MANY-ONE IDENTITY

Donald L.M. Baxter
Princeton University

There are certain paradoxes attending the concepts of identity, number, and existence, which seemingly can be resolved only if it is conceivable that many things be identical with one thing. But the concept of many things being one thing is itself paradoxical. If the many are one then the many are both many and not many. But that is absurd, or so it seems.

The paradoxes are raised by the following sorts of cases: First, there are cases in which two or more things become one thing (or vice-versa). Since becoming is a kind of identity, these are cases in which many are identical with one. Second, in cases of a whole of parts, I argue, the many parts together are identical with the single whole. So many are identical with one. Third, there are cases in which one thing becomes another thing. These are cases in which distinct things that exist at different times are identical with one thing that exists at both times. Thus they are cases in which many are identical with one. Not surprisingly various further paradoxes are entailed by these cases, all of which can be resolved if many being one can be made sense of. The paradoxes show a need for a theory of many-one identity. This essay supplies such a theory.

I make sense of many-one identity by positing that identity (in the familiar sense), number, and existence are relative to what I call 'counts'. There is no one count of what exist, there are many. Some counts are better than others depending on interest or purpose. Within a count it is never the case that many things are one thing. The familiar version of identity rules within counts. But I introduce a new sort of identity to hold between counts — call it 'cross-count identity'. In addition to one thing in one count being cross-count identical with one thing in another, many things in one count can be cross-count identical with one thing in another.

In effect I take as primitive that many can be identical with one, and fit it into a theory that removes the apparent absurdity. What are many in one count are one in another. Making the distinction between counts resolves the contradiction.

Explaining cross-count identity will require an account of the discernibility of identicals. That is, I will argue that something can qualitatively differ from itself. Certain of the paradoxes I will be marshalling will be solved by appeal to this part of my theory.

I will also contend that on a given consideration one count may be better than another. Some of the paradoxes can be understood as cases in which a count better on one consideration is worse on another.

Though it may not always be obvious, my strategy is to take concepts involved in ordinary ways of speaking, find paradoxes, then make theoretical distinctions to solve the paradoxes. The metaphysician's job is to introduce complexities to explain away the apparent inconsistencies in the ordinary concepts we simple-mindedly and effectively use. The goal is to preserve all the important features of the ordinary concept in a reformulation that differs from it only in subtle ways. The goal is as much as possible to have ordinary uses of the concept be literally true, as opposed to true only on significant reformulation. If this job can be accomplished with a comprehensive theory, as opposed to various ad hoc ones, so much the better.

Thus I will start from ordinary examples in which seemingly and paradoxically many are one. My goal is to give a theory in which really and non-paradoxically many are one. The point is to give a theory in which common sense formulations can serve as theoretical formulations also.

I

An ordinary and useful concept is that of two (or more) things uniting. Yet fairly easily this concept can be made to look incoherent, as I will explain. There are two senses in which things unite. In one sense they become parts of the same thing. In the other sense they become the same thing. The concept of

uniting is problematic in both senses, though more obviously so in the second. Let me call uniting in the first sense 'joining into one' or 'joining' for short, and call uniting in the second sense 'merging into one' or 'merging' for short.[1]

Examples of joining are easy: the thirteen American colonies united into a single country, a man and a woman unite when married, opponents unite in opposition to another opponent. Although it is less idiomatic to say 'unite', anytime things are fastened, coupled, fused, bonded, assembled, etc. into a whole, the things are parts or components or members united into a whole. In the case of joining, the things joined are still different things in some obvious sense — they are different parts of some whole.

Examples of merging are harder to give because the metaphysical problems with merging are more obvious. So what might prima facie be thought of as merging is quickly explained away as joining. Prima facie sperm and egg merge into a zygote. Prima facie a pound of blue paint and a pound of yellow paint merge into two pounds of green paint. Of course the idiomatic way to express this last is to say they mix. These sorts of prima facie mergings are usually quickly explained away as the disassembly and new assembly of the parts of the things 'merged'. So 'merging' in these cases becomes unjoining and rejoining of parts. The best example of merging I can think of which doesn't prompt immediate theorizing in terms of joining is the example of visual images. Look beyond a pen with two eyes and then slowly bring your focal point to the pen. Two images become one. They merge.

I think joining has all the problems merging does. I will argue that soon. Now I want to list the problems with merging that seem especially important.

In merging two things become one thing. There are four main problems with this: (1) First a problem with the transitivity of identity. Things are numerically identical with what they become. If A and B are numerically distinct, and become C, then they are not distinct. The two are identical with the same thing and so identical with each other. But it is absurd that distinct things not be distinct, that many things be one and not many.

(2) Second, a problem with qualitative difference (in an

extended sense of 'quality'). If A was mine, and B was not mine, and A and B become C, then C was mine and C was not mine. But it is absurd that the same thing have and lack a property.

(3) Third, a problem with existence. If two things become one, the one they become does not yet exist while they are still two. On the other hand it is identical to both and both exist beforehand so it exists beforehand. So it exists and does not exist. But this is absurd.

(4) Fourth, a problem with vagueness of existence.[2] If A and B have not merged, then the single thing they will become does not yet exist. After they merge it does. There is no precise moment at which they cease to be two. It is vague when what they become begins to exist. But vagueness occurs when there is something which neither clearly has nor clearly lacks a property. For existence to be vague there would have to be something which neither clearly exists nor clearly does not exist. But if there *is* such a thing then it clearly exists. So it is absurd to say that its existence is vague. For this to be, it would have to both clearly exist and neither clearly exist nor clearly not exist.

Other paradoxes could be spun out but these four are a good sampling.

All these problems could be removed by assuming that appearances are deceiving. We could say that two things do not really become one thing. For instance we could say that there really are two things all along; they come to occupy the same location. Or we could say that there really was one thing all along, but it has ceased to be scattered. Or we could say that there were two that have ceased to exist and now is one which has come into existence, but there was really no becoming, i.e. no identity between the two and the one. But I would rather not assume that appearances are deceiving. Let's assume that two things really become one thing, and try to make sense of this. If nothing else the result will be an exposure of hidden complexities in the ordinary way of thinking.

The problems with merging apply also to joining. The problem (4) with vagueness of existence straightforwardly applies. The whole doesn't exist until the parts are suitably joined. But what the relevant ties are and how strong they have

to be is often vague. When does hardening glue join two boards? There are various ways an answer could be made more precise.

But the other problems (1), (2), and (3) apply to joining also, though in a less obvious way. Even in joining there is a sense in which the parts merge into the whole. That is because there is a sense in which a whole is identical with its parts, as I will argue next. Once parts have joined, the parts together are identical with the whole — many things are one thing — and so the problems with merging into one attend joining into one.

The following puzzle gives some motivation for my position: Lenman owns a piece of land and concocts a scam to increase its worth. He divides it into six parcels and offers them for sale. He figures the whole is distinct from each of the parts, and they are distinct from each other, so the whole is a seventh thing. He will still own the seventh piece of land even after selling the six parts. The Bradley brothers learn of Lenman's intentions and each buys a different piece. Then they take Lenman to court arguing that he no longer owns the whole. Rather, they say, they jointly own the whole. For the whole *is* all its parts taken together. They are specifically stating an identity. Nothing other than identity justifies their claim to ownership (assuming that one becomes owner of only what one buys). They are denying that there are seven things under consideration. The six parts together *are* the so-called seventh thing.

It seems to me that the Bradley brothers are right, Lenman is wrong. They jointly own the whole. He has sold it to them. But the brothers' position has the disadvantage of entailing that many things are one thing, that distinct things are not distinct. To support the brothers, this paradox must be resolved.

Treating becoming as a relation of identity over time makes both merging and joining instances of the general parts/whole problem raised by the land scam puzzle. Merging: if two become one then two are one. Joining: if two become two that are one, then two are one. Parts/whole: if two together are one, then two are one.

A variant of the parts/whole problem comes from Geach concerning the cat Tibbles. Suppose that there is only a single furry cat on the mat (call him 'Tibbles'). Now consider a big proper part of this cat which consists of the cat less one of its

hairs. There are at least as may such big parts as there are hairs. Surely each such big part is itself a cat. So there are at least as many cats as there are hairs on the original cat, plus the original cat itself. So it is false that there is only a single furry cat on the mat. But this is absurd, given the original supposition.[3]

Here again is the case in which it seems that many things — the various slightly diminished cats — are one thing — Tibbles itself. This is a variant case of many parts being one whole. But in this case it seems as if each part by itself is the whole. Each is a cat. Tibbles is the only cat. So each is Tibbles. On the other hand, it seems that each part is distinct from the whole, for the whole has a hair that the part lacks. So something (any slightly diminished cat) is identical with something else (the whole cat). So distinct things are not distinct. That is a paradox. Also the one thing which both are, both has and does not have certain hair. But that is a contradiction. That is another paradox.

Geach's problem is related to van Inwagen's case of a part becoming the whole and thus being identical with the whole it was previously distinct from. Peter van Inwagen proposes the following conundrum: Consider a whole physical object and a proper part almost as big (e.g. Descartes and Descartes less his leg). Whole and proper part are distinct. Consider now the relatively small part that is the difference between whole and big proper part (e.g. his leg). Suppose this small part were lost. The whole would survive the loss; physical objects can survive the loss of small parts. Also the big proper part would survive the loss; for physical objects, detaching a part does not affect the existence of what it is detached from. However, the big proper part would become an improper part. In fact it would be indistinguishable from the whole except for their histories. For physical objects, there is no numerical distinctness without current qualitative distinctness. So the formerly distinct whole and part become identical. So the past distinct things are each identical with the current same thing. So by the transitivity of identity, the distinct things are identical. But this is absurd.[4] Van Inwagen's problem can be compounded, adding vagueness problems, by repeatedly taking a negligible part from a physical object.

In general this is the problem of something becoming

something else. Consider a house that is reduced to a pile of rubble. If this happens instantly we are inclined to say the house ceases to exist at that instant. Only rubble remains. The house becomes a pile of rubble, though in this case there almost unproblematically seems to have been a succession consisting of first a house then something that is no house. But suppose wind, rot and the termite reduce the house over a period of decades. By analogy with the first case the house becomes something else. But the declining house retains it identity for quite a while. And whatever identity there holds between the house at various times, seems also to hold between the house at later stages and the pile of rubble. It is vague when the house ceases to exist and only rubble remains.

Such a case raises the same paradoxes as before. (1) If something becomes something else, then two things are one thing — the previously existing thing, and the following distinct thing, are the same thing. (2) The same thing can have and lack a property — e.g. being a house. For the house has it, the pile of rubble lacks it, and house and pile of rubble are the same thing. (3) The rubble both exists and does not exist when the house exists. For the pile of rubble both is and is not identical with the house. And (4) it is vague when the house ceases to exist, although existence cannot be vague.

Becoming something else has all the problems of many becoming one. After all, becoming something else is a species of many being one. The many exist at different times, at all of which the one exists. In this example, house and pile of rubble exist at different times; the one thing that they are identical with exists throughout the whole period.

So I have marshalled a whole range of cases: many things becoming one, many things being one, one thing being another, one thing becoming another. And all of these are variants of many things being one thing. How to account for that is the root problem. It could be assimilated to a number of classical problems by being called the problem of 'the one and the many'. We certainly think that the ordinary concepts of uniting, parts/whole, and becoming something else are instantiated. But making sense of them requires an account of many-one identity.

The account I will propose in what follows will have two

main components: that identicals are discernible (i.e. something can qualitatively differ from itself), and that number, existence and identity are relative to what I will call 'counts'. Some counts are better than others depending on practical or theoretical interest or purpose. Via these I give a theory of many-one identity designed to solve this essay's version of the problem of the one and the many.

II

If something exists then it is one thing. So apparently if a whole with two parts exists, then three things exist: the whole and each of the parts. But this is a very counter-intuitive way to count. Consider the express check-out line in a grocery store. It says 'six items or less'. You have a six-pack of orange juice. You might well wonder if you have one item or six items. But you would never hesitate to go into the line for fear of having seven items: six cans of orange juice plus one six-pack. Furthermore suppose the orange juice is fifty cents per can. You would be outraged to be charged six dollars — six times fifty cents per can plus one times three dollars per six pack. If there are seven items then the cost is the total cost of each item. But that is not the cost, so there are not seven items. There are either six or one. In counting we either count the whole as one, or each part as one. If we count the whole then we do not count the parts. If we count the parts then we do not count the whole.

Which we do count depends on the situation. If there is a price tag on each can of juice we might well count six. If there is a single price tag on the packaging holding them together, then we might well count one. Different considerations influence how we count.

I propose that we take the fact that there is more than one way to count, as evidence that there is more than one true number of things that exist. Or as I will be saying, there is more than one real 'count'. I will be using 'count' as a technical term for the results of a given way of counting. A way of counting would be specified by giving rules or instructions or standards for counting. The results of a way of counting — a count — would be specified by saying what things are counted as one thing. So, for instance, one could specify a count by saying,

'The desk counts as one thing, the chair counts as one thing, each of these pencils counts as one thing,' etc. To be in a count is to be counted in, on that way of counting. A count determines the number of things there are. Based on the previous observations, I propose to make it a principle that there is a count which includes the several parts and a count which includes the whole, but no count which includes both. That is, no count which counts the parts as single things would also count the whole as a single thing.

Suppose we wonder what the number is of things that exist. By the principle I began with, if something exists then it is one thing. So if it exists it is in a count. But not both a whole and its various parts are in a given count. So what exists is relative to count. (Thus I will speak of existing in a count as a variant of being in a count, and so as a variant of being one thing on a given way of counting.)

An alternate theory along the following lines is certainly conceivable: There is only one count (in my sense) of what exists, and yet not everything that exists is counted in a given situation by someone counting. However such a theory assumes that the way we count should not be taken as an indication of how many things there are. Why assume this? Some argument is needed. The assumption is not just obviously a good one, whatever its merits. I propose assuming the opposite, in order to solve the paradoxes I began with.

Note that the principle entails that a part exists in a different count than any of *its* parts. So a part's parts exist in a different count than either the whole or that part. Thus a whole has various groups of parts that exist in various counts. But for simplicity I will assume that for a whole there is only one count in which its parts exist. Note secondly that I will often talk of things 'counting'. I am drawing on the use we make of 'count' when we say 'This counts. That doesn't count.' Things that count are things that are counted in.

Here is the payoff for countenancing counts: There is more than one count of what exists. In cases of many-one identity, the many exist in one count and the one exists in another. So the distinction between counts will remove the paradox of many-one identity. There will be no count in which many are both many and not many. The many in one count are one in another.

III

For the above to work I need an account of how many things in one count can be identical with one thing in another. Basically I will be taking many-one identity as primitive. The concept cannot be constructed out of the current philosophical concept of identity. But I will try to show sufficient similarity between the two concepts to, I hope, make many-one identity easier to understand.

I will call the identity between things in different counts 'cross-count identity'. The point of sections III, IV, and V is to make cross-count identity intelligible. I will be focussing in particular on cross-count identity between many parts and one whole. So the account will be an explanation of how many can be identical with one. The explanation will take for granted that it is understood how *one* thing can be identical with one thing, and will build an understanding of how *many* things can be identical with one thing.

Let me try to motivate the explanation I will be giving. It is tempting to ask, 'What becomes of the parts in the count in which only the whole exists?' Surely the whole from the middle to the left is distinguisable from the whole from the middle to the right. So they exist. The first is closer to the left edge than the second. They qualitatively differ. So they are numerically distinct. So the distinct parts exist in the count in which supposedly only the whole exists and the parts do not. So my account is absurd.

But if I can show that what becomes of the parts is that they become things distinguishable but not numerically distinct then I answer this objection. And further I have the makings of an account of how many are identical with one, as follows:

Suppose something can be distinguished from itself. Consider a whole distinguished one way, as opposed to the whole distinguished another way. Suppose that one part is identical with the whole as distinguished one way. Another part is identical with the whole as distinguished another way. The numerically distinct parts are identical with things that are (by hypothesis) distinguished and yet numerically identical. So a many-one identity holds between parts and whole.

I am not trying right here to explain or remove paradox. I am just trying to give the structure of the account of many-one identity to follow. The account will have two parts: (1) the discernibility of identicals, to explain how a whole as distinguished one way can qualitatively differ yet be numerically identical with itself as distinguished another, and (2) cross-count identity, to explain how a part (which exists in one count) is identical with a whole as distinguished some way (which exists in another count). Many-one cross-count identity is a relation between many things in one count and a single thing in another, such that each different part is cross-count identical with the whole distinguished in a different way.

IV

It seems absurd to say that there is a count in which the whole exists and the parts do not. For the whole from the center to the left can be distinguished from the whole from the center to the right. What is this if not a distinguishing of the left and right halves? What is this if not a distinguishing of two parts? If only the whole exists, then distinct parts of it exist, so only the whole and not only the whole exists. But that is absurd.

I will argue that in this case the whole is being distinguished from itself, rather than parts being distinguished from each other. Ordinary language provides a number of ways to distinguish something from itself. We use phrases such as 'insofar as', 'to some extent', 'in a certain respect', to make these distinctions. I will borrow the ordinary to use for the theoretical.

Here are some examples:

As a Bishop, he could only approve Father Vaillant's eagerness to be gone, and the enthusiasm with which he turned to hardships of a new kind. But as a man, he was a little hurt that his old comrade should leave him without one regret.[5]

As a bishop, Bishop Latour approved. As a man he did not approve. But Latour as bishop and Latour as man are the same person.

Thus tho' causation be a *philosophical* relation, as implying contiguity, succession, and constant conjuction, yet 'tis only so far as it is a *natural* relation, and produces an union among our ideas, that we are able to reason upon it, or draw any inference from it.[6]

We reason upon causation insofar as it is a natural relation; we do not reason upon causation insofar as it is a philosophical relation. But (at least on this way of speaking) they are the same relation — causation.

> Sensual Pleasure qua Pleasure is Good & desirable. by a Wise Man. but if it be Contemptible tis not qua pleasure but qua pain or Cause of pain. or (wch is the same thing) of loss of greater pleasure.[7]

Sensual pleasure to the extent that it is pleasure is not contemptible. Sensual pleasure to the extent that it is pain is contemptible.

Think of a mixed blessing like a car. To the extent that a car provides easy transportation it is good. To the extent that it fouls the air it is not good. But it is the same car that is good and not good. These are all ways of distinguishing something from itself. I do the same thing with a whole. The whole insofar as it occupies one location differs from the whole insofar as it occupies another. One is in a location the other is not in. Yet it is the same whole that is so differing.

It might be objected that phrases such as 'insofar as' should be interpreted as making predicates more complicated to prevent contradiction. They should be interpreted that way in order to be philosophically conservative — that is, to avoid admitting the concept of something differing from itself. Thus according to this objection '...insofar as he is a Bishop, approves' is one predicate and '...insofar as he is a man, does not approve' is another predicate which is not the negation of the first.

However, the proposal in this objection fails to account for the following fact. 'Latour as Bishop approves, and Latour as Bishop does not approve' is a contradiction. But according to the objection, it is not a contradiction. Only 'approve' is in the scope of the 'not'. The whole rest of the predicate would have to be in the scope of the 'not' for there to be a contradiction. Thus the proposal in the objection fails to account for something that must be accounted for. So the objection fails.

Here is further support for my proposal. We often answer questions 'Yes and no.' If asked whether he approves Latour could well answer, 'Well, yes and no.' The metaphysician's job is to make technical sense of common sense. How can a philosopher preserve the propriety of answering 'Yes and no' without being committed to the propriety of a contradiction? That is the theoretical task. Fortunately the task is easily accomplished by listening to what we ordinarily say next: 'As Bishop I do approve, but as a man I do not approve.' Letting the phrases 'as a Bishop' and 'as a man' be part of the subject makes the predicates '... do approve' and '... do not approve'. That one predicate is the negation of the other explains the propriety of answering 'Yes and no.' Attributing the predicates irespectively to Latour as distinguished one way and to Latour as distinguished another way, prevents contradiction. The theoretical task is accomplished.

Perhaps I am not being philosophically conservative. But I am being as conservative as possible about ordinary concepts. For I see metaphysics as commentary on ordinary ways of speaking.

A further consideration: A superior might request, 'Tell me about Latour as Bishop.' Here the subject of discourse is Latour, but more particularly is Latour as Bishop.

And another: We might have the following conversation. 'Does bittersweet resemble sugar?' 'Yes and no. Insofar as it is sweet it does. Insofar as it is bitter it doesn't.' There is a property — sweetness — shared by bittersweet insofar as it is sweet, and sugar.

I do not claim that my way of interpreting such utterances is the only way. But it works, and will be of much theoretical use in solving my version of the problem of the one and the many.

So I am urging the discernibility of identicals. To say that identicals are *in*discernible is to mean that for all a and b if a and b are identical then a and b have all the same properties. So when I say that identicals are discernible I mean that there

exists some *a* such that *a* has and lacks a property. For *a* insofar as it is one way has the property and *a* insofar as it is another way lacks it.

A venerable type of inference is: *a* has property F, *a* is numerically identical with *b*, so *b* has property F. I do not want to dispense with this but merely circumscribe its application. It is valid of *a* and *b* considered unqualifiedly. But it is not valid if either *a* or *b* is considered qualifiedly. Latour insofar as he is a Bishop approves. But it does not follow that Latour insofar as he is a man approves, even though they are the same person.

Likewise it is a venerable inference that if *a* has a property and *b* lacks the property, then these are two things. And again, the inference is valid of *a* and *b* each considered unqualifiedly. But it is not valid if either is considered qualifiedly. Latour as Bishop and Latour as man qualitatively differ but are the same person — Latour.

Identicals considered unqualifiedly are indiscernible. But identicals considered qualifiedly may be discernible.

V

The next task is to explain cross-count identity. Consider the following example. You are spirally peeling an orange, keeping the peel in one piece. Before peeling you talk of the single whole orange; afterwards you talk of its two parts — the inside and the outside. You are showing a child an orange then its parts. First you say, 'Here's an orange. It's juicy inside but not outside.' After peeling you say, 'Here's the inside of the orange — it's juicy. And here's the outside — it's not juicy.' In the before case, you are talking about one thing, the orange. The orange inside is one way and the orange outside is another. (Let 'the orange outside' be short for 'the orange insofar as it occupies the location of the peel', etc.) Despite the qualitative difference, counting both the orange inside and the orange outside would be counting the orange twice. In the after case, the inside of the orange is one thing that is one way, and the outside of the orange is a second thing that is another way. The two resulting parts come from the single orange. Yet there is a clear sense in which the inside of the orange came from just the

orange inside, and the outside of the orange came from just the orange outside. The respective resemblances — being juicy or not — make it clear which came from which.

Now take a case in which the orange is not peeled, but you are just comparing the whole with the two parts. It is tempting to think that the orange inside is the inside of the orange, that the orange outside is the outside of the orange. How can I account for this identity? To go slowly, I will set out the account without discussing identity, but will simply discuss a mapping. There is a mapping of items that exist in one count (the parts) onto an item that exists in another (the whole). I will use the terminology of mapping: a pre-image is mapped onto an image. I will assume that a pre-image is in a different count than its image.

In what follows the pre-images will be the many parts. The images will be what the parts are mapped onto.

What exactly is the image of a part? The image of a part is: the whole as partially located somewhere. I say partially located as opposed to having a part located. For in the count in which the whole exists, the part does not exist. And so, for instance, a can is mapped onto: the six-pack as partially located in the area in which the can is located in the other count. Thus the six-pack in the respect in which it is in a given location, is the image of the can which occupies that location. Likewise the orange inside, is the image of the inside of the orange.

It seems natural to speak of what are distinguished but not distinct, in the plural. Thus I talk of the images that the several parts are mapped onto. But the images are numerically identical — they are just the whole distinguished different ways. To talk about this I will speak of one thing insofar as it is various ways, as one but 'distinguishably many'. A single thing in a given count is distinguishably many if it differs from itself in the way just explained.

Aside: What are many things can be thought to be distinguishably one. We talk about things 'in concert', or 'collectively', or 'unanimously', or 'all together', or 'as a whole'. But I will not pursue this here except to point out the following. The image of several parts *collectively* is the whole considered unqualifiedly.

So suppose you have six parts in locations 1 through 6 respectively. Then the image of the first part is the whole insofar as it is in location 1, the image of the second part is the whole insofar as it is in location 2, etc. The six images are qualitatively distinct but numerically identical. The images are intra-count identical, for they are all identical to something - viz. the whole — that exists in the same count in which they do.

It might be objected that if these images are identical, then any image is the image of any part. Let me block this result by stipulating that in my mapping image must exactly resemble pre-image, in every way that does not entail that image and pre-image exist in the same count, or are identical with the same things. Thus each part exactly resembles the whole insofar as it occupies the part's location, and also the parts collectively exactly resemble the whole.

At this point the reader will either leap with me or hold back. For I want to say that there is a perfectly good sense of identity in which each part is identical with its image. This is what I am calling 'cross-count identity'. The reader is well-advised to balk here because I am proposing in effect many-one identity. The parts are cross-count identical with images intra-count identical with each other. Let me consider an objection, then argue that we should proceed as I advise.

It might seem obvious that a whole is numerically distinct from each of its parts. So the whole is distinct from all its parts. So my proposal for many-one identity is unwarranted. But this objection is making an important mistake. Even if the whole is numerically distinct from each part (which I do not grant — see section VII), it only follows that the whole is distinct from all the parts *individually*. But what is at issue is whether the whole is distinct from all the parts *collectively*. And we have no current theoretically developed sense of identity in which it makes sense to assert that 'It is false that many things collectively are identical one thing.' The only current theoretically developed sense of identity requires that both noun phrases flanking the identity predicate be in the singular. So by the standards of current theoretical work if it does not make sense to assert many-one identity, neither does it make sense to deny it.

Why should not these standards be adhered to? Why should

I try to assert something with the dubious advantage that by my opponents' lights they cannot make sense in denying it? For by their lights I cannot make sense in asserting it either. My answer is that in ordinary usage we have a concept of may-one identity. The point of philosophy is to make technical sense of common sense. One could argue that we cannot understand many-one identity. Philosophers have restricted theorizing to the explication of one-one identity so that is all we do and can understand. But to so argue is in effect to condemn the less tractable for not being more like the more tractable.

We do have the ordinary concept. People say things like 'We are a team', 'We are all one', 'They are a unit', etc. It is controversial that such claims could or should be taken at face value. The standard reinterpretations are so familiar that it is hard to distinguish interpreted from interpretation: 'The guys *compose* the team', etc. But the standard interpretations must be recognized as interpretations. And it must be recognized that they solve the problem by ignoring the data. The original formulations start with a plural form then use 'are' then end with a singular form. Ignoring data is what the standard interpretations do, since there is no attempt to explain the original paradoxical formulations. So an alternative that explains the data should be considered. On my account the plural form refers to things in one count, the singular form refers to one thing in another count, and the 'are' expresses many-one identity.

Thus I want the mapping of part to image in the whole to be a case of identity — cross-count identity. Since the images are intra-count identical, the many parts are cross-count identical with the one whole. Here is the many-one identity needed to solve the paradoxes.

The original problem with many-one identity was that many things would be both many and one, that is many and not many. But my account resolves the apparent contradiction as follows. Many things are many in one count and not many in another. It would be absurd for them to be many and not many in the same count. But distinguishing counts resolves contradiction.

VI

A problem with my account is that it seems to provide an embarassment of riches. There seems to be no right answer to the question 'How many?' in cases of things with parts. If you ask a young child with a lump of clay in each hand how many lumps of clay he has, it seems as if on my account answering one, two, or forty are all equally correct. There are counts in which each is the correct answer. Yet we would congratulate the child for answering 'Two' and correct him were he to say 'One' or 'Forty'. To be true to common sense I need to explain how there can be a right count.

Note that the problem here cannot be solved just by appealing to sort. Specifying the sort — lump of clay — is not helping in this example. A more specific sort — separated lump of clay — could be used. But suppose the two lumps were in contact. The more specific sort would not work. Another sort could be dreamed up, but these solutions are ad hoc. It would be better to have a more systematic solution.

My answer is that some counts are better than others. Fifteen small lumps of clay compressed together in a relatively small space bounded by air and a palm much better count as one lump of clay. There is a count in which the fifteen parts exist, but a better count is one in which the single whole exists. What makes counts better? I conjecture that it is the interests or purposes of people. For purposes of storing, transporting, and modelling lumps of clay there is little need to pay attention to parts of separated lumps.

A lot could be said about the various and varying values of counts. That is work for another occasion. But I do want to point out some examples of principles for evaluating counts. Principles of identity and distinctness are such principles: The distinct are separable. The indiscernible are identical. Identity through time requires continuity through time. Same origin entails identity. Such principles recommend some counts over others. For instance according to the first principle the count in which two inseparable things exist is inferior to the count in which they are one thing.

Counts might have competing claims to superiority.

Suppose something changes radically. The radical change might give value to the count in which the thing before and the thing after are distinct. Yet its continuity through time might give value to the count of one. Which is better? It is hard to say. Secondly a count might change in value. The count in which a lump of clay is one might lose value when the lump is divided and the whole becomes a scattered object. Then the count in which the two parts exist might become superior. Finally a count that is better for some purposes might be worse for another. A piece of rock that best counts as one to the gardner, might better count as three to the geologist who sees small rocks embedded in a piece of hardened lava.

VII

This theory of many-one identity can be used to resolve the paradoxes I began with. That it solves paradoxes, and that it solves a variety of paradoxes in a systematic way, is evidence of the theory's value.

Consider two things merging. Here is how I conceive that: There is a count in which two things exist — call it the two-count. In this count they remain two even after they come to occupy the same location. There is another count in which the two things in the first count are one thing — called it the one-count. This one thing is spatially scattered at first then ceases to be scattered. It is a principle of number that spatially separated things best count as two, and another principle that things that occupy the exact same location best count as one. So initially the two-count is the best count but after the merging the one-count is the best count. During merging it is not clear which is the better count. In addition to these two counts there are others arising from the further principle that penetration (two things in the exact same location) is impossible. There is a count according to which the two things cease to exist when merged and a third thing begins to exist. In this count there are three things — call it the three-count. The single thing remaining is not a whole containing the first two, but is merely a product of their merging. Following Hume on penetration, there are also two other counts in which one of the two original things survives the merger and the other is

annihilated.[8]

We have some choice how to conceive of merging, but the ordinary concept — on my revision of it — seems to be this: that what at first better counted as two, now better counts as one. For the ordinary concept is that the previously two are now one thing, not that they have produced a third or that one of them has been destroyed. Now to resolve the paradoxes:

(1) There was a problem with the transitivity of identity. If the two distinct things are each identical with the one thing they become, then the distinct things are not distinct . But on my theory they are distinct in one count and not distinct in another. So there is no contradiction.

(2) Next was a problem with qualitative difference. Suppose we consider the count in which the resulting one thing, call it 'C', exists all along. Previous to merging it was a scattered object. It might well have been that C insofar as it was located one place was mine and C insofar as it was located another place was not mine. I have argued that identicals are discernible.

It might be objected that C as in one place is numerically identical with C as in another place. So I owned both. But once we have theoretically countenanced the discernibility of identicals, we have to be much more careful about inferences involving identity. If the qualitatative differences are important, then they can block such inferences.

(3) There was a problem with existence. It can be solved as follows: The one thing does exist beforehand in the one-count. It does not exist beforehand in the two-count. There is another way to conceive the problem and its solution. Consider viewing the merger in the three-count. Call the third thing, produced by the merger, 'C'. It seems that C both does and does not exist prior to the merger. But the distinction between counts, again, removes the contradiction. In the one-count C does exist before the merger (that is to say that C is cross-count identical with the one thing that exists before); in the three count C does not exist before.

(4) There was a problem with vagueness of existence. There are two ways to solve it corresponding to the two ways to solve (3). First, it is vague when the one-count becomes better than the two-count. Second, there are any number of three-counts

which vary as to the precise time at which C comes into existence. There is no principle that determines which of these three-counts is better.[9] Both solutions deny that there is any vagueness of existence within a count. The vagueness is in the superiority of one count over another.

Given that a whole's parts together are the whole, a case of joining is attended with the same problems as a case of merging. And the solutions are similar. The only difference would be the principle of unity. In merging it was that two things in the exact same location best count as one. In joining it would be that two attached things best count as one (for certain purposes).

The land scam puzzle provided the basic problem of the paper — how can many be one. As I have argued, distinguishing counts solves the paradox involved. The many are many in one count and one in another. My theory of many-one identity gives an account of the identity involved between counts.

Geach's case of cat Tibbles can be solved as follows: The diminished cats are Tibbles insofar as he occupies various locations. But they are all Tibbles. Thus I rely on the discernibility of identicals for this solution.

It also seemed that one thing — a diminished cat — was identical with another — Tibbles. But on my view this is OK. The diminished cat is Tibbles as in a certain sub-location. And Tibbles as in the sub-location is indeed numerically identical with Tibbles. Alternatively one could think of the diminished cat as a part that exists along with the single hair in another count than Tibbles. But this part would be cross-count identical with Tibbles as in the sub-location, which in turn is numerically identical with Tibbles.

Why are many philosophers tempted to think that whole and proper part are distinct? My guess is that they are relying on one or both of two principles: (i) something is identical with something else only if they have all the same properties, or (ii) something is identical with something else only if they have all the same parts. The whole occupies a location that the proper part does not occupy. Also the whole has a part that the proper part does not have. So by either and both principles, whole is distinct from part.

But the application of (i) has to take into account the results concerning the discernibility of identicals. And I will argue that the application of (ii) does also.

The identity of part with whole is really the cross-count identity of part with whole as in sub-location, and then intra-count identity of that with the whole. So the identity between part and whole *seems* to be between two things considered unqualifiedly, but it is so only by the mediation of identity with something considered qualifiedly — i.e. the whole as in a sub-location. And given that there are things which differ from themselves, (i) applies only to things considered unqualifiedly. Basically this is a long way of reiterating that qualitatively differing things are not necessarily distinct, while still retaining some application for the principle that they are.

In the way that something can qualitatively differ from itself, it can have different parts than itself. A whole as in one sub-location has some parts, the whole as in another non-overlapping sub-location has other parts, and the whole considered unqualifiedly has all these and perhaps others as parts. In effect, I am considering having a different number of parts as a way of qualitatively differing. So (ii)'s application is also limited in a way that removes the threat to my theory.

So basically I am concluding that philosophers tempted to count part and whole as two are mistaking qualitative difference for numerical difference.

It might be objected that some puzzles on restaurant placemats teach children to count part and whole as distinct. A diagram consisting of a square divided into four squares appears with the question 'How many squares?'. The child is tempted to answer four and is surprised by the answer five — the big square plus the four little ones. I think this is more a joke than accurate instruction, a joke as when a child going somewhere by himself is asked who is going and answers 'All three of us — me, myself, and I.' But on the other hand the lesson might be that squares are locations rather than physical objects and locations count differently. But I cannot pursue this here.[10]

In van Inwagen's case the problem arose from the premise that proper part is distinct from whole. But the cross-count identity of part and whole as located where the part is, removes

this premise. There is no count in which whole and part count as two.

It does seem as if van Inwagen's case shows that there is a count in which whole and part count as one. So they exist in the same count. But I contend that this is still a case of cross-count, not intra-count, identity. Perhaps I could give another answer. Perhaps my theory could be reiterated, so that the number of counts depends on meta-counts. Then counts could merge in the way I described for things merging. Then van Inwagen's case could be explained in terms of counts merging. But I will not pursue this here.

Consider the case of the house gradually reduced to a pile of rubble. This could be thought of as a case in which one thing becomes many. The things I said about uniting could be applied in the reverse here. But I think it would be generally thought of as a case of something becoming something else — a house becoming a pile of rubble. In this case the problem is a cross-time case of a whole and its parts. The house and the pile of rubble are the two parts existing at different times. The single thing existing for both times which comprises both house and pile, is the whole. Problems with (1) the many being one and (2) the one qualitatively differing from itself would be resolved as previously. (3) The problem with existence, that the remaining thing both does and does not exist before the becoming can be solved as follows: Distinguish the two-count from the one-count. The pile of rubble does not exist previously in the two-count. But it is cross-count identical with the one whole which does exist previously in the one-count. (4) The problem of vagueness of existence can be solved by postulating that there are any number of two-counts in which the pile of rubble comes into existence at different precise times, and no one of these counts is superior to any other.

Thus the apparatus of counts, the discernibility of identicals, and cross-count identity makes possible a theory of many-one identity with which to interpret the ordinary concept of many-one identity. Coupled with the proposal that counts vary in value, this theory solves a variety of paradoxes. It does so by being a solution to this essay's version of the problem of the one and the many.[11]

NOTES

1.   For a related discussion see Richard Sharvy, 'Aristotle on Mixtures', *The Journal of Philosophy* 80 (1983), 439-457.
2.   Here I am trying to capture a problem the same or similar to one David Lewis posed to Peter van Inwagen regarding his paper 'What is a Thing?' during a Princeton colloquium September 30, 1983.
3.   Peter Geach, *Reference and Generality*, 3rd. Ed., (Ithaca: Cornell University Press, 1980), 215.
4.   Peter van Inwagen, 'The Doctrine of Arbitrary Undetached Parts', *Pacific Philosophical Quarterly* 62 (1981), 123-135.
5.   Willa Cather, *Death Comes for the Archbishop* (New York: Vintage Books, 1927), 251-252.
6.   David Hume, *A Treatise of Human Nature*, ed. by L.A. Selby-Bigge, (Oxford: Clarendon Press, 1888), 94.
7.   George Berkeley, *Philosophical Commentaries*, sec. 773, in *Philosophical Works*, ed. by M.R. Ayers (London: Dent, 1975), 326.
8.   Hume, 41.
9.   See the treatment of vagueness in David Lewis, 'Scorekeeping in a Language Game', *Journal of Philosophical Logic* 8 (1979), 351-354.
10.   This counter-example is David Lewis's.
11.   Joseph Camp, David Lewis, and Gideon Rosen deserve special thanks for their comments and criticism.