiral. Those intrinsic properties that were left out at the third step, for instance because they were disjunctive, are admitted at the fifth step. The basic intrinsic properties afford a basis upon which all the intrinsic properties supervene. We have our definition.

V. The Problem of Strong Laws

The modal status of laws of nature has become a matter of controversy. Some deny that laws are mere regularities; rather, laws are said to be regularities that hold by necessity.⁸ In other words, it is impossible for them to have counterinstances. But independence of accompaniment or loneliness is a modal notion. If laws are strong, maybe fewer properties than we think will turn out to be independent of accompaniment or loneliness. Then must we conclude that fewer properties than we think are intrinsic?

Suppose, for instance, that the only way that the laws permit for a star to be stretched out into an ellipsoid is for it to orbit around another massive star, and undergo distortion by the tidal effects of its companion. The property of being an ellipsoidal star would seem offhand to be an intrinsic property. In fact, it would seem to be a basic intrinsic property. However, this property is incompatible—nomologically incompatible—with loneliness.

But isn't that the wrong sort of incompatibility?—Not if laws are strong! In that case, if an ellipsoidal lonely star is nomologically impossible, it is impossible *simpliciter*. That would mean that the property of being an ellipsoidal star is not a basic intrinsic property—indeed, not any kind of intrinsic property—after all!

Some friends of strong laws may agree: they may say that our intuitions of what is intrinsic are made for a loose and separate world, and it is only to be expected that a world of necessary connections will defy these intuitions.

Well, that is one option. But there is another, perhaps better, alternative. If a theory of strong laws is to be credible, it had better provide not only a

⁸ See, for instance, Sydney Shoemaker, 'Causality and Properties' in *Time and Cause*, ed. Peter van Inwagen (Reidel, 1980); Chris Swoyer, 'The Nature of Natural Laws', *Australasian Journal of Philosophy* 60 (1982), 203–23.

sense of 'possible' in which violations of laws are impossible, but also another sense in which violations of laws are possible. Perhaps that second sense cannot be provided. In that case the doctrine of strong laws is not credible enough to deserve consideration. Or perhaps that second sense can somehow be provided. (Friends of strong laws might think it a hoked-up, artificial sense.⁹ But no harm done, provided they acknowledge the possibility of lonely ellipsoidal stars, or whatnot, in some sense or other.) If so it is this sense of possibility, whatever it may be, that a friend of strong laws should use in defining 'intrinsic'.

The doctrine that God exists necessarily is problematic in a similar way to the doctrine of strong laws. Suppose it to be true. The property of being divinely created turns out, surprisingly, to be a basic intrinsic property. How so?—Surely this property requires accompaniment by a divine creator, wherefore it is a property incompatible with loneliness.—No. An accompanied thing, we said, coexists with a contingent object distinct from itself. So accompaniment by necessarily existing God does not count.

What to do? If we change the definition of accompaniment by striking out the word 'contingent', it will turn out that if anything at all exists necessarily, whether it be God or the number 17, then loneliness is impossible, so no property at all is compatible with loneliness. That cure only makes matters worse.

Or we might accept the conclusion that if God exists necessarily, then the property of being divinely created is intrinsic; and we might deem this conclusion to be a swift *reductio ad absurdum* against the idea of God's necessary existence. Altogether too swift! Or we might accept the bankruptcy of intuition in the face of divine mysteries.

Perhaps a better alternative is again to distinguish senses of necessity. Perhaps God's existence may be supposed to be necessary in some sense. Yet in a second sense, it still might be contingent. (We could expect disagreement about which sense is straightforward and which sense is artificial). A conviction that the property of being divinely created is not intrinsic would then be evidence, for those of us who are prepared to take the supposition of God's necessary existence seriously, that it is the second sense and not the first that should be used in defining 'intrinsic'.

⁹ They might say that it is a matter of truth in all not-quite-literally-possible world-stories; or that it should be explained in terms of what possible worlds there are according to a certain Humean fiction. On fictionalist treatments of possibility, see Gideon Rosen, 'Modal Fictionalism', *Mind* 99 (1990), 327–54, and 'Modal Fictionalism Fixed', *Analysis* 55 (1995), 67–73; and for yet another slightly artificial sense in which violations of strong laws may count as possible, see Denis Robinson, 'Epiphenomenalism, Laws and Properties', *Philosophical Studies* 69 (1993), p. 31. And in working out these hoked up possibilities, they had better heed Allen Hazen's warning not to do so in a way that makes the definition circular, by using a principle of recombination stated in terms of intrinsic properties.

VI. The Status of Dispositions

Some authors take for granted that dispositional properties, such as fragility, should turn out to be intrinsic. Others are equally sure they are extrinsic. Where do we stand?

The answer implicit in our definition is: it depends. We remain neutral (here) between rival theories about what it means to be a law of nature. Different theories of lawhood will yield different answers about whether dispositions are intrinsic in the sense of the definition. A satisfactory situation, we think.

Let us assume that a disposition (or at least, any disposition that will concern us here) obtains in virtue of an intrinsic basis together with the laws of nature. Then whether the disposition is intrinsic boils down to whether the property of being subject to so-and-so laws is intrinsic. We have three cases.¹⁰

Case 1. The laws are necessary, in whatever sense should be used in defining 'intrinsic'. Then the property of being subject to so-and-so laws is automatically intrinsic. (See Section VII.) Dispositions are likewise intrinsic.

Case 2. The laws are contingent, in whatever is the appropriate sense; and further, the laws to which something is subject can vary independently of whether that thing is accompanied or lonely. Then being subject to so-and-so laws will presumably turn out to be a basic intrinsic property.

Case 3. The laws are contingent; but the property of being subject to so-and-so laws (or perhaps the conjunction of that property with some aspect of intrinsic character) is not independent of accompaniment or loneliness. Suppose, for instance, that laws are regularities that hold throughout a large and diverse cosmos. Then a lonely thing (unless it were itself of cosmic size) would be subject to no laws, for lack of a cosmos to serve as lawmaker. Or suppose that laws of nature are divine decrees, but that the law-making gods are lowly gods and exist contingently. Then a lonely thing, unaccompanied by a law-making god (and not itself a god) would again be subject to no laws. Under either of these suppositions, something unaccompanied by a lawmaker would be subject to no laws. So dispositions would in this case be extrinsic.

Those who take for granted that dispositions are intrinsic may just be dismissing Case 3 out of hand. Or they may instead have a concept of intrinsic properties that is best captured not by our definition but by a version amended so as to ensure that dispositions (with intrinsic bases) will count as intrinsic, no matter what the correct metaphysical theory of lawhood may be.¹¹

¹⁰ Ignoring the possibility that not all laws have the same status.

¹¹ Amended as follows: at the fifth step, after saying what it is for two things to be duplicates, end by saying that a property is intrinsic iff it never can differ between duplicates provided that these duplicates are subject to the same laws. Here we have adapted a suggestion put forward by Lloyd Humberstone in 'Intrinsic/Extrinsic', which in turn is an

Likewise, those who take for granted that dispositions are extrinsic may just be dismissing Cases 1 and 2. Or they may instead have a concept of intrinsic properties that is best captured not by our definition but by a version amended so as to ensure that dispositions will count as extrinsic, no matter what the correct theory of lawhood may be.¹²

VII. Consequences of our Definition

A property which necessarily belongs to everything never differs between any two things; *a fortiori* it never differs between duplicates. Therefore the necessary property (or, if you prefer to individuate properties more finely than by necessary coextensiveness, *any* necessary property) turns out to be intrinsic under our definition. Likewise, the (or any) impossible property turns out to be intrinsic.

Here is another way to make the point: necessary and impossible properties supervene on the basic intrinsic properties in the trivial way that non-contingent matters supervene on any basis whatever. There can be no difference in the supervenient without a difference in the basis, because there can be no difference in the supervenient at all.

Is this consequence acceptable?—We think so. True, the distinction between intrinsic and extrinsic is of interest mostly when applied to *contingent* properties: that is, properties that are neither necessary nor impossible. But it is harmless to apply it more widely. True, necessary or impossible properties can be specified in ways that make gratuitous reference to extraneous things—but the same is true of all properties. (As witness the property of being cubical and either adjacent to a sphere or not adjacent to a sphere.)

As already noted, the basic intrinsic properties are some, but not all, of the intrinsic properties. Intrinsic properties that are disjunctive, or that are negations of disjunctive properties, are not basic intrinsic. We have just seen that non-contingent properties also are intrinsic, but of course they are not basic intrinsic. (A property that cannot be lacked at all cannot be lacked by lonely or by accompanied things; one that cannot be had at all cannot be had by lonely or by accompanied things.) But are these the only cases in which the intrinsic properties outrun the basic intrinsic properties?—Our answer is a qualified 'yes'.

adaptation of a notion he finds in Kim's informal discussion, 'Psychophysical Supervenience', pp. 66–68. (Humberstone offers a nomologically sensitive notion of intrinsicness, according to which something is nomologically intrinsic—'Kim+intrinsic', in his terms—iff duplicates in worlds with the same laws never differ with respect to it.)

¹² Amended as follows: wherever 'lonely' appears in the first and second steps of our definition, put instead 'lonely and lawless', where 'lawless' means 'subject to no laws'. (We might need to resort to some hoked-up sense of possibility to ensure that lonely and lawless things are possible.) Here we have adapted a suggestion put forward in Vallentyne, 'Intrinsic Properties Defined'.

Suppose we assume that every accompanied thing has a lonely duplicate, and every lonely thing has an accompanied duplicate. (Here we are speaking of possible things that may or may not be actual.) That assumption may be controversial: on the one hand, it is part of an attractive combinatorial conception of possibility;¹³ but for that very reason it will be open to doubt from friends of strong laws, unless they devise a special sense in which violations of strong laws are 'possible'.

Without that assumption, we cannot answer the question before us. Making the assumption, we answer the question as follows. If a property is contingent, not disjunctive, not the negation of a disjunctive property, and intrinsic, then it is basic intrinsic.

Since the property is contingent, some possible thing x has it and some possible thing y lacks it. By our assumption about duplication, x has a duplicate x' which is lonely iff x is accompanied. Since the property is intrinsic and never differs between duplicates, x' also has it. Likewise y has a duplicate y' which is lonely iff y is accompanied, and y' also lacks the property. So the property is independent of accompaniment or loneliness. Therefore it is basic intrinsic. QED.

Recall our starting point: loneliness itself is a property compatible with loneliness, hence intrinsic according to Kim's definition; yet Lewis judged loneliness not to be intrinsic. We would want our definition to classify loneliness, and likewise accompaniment, as extrinsic properties. And so it does. (At least, given our assumption that every accompanied thing has a lonely duplicate, and every lonely thing has an accompanied duplicate.) For loneliness and accompaniment are not basic intrinsic properties; they are not disjunctive properties or negations thereof; and they are contingent properties.

The same goes (subject to the obvious provisos) for properties that imply accompaniment or loneliness: the property of being an accompanied cube, the property of being a lonely sphere, the property of being a daughter, the property of being an entire cosmos are all of them extrinsic. So far, no surprises and no problems.

Other examples are more questionable: ontological categories, posited by contentious metaphysical systems, which may (or may not) be reserved for accompanied entities. Could there be a change without something to undergo that change? If not, and if the change and the changing thing are counted as distinct coexisting entities, then the property of being a change is a property that implies accompaniment. Likewise *mutatis mutandis* for the category of

¹³ Such as that advanced on pp. 87–92 of David Lewis, *On the Plurality of Worlds* (Blackwell, 1986); or in D. M. Armstrong, *A Combinatorial Theory of Possibility* (Cambridge University Press, 1989).

events more generally; for the category of immanent universals;¹⁴ and for the category of states of affairs.¹⁵

A straightforward option is to follow wherever our definition may lead. That would mean deciding to say, for instance, that the property of being a change was extrinsic—and so likewise was any more specific property of being so-and-so sort of change. But mightn't we want to classify properties of changes in a way that conflicts with that decision? Some changes are sudden, others are gradual; some changes are foreseen, others are unexpected. Wouldn't we want to say that the property of being a sudden change, unlike the property of being a foreseen change, is an *intrinsic* property of changes? But then we had better not also say that the property of being so-and-so sort of change always counts as *extrinsic*.

A timid option is to limit the scope of our definition, declaring that it is meant to apply only to properties of things, not to properties of entities in other categories. That would keep us safe from misclassification, at the cost of cutting us off from some applications of the intrinsic/extrinsic distinction. (Think, for instance, of those familiar discussions in philosophy of mind that attempt to delineate the intrinsic from the extrinsic aspects of brain events. Well lost?—We doubt it.)

A laborious option might be to tinker with the notion of distinctness. When something changes, the thing and the change coexist, and in some sense these are two wholly distinct entities. But perhaps there is room for another, more relaxed sense in which the thing and its change do *not* count as distinct. In that relaxed sense, a sudden change to something in an otherwise empty universe could count as lonely, even though it remains true that the change and the changing thing coexist. We get the desired result that being sudden qualifies as an intrinsic property of changes. A foreseen change, however, could not possibly count as lonely even in the relaxed sense.

What makes this option laborious is that the work of tinkering with the notion of distinctness may have to be done over, category by category and metaphysical system by metaphysical system. A tall order! Nevertheless, probably the best alternative.

All the more so, because there is another side to the problem—a difficulty that the other options fail to address. Unless somehow we can block the conclusion that a changing thing and its changes are distinct coexisting entities, not only does it turn out that the changes are accompanied by the thing, but also that the thing is accompanied by its changes. Then a changing thing cannot be lonely; so the property of changing is not basic intrinsic, and presumably not intrinsic at all! Never mind what we do or do not want to say

¹⁴ See D. M. Armstrong, *Universals and Scientific Realism* (Cambridge University Press, 1978).

¹⁵ See D. M. Armstrong, *A World of States of Affairs* (Cambridge University Press, 1997).

about the properties of changes; the trouble now is that we are misclassifying a property of ordinary things. The laborious option offers a remedy. The straightforward option and the timid option do not.

VIII. Relations

Relations, like properties, can be classified as intrinsic or extrinsic. Consider, for example, the case of a two-place relation. (The case of a more-than-two-place relation is similar. The case of a one-place relation is just the case of a property.)

The ordered pair of x and y is *accompanied* iff it coexists with some contingent object wholly distinct both from x and from y . (Equivalently, wholly distinct from the mereological sum of x and y , assuming that they have a sum.) Otherwise the pair is *lonely*. A relation is *independent* of accompaniment or loneliness iff all four cases are possible: a lonely pair can stand in the relation, a lonely pair can fail to stand in the relation, an accompanied pair can stand in the relation, an accompanied pair can fail to stand in the relation.

For relations, as for properties, we distinguish pure from impure (qualitative from haecceitistic) relations, and we set aside the latter. We also distinguish natural from unnatural relations; that enables us to distinguish disjunctive relations from others. Now, the *basic intrinsic relations* are those (pure) relations that are (1) independent of accompaniment or loneliness; (2) not disjunctive relations; (3) not negations of disjunctive relations. Two ordered pairs are *duplicates* iff they stand in exactly the same basic intrinsic relations. A relation is *intrinsic* iff it never can differ between duplicate pairs.

So far, just a transposition of what we already said about properties. But we end with a distinction that has no parallel in the case of properties. Some relations are *internal*: they supervene on the intrinsic properties of their relata. A relation of match in intrinsic respects, for example congruence of shape, is an internal relation. A spatio-temporal distance relation is an intrinsic relation (unless nature holds surprises), but not an internal relation. The relation of aunt to niece is not an intrinsic relation at all.¹⁶

We can show that the internal relations are some, but perhaps not all, of the intrinsic relations.

If x and x' are duplicates, and so are y and y' , it follows that x stands to y in exactly the same internal relations as x' stands to y' . Yet it does not follow that the pair of x and y and the pair of x' and y' are duplicate pairs; so it does not follow that x and y stand in all the

¹⁶ Beware: our use of the term 'internal relation' is not to be conflated with that of the British Idealists. For a different terminology, see Lewis, 'New Work for a Theory of Universals', 356 (fn. 16): a relation 'intrinsic to its relata' versus a relation 'intrinsic to its pairs'.

same intrinsic relations. Suppose, on the other hand, that the pair of x and y and the pair of x' and y' are duplicate pairs: they stand in all the same intrinsic relations. Then x and x' have the same basic intrinsic properties, and so likewise do y and y' . Suppose, for instance, that x has basic intrinsic property F . Let R be the relation that anything having F stands in to everything, and anything else stands in to nothing. R is not a disjunctive relation or the negation of a disjunctive relation; since F is independent of accompaniment and loneliness, so is R ; so R is a basic intrinsic relation; so R is an intrinsic relation. Since x has F , x stands in R to y ; so x' stands in R to y' ; so x' also has F . Likewise for all other basic intrinsic properties of x , x' , y , and y' . So the two duplicate pairs stand in the same internal relations. Since internal relations never can differ between duplicate pairs, they are intrinsic relations. QED.

IX. Lewis

When Lewis objected to Kim's definitions of 'intrinsic' and advised that we should try something completely different, the line he took was as follows.¹⁷ Having become persuaded by D. M. Armstrong that we should be willing to help ourselves to a distinction between natural properties and other properties, he put forward the hypothesis that all perfectly natural properties are intrinsic; and further, that two things are duplicates iff they have exactly the same perfectly natural properties. Then he said (just as we have) that a property is intrinsic iff it never can differ between duplicates—and he was done.

That definition is simpler than our present one. So far as we can see, it does not conflict with our present one. What's wrong with it? True, Lewis had to help himself to a distinction between natural properties and others—but so did we.

Reply: Lewis's burden of commitments was, nevertheless, much heavier than ours. All we need is enough of a distinction to sort out the disjunctive properties from the rest. We need not insist that it makes sense to single out a class of *perfectly* natural properties, as opposed to a larger class of *natural-enough* properties; or that the members of our elite class will all, without exception, strike us as intrinsic; or that the elite class will serve as a basis on which the complete qualitative character of everything there is, and everything there could have been, supervenes. You can believe all that if you like. Indeed, Lewis still does believe all that. But for present purposes, at least, we can get by with much less; and if we get by with much less, we have a definition we can offer to philosophers more risk-averse than Lewis.

¹⁷ David Lewis, 'New Work for a Theory of Universals', pp. 355–57.

X. Vallentyne

Peter Vallentyne considered the definition of an intrinsic property as a property independent of accompaniment or loneliness, and rejected it for the reasons we have considered.¹⁸ He then turned in a different direction.

Vallentyne helps himself to the notion of a duplicate, and considers in particular the lonely duplicates of things. He says, in effect,¹⁹ that *G* is an intrinsic property iff *G* never can differ between a thing and a lonely duplicate of that thing.

This is not far away from something familiar: the half of the tight little circle that we've already seen which says that an intrinsic property is one that never can differ between duplicates.

The restriction to the case where one of the duplicates is lonely makes no difference, provided we may assume that everything has a lonely duplicate.

Suppose *G* never can differ between duplicates at all. *A fortiori*, *G* never can differ between a thing and its lonely duplicate. Conversely, suppose *G* never can differ between a thing and its lonely duplicate. Let *x* and *y* be duplicates. We have assumed that there exists a lonely duplicate of *x*, call it *z*. By transitivity of duplication, *z* is a duplicate also of *y*. *Ex hypothesi* *G* does not differ between *x* and *z*, or between *y* and *z*. So *G* does not differ between *x* and *y*. QED.

You might think the definitional circle between 'intrinsic' and 'duplicate' is too tight to be enlightening; or you might think it's worth something. We think it's worth something, but we think a definition that starts at a greater distance from its target is worth more. But, either way, Vallentyne's new twist on the tight circle—his attention to the special case of the lonely duplicate—seems not to make much difference. So, while we don't suggest that Vallentyne's definition fails to work, it seems to us that our rival definition has something more to offer.

¹⁸ Vallentyne, 'Intrinsic Properties Defined'. Vallentyne's work was independent of ours and approximately simultaneous.

¹⁹ This is a simplification of Vallentyne's actual formulation. Further complications arise because (1) Vallentyne, like Kim, remains neutral about the metaphysics of temporal parts; (2) his definition covers impure as well as pure properties; and (3) he uses a version of the 'lonely and lawless' amendment considered in Section VI (note 12) in order to classify 'law-constituted' properties—e.g. dispositions—as extrinsic.