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## Chapter 5

### **THE INANITHY OF DEBATES ABOUT MATERIAL COMPOSTION: SPATIALLY DISTRIBUTED MATTER AND SPATIAL COMPLEXES?**

Time and time again by now, we've observed that, over the last several decades, most terribly prominent analytic philosophers have accepted, at least implicitly, a worldview that I've been calling *The Scientiphical Metaphysic* or, in just a single word, *Scientiphicalism*.

Pretty near the beginning of this book, I articulated, in a pretty sketchy way, some thoughts quite central to our Scientiphical Metaphysic. So that readers would easily understand my sketch, I put things in quite natural and intuitive terms. For example, I said that, on this Scientiphicalism, there were a relatively few sorts of fundamental physical individuals – as with, say, up-quarks, down-quarks, electrons. And, with each of these relatively few basic kinds, there were very many members of the kind in question – as with there being very many up-quarks, each (intrinsically) precisely like all the others; and there being very many electrons, each (intrinsically) precisely like all the others; and so on. And, as I went on to relate, also in quite natural and intuitive terms, each rather *ordinary* physical individual – like my own home refrigerator, for example – will then be a (physical) complex entity wholly composed, in any most fundamental sense, or way, of very, very many of these physically basic entities – my

refrigerator will be composed, ultimately or fundamentally, of just such basic physical individuals as are its own fundamental particles - as with, say, all of its own up-quarks, and all its own down-quarks, and all its own electrons. Furthermore, as our Scientiphicalism goes on to say, in a quite natural and intuitive manner, all the powers of the physical complex in question, here my old fridge, will be physically derivative propensities, fully flowing from the basic powers of all its fundamental constituents, along with how these basic components are all physically related, each to all the others, right when they're composing the appliance in question. And, of course, comporting with what I've just been rehearsing, in way of providing a somewhat fuller sketch – however unspecific and incomplete it still remained– of our Scientiphical worldview.

Nowadays, more than a few philosophers may object to the quite natural and intuitive way in which I expressed the Scientiphical Metaphysic – even while many others would then rush to defend the appropriateness, and also the literal correctness, of my very natural and intuitive version of the Scientiphical View. Myself, I suspect that those opposing my rendition of Scientiphicalism, and also those defending the intuitive version I've offered, won't be differing about any concretely substantial issue. Rather, insofar as they're offering thoughts that are at loggerheads, or maybe even just appear to contradict each other, it will be just so many inane (at least apparently) opposing ideas that will then be exercising these philosophers.

In the just previous paragraph, what is it, more exactly, that I've asserted – or, at least, that I endeavored to express? In the next section, I'll try to provide a tolerably clear answer.

## **1. Complex Material Entities or Only Simple Material Entities Variousy Related?**

In line with much metaphysical writing of the past several decades, here's one way that certain philosophers might object to my pretty intuitive and sketchy presentation of Scientiphicalism: "As you've been presenting the View, Scientiphicalism holds that there are physical individuals other than all the simple basic physical entities. In addition to them, (or, in the case of a heterogeneous plenum, in addition to it) there will be numerous and various complex nonbasic material entities, as well. Putting aside the case of the single plenum, and conveniently thinking in terms of a case (or a world) that's nicely particulate, (many of) our world's basic physical concreta - its basic particles - will *serve to compose* many nonbasic, complex material objects."

This contemplated objector will go on to say that my rendering of our shared Scientiphicalism is, at best, pretty contentious. As she will contend, against my proposed rendition, there really *aren't ever any material complexes*, no matter how things may stand with any simplest and most basic material entities, saliently including, of course, how it is that these acknowledged material simples should be (physically) related, each to the others. Even as there will never be any material complexes, it will never be, of course, that any material individuals ever serve to compose any other material entities – or any entities at all, for that matter. As far as any real physical individuals go, all that there really is will be the simple and basic material things.

Talk about such alleged complexes as chairs and tables composed of atoms, or rocks, sticks and stones composed of elementary particles, well that, our objector may say, is just some happily vague and usefully high-falutin' talk about, say, atoms that are arranged chairwise, or particles that are related rockwise, or stickwise, or stonewise. But, though this talk of tables and rocks may be very useful for us humanly limited souls, it is, nevertheless, nothing more than verbally useful propounding of just so many utterly untrue propositions, thoughts or ideas: Even

as there never are, really, any complex material things, so, there never really are any material complexes as are any real tables or actual chairs. Nor are there any real tables, or real chairs, of any other sort – whatever such a spooky suggestion might mean. So, as we Scientiphicalists should all agree, even as there won't ever be any material complexes, there won't ever be any tables or chairs, nor any rocks or sticks or stones, either – leastways not in the current multibillion-year Eon of our actual world. That will be so, our objector may say, even though it may be very useful for us to speak as though there are such things as rocks and, in our loose everyday thinking about things, to have correlatively extravagant beliefs about material reality, as with our common belief that there are materially complex rocks.

The objectors I've just been contemplating might be called, aptly enough, *Nihilists about Complex Material Individuals*. In line with that, and just as aptly, they also might be called, more briefly, *Material Compositional Nihilists*. However they're labeled, those who advocate this parsimonious view as to the existence of physical individuals are standard philosophical figures, nowadays, in a certain currently salient metaphysical dispute. As I'll label the dispute, it is the *Debate about (Alleged) Complex Material Individuals*.

By contrast with our Nihilists about Complex Material Individuals, in this currently salient debate about material composition, there are two other main sorts of standard philosophical figures, with one of them being *diametrically opposed* to our Nihilists, and with the other being *less than diametrically* opposed. In turn, I'll introduce them.

Diametrically opposed to our Nihilists, there are philosophers that may be labeled, ever so aptly right now, *Universalists about Complex Material Individuals*: According to these Universalists, whenever there are several (two or more) basic or simple material entities, those

basic material objects will serve to compose a another material entity, more complex than either of (or than any of) its component objects, which (more) complex material object will be, of course, numerically different from – and thus something in addition to – the simpler material things that serve to compose it. What’s the real thrust of that pretty unpleasantly abstract verbiage? Well, consider, if you will, a certain electron that’s among the very many trillions now “in your right big toe” (and, presumably, that’s now serving, along with very many other nearby elementary particles, to compose your right big toe). And, consider, as well, a certain up-quark that’s somewhere in the planet Mars (and, presumably, that’s now serving, along with very many other nearby elementary particles, to compose that planet). Naturally enough, but also a happily instructive thing to do, let’s suppose that our considered electron is a *basic* material individual (quite as are all its world’s other electrons) and our considered up-quark is *also a basic* material entity (quite as are all its world’s other up-quarks). Finally, let’s suppose that these two considered basic material particulars are related (to each other) not in any even just apparently important way, respect or regard, but only in some such “funky” ways as may be expected from a truly randomly chosen electron that’s here on earth, and, on the other hand, from any old up-quark up there on Mars, selected or chosen purely randomly: For example, there’s no special propensity, on the part of our considered electron, or our considered quark, for-r any particularly interesting developments involving the basic particles. For instance, and a bit more specifically, it’s not the case that the trajectory of just this electron peculiarly depends on the placement of just that up-quark, so that, if the latter moves over an inch towards Mars’s center, then the electron will leave its place in your big toe and shoot straight to the center of the earth. Colloquially put, neither of these basic material things “has anything much to do with the other”.

Along with our compositional Nihilists, most folks won't think that *these* two elementary particles serve to compose *anything at all*; much less will they suppose that there's a single material individual that's composed of just those two basic material objects (and not composed of any other (basic) concreta, in addition to them). By contrast, our Universalists *do* hold that the two indicated particulars, the electron on earth and the up-quark on Mars, serve to compose a further thing and, what's more, that further thing, which they together compose, is *also a physical individual* (presumably, it's a complex physical individual, of course, by contrast with its simpler material components). (Even as that composite material individual is something whose matter is spatially scattered quite widely – with some of its matter on earth and the rest on Mars – so the complex material object will be, quite clearly, a spatially scattered physical individual.)

Third, and finally, there are those participants to this current debate who hold some sort of middle position, between the extreme of our noted Nihilism and, just noted, the extreme (or very-near-extreme) of our observed Universalism. These comparative moderates hold that, in *some* circumstances, there'll be basic material things that compose a complex material object - presumably, at least partly in virtue of how it is that, in those very circumstances, the basic physical (constituent) objects are physically related to each other. And, of course, the moderates will also hold that, in *some other* circumstances, there'll be *only* a plurality of basic physical things, with none of them serving to compose any complex material individual, at all. Especially when they are compared with our Nihilists and our Universalists, those who hold this in-between position may be, I'll suggest, aptly called *Moderates about Complex Material Individuals*.

Provided that the actual world has the complement of elementary particles that we usually take it to have, and that these particles really are our world's basic physical individuals,

the *most typical Moderates* will hold that not only do sticks and stones actually exist, but that each stick is a complex material individual, a complex composed of very many much simpler and more basic physical concreta, and so is each stone. (As I understand him, Berkeley held that sticks and stones actually exist, but, by contrast with our typical Moderates, he did *not* hold that sticks, or stones, were any sort of physical objects.)

Others of our currently contemplated Moderates will be far more severe about these presently pondered matters, contrasting starkly with our most typical Moderates. Indeed, the views of many of these *atypical* Moderates – especially including those most salient on the recent or current philosophical scene – well, those views will be, in just about every context, quite close to the view of our Nihilist. For example, in his *Material Beings*, the salient atypical Moderate named “Peter van Inwagen” holds that material simples will compose a complex material entity only when the simples are so related (physically) that they serve to compose a living complex concretum, as with a living rosebush, or a live dog.<sup>1</sup>

As it certainly seems to me, and as I’ll now suggest to you, all three main sorts of Views about material composition – the extreme (or very-near-extreme) Nihilistic View, the extreme Universalist View, and, in each of its various versions, the Moderate View, well, they all amount to only concretely inane ideas, nothing concretely substantial. As this Chapter develops, I think that quite a few readers will come to agree with that suggestion.

But, before any of that starts, I’d like to explore some apparently quite basic ideas – each of them addressed to (possibly perfectly inane) matters that are, in some sense, at least, yet more basic issues than are the matters addressed in the (possibly perfectly inane) fashionable debate about material composition that I sketchily discussed, just above. These more basic explorations

may lead us, I suspect, to uncover some philosophically quite basic inane propositions, rarely if ever noticed in the philosophical literature.

As is my belief, the Chapter's discussion can lead not only to agreement on the negative thoughts I've just suggested, but, as well, it can lead us, more positively, to ponder certain concretely substantial thoughts that typically go quite unnoticed – even though they may be, perhaps, thoughts worthy of considerable philosophical attention. This can occur, I think, both with our treatment of the quite basic material matters, just mentioned in the paragraph directly preceding, and also with our treatment of the fashionable Debate about (Alleged) Complex Material Individuals. (Indeed, it can occur, as well, with our treatment of some other Debates, in much the same conceptual neighborhood as the Debate about (Alleged) Complex Material Individuals.) But, unlike what when on in the three chapter's directly preceding, that is, in chapters 2, 3 and 4, the leads provided by this present chapter's negative work will all be only just so many extremely nascent leads, as far as I've been able to discern. As far as I can tell, then, it would take me well over 30 pages to develop an of these leads at all thoroughly, or at all fruitfully, and even yet more pages for me to present a development whose fruitfulness can be made accessible to many readers. So, in the present chapter, I won't attempt to provide, for our contemplative consideration, any new characteristically philosophical thoughts that are concretely substantial ideas. Somewhat unhappily, I must say that (at least almost entirely) this chapter's work will culminate only in just so much quite negative philosophical material.

Still and all, I don't think that most readers will be unhappy with this chapter. As I feel confident, quite a few readers will find its explorations to be fairly filled with good clean fun, even if they all should be utterly empty of any new concretely substantial ideas that are characteristically philosophical. So, let the good clean fun soon begin. As I was saying, just

before my announcement of the paucity of positive work in this chapter, I'll start this happy exploratory journey with a discussion of "some apparently quite basic ideas – each of them addressed to (possibly perfectly inane) matters that are, in some sense, at least, yet more basic issues than are the matters addressed in the (possibly perfectly inane) fashionable" Debate about (Alleged) Complex Material Individuals. So, it's just such a discussion that I'll now try to provide.

## **2. Only Matter Distributed Particulately or (Also) Particles (Composed) of Aptly Distributed Matter?**

On one side of what appears to be a more fundamental issue, there is a view that we may well call *Nihilism about (All) Material Individuals*. Here is this new Nihilistic view.

Let's contemplate a materially rich concrete world where all the matter is spatially distributed in a particulate manner, or, the same, it's distributed *particulately*. In this world that we're considering, there will be many bits of matter or pieces of matter, each of which is spatially separate from all the rest of the matter in the world (and, so, each bit of matter will be wholly surrounded by only perfectly empty space). Even in such a particulate world as this, our new Nihilist holds, there *aren't* any *material objects*. While there's lots of matter all distributed particulately, still, there are no material individuals that any of the matter ever serves to compose. Quite simply, there's always just the matter itself: There *aren't* ever any material *individuals*, or material *entities*, or material *objects*, or material *things*, and so on. Of course, there aren't any material objects, in our happily simple world, that *fail to be* composed, or to be constituted, of (at least) some of the world's matter. (That much seems little more than a

platitude, not only wholly uncontroversial but, as well, quite obviously completely uninteresting. Apparently at least a little (more) interesting is our Nihilistic thought, whose central thrust is as follows.) Even in our happily materially particulate world, there aren't any material objects (or entities, or individuals) at all, full stop and period. Rather the situation is just this: Our world's perfectly particulate distributed matter – with all the nice “so-called empty space serving to separate all its so-called spherical particles, or free-standing material spheres – well, this nicely arrayed matter doesn't served to compose, or to constitute, even so much as a single material entity – neither completely cohesive *nor superbly scattered*. There's *only all that matter*, nicely arrayed and modified, quite as we've stipulated. There's *not* so much as even a single material *object*, or any physical *entity* at all, or even a single material *individual*. (As many readers will surely notice, this new Nihilism resonates strongly with certain points made in the just previous chapter, concerning how (some) *matter itself* may be propensitized, by contrast with how any material *individual*, at least allegedly composed of some such matter, may be disposed, or may be powered, or, again, may be propensitized.)

On the Nihilism I've just been discussing, our Nihilism about (All) Material Individuals, there will never be any material particles at all, neither elementary nor otherwise. (To speak of such things as the likes of particles is to speak in a way that, insofar as it's really up to anything much, at all, is just a humanly convenient way, or a humanly natural way, of talking about *how it is* with the *matter* in focus, when that material stuff is *distributed particulate*, as opposed to when (some) matter may be distributed in some *other* mode, or manner, or way.)

In the context of this present volume, it may be helpful to make this observation: Among the metaphysical positions that allow for material realms of the happy sort I've just been sketching – by contrast with, say, the likes of Berkeleyan Idealism, which allows for no material

realms of any sort – this Nihilism about (All) Material Individuals seems to clash with my sketch of our Scientiphical View *most radically* or, at the least, *much more* radically than did the previous section’s objection to my sketch. For just as much as my sketchy Scientiphicalism did, and does, the previous section’s challenging point allowed there to be some simple and basic material individuals and, so, it allowed the very start of my sketch, at least, to stay put. For those familiar with my sketch of the Scientiphical Metaphysic, this will do something extra, perhaps, to make yet more vivid the difference – in flavor, if not in substance – between our more familiar Nihilism about Complex Material Individuals and, on the other hand, our newer Nihilism about (All) Material Individuals.

Enough with the family gossip! Let’s now move on.

Is there a middle ground here, between these two sorts of Nihilism (and, thus, between those two kindred objections to my sketch of our Scientiphicalism)? I think there is, and that a certain particular sort of midway position may be a very salient middle ground. I call this the *Extreme Single-Material-Object View*, or, for short, *(Extreme) Materialistic Soloism*. (I use “Soloism” here, rather than “Monism” only because the latter work has been given well-established employment in philosophical writing, often to express views that might readily be confused with the view I want to discuss. By contrast, with “Soloism” there is far less danger of any such unwanted confusion.) As well, and to highlight its affinities with the Nihilisms between which it is a salient middle ground, we might call this view *Nihilism about Diversity as concerns Material Individuality* or, more briefly, *Nihilism about Diverse Material Individuals*. But, at least for the most part, I’ll use *Materialistic Soloism*.

In application to a world whose matter is distributed in a happily very clearly particulate manner, the verdicts of this Materialistic Soloism will centrally include these following propositions: First, there will be, in such a happy world, all that particulate matter; on this positive point, our Soloism will agree with the other sorts of materialistic Nihilism we're considering. But, second, and against the *Nihilism about (All) Material Individuals*, our Soloism says that our particulate matter does serve to compose at least one material entity. Though, quite equally, and in (at least partial) agreement with that very severe Nihilism, our Soloism says that there won't be more than one.

What sort of (perhaps very finely formed?) physical entity will it be that, on this Soloistic View, is the only real individual in a world that, to all ordinary appearances, comprises just so very many utterly real physical particles, each a genuine material individual, really separate and distinct from all the others? At least near enough, it will be what many philosophers have called a *scattered object* or, spelled out more fully, a *(spatially) scattered (material) object*. Some of the material object is here and, spatially quite separate and distant from whatever of the individual is here, some of the very same material object is only over there, not even all that near (to) what's right here.

Along that line of thought, matters may progress in pretty happily predictable ways. For example, if there's more matter right here than there is way over there, then, presumably, *more of* the single (spatially scattered) material thing is right here than is over there – and, conversely, *less of* the selfsame material thing is over there than is right here.

But, of course, as far as the *number* of material objects goes, we've already said all there'll ever be rightly to say: No matter how a world's matter may be distributed, the number of

material objects that matter will serve to compose – at any rate, the number of material things there'll be inhabiting that world - well, that number will always be (just exactly) *One*. So, the number of material things *won't* be the *none*, or the *Zero*, of the Nihilist about (All) Material Objects. And, it also won't be the *Many*, or at least the *More-Than-One*, accepted by, among others, all those who hold that there will be, in such a world, quite a few individual physical particles, each of which is a physical object quite distinct from, and numerically different from, all the others.

For many readers, what I've just said about our (Extreme) Material Soloism will be plenty; it will be more than enough for them to have a fully intuitive grasp of the intended View. But, for some others, some further remarks may be helpful.

Toward presenting a very, very reader-friendly rendition of this Material Soloism, it may be good for me to ask you to contemplate three very different (sorts of) quite simple material worlds. Here are the three sorts of material worlds I'd like you to contemplate:

First, there'll be a (sort of) world with matter absolutely everywhere (that is, everywhere in the world's spatial realm or, for fancy updating, in its "spatiotemporal" realm). In such a materially perfectly full (spatial and) material world, in all the world's matter there isn't even so much as single tiny whole, or bubble, cavity, or hollow. Rather, anyplace at all, in such a world, is perfectly replete with matter. (Qualitatively, this (sort of) world's matter be homogeneous, in every material respect and regard, or, alternatively, it may be heterogeneous, in however many material respects and regards. Right here, that doesn't; it doesn't matter for the distinctions I'm after, with our three contemplated worlds.)<sup>2</sup>

Second, there'll be another (sort of) world whose matter is all of a piece, so to say, and, as such, it's matter is also *distributed continuously*, on the understanding I wish to give to the adverbial expression I've just coined. As in the first world, in this world, too, there'll be a fully material connective path - indeed infinitely many of them - from any region where there's matter to any other region, spatially distinct from the first, where there's matter. Intuitively, that gives us some motivation - even if, perhaps, not (yet) any real reason - to regard all the matter of this second world, quite as we might regard all the matter of the first world, as constituting a single vast material object.<sup>3</sup> Intuitively, the second world's single material object will have some holes in it - in certain worlds of this second sort, the object will have infinitely many such holes, each hole corresponding to a distinct region of the world. With some worlds of this sort, the holes will be fully bounded bubbles, so to say, but not with all of them. For example, others may be more like 3-dimensional lace doilies - or infinitely deep spider-webs, so to say. Even with specifications along these last lines, for our second sort of worlds, we still have some intuitive motivation to think of all the world's matter as composing a single material object, each region of said single object happily connected, materially, with any other region that the happily connected individual also automatically occupies.<sup>4</sup>

Third, there'll be the (sort of) world we were contemplating before getting involved with this three-fold division of wholly happily material worlds (or worlds whose material realms are so happily material). In this world, there'll be very much matter that *isn't* materially connected with very much other matter - there'll be lots of relevantly isolated matter. As you'll likely recall, this a world whose matter is all *distributed particulate*, rather than in any continuous way at all, whether plenumately or unplenumately, whether holey or unholey, or, just perhaps, in yet some other way. The most iconic world of a perfectly unproblematic particulate sort, I

suppose, will be a world where many Newtonian particles drift around in a great deal of empty space, none of them ever making even the least contact with any of the others. Perhaps equally iconic, but not so perfectly unproblematic will be a world where, from time to time, at least some of the Newtonian particles collide with some others. In either iconic sort of particulate world, it will often happen that there won't be a happily material path from some of its matter – say, all the matter of just a certain particle – to (at least a very great deal of) the rest of its matter - including, say, the matter of each of a trillion very distantly separate particles, each entirely surrounded by empty space.

Typically, or iconically, worlds of this sort are thought to be mostly empty space - in typical very large regions of the world, almost all of the region will be devoid of matter. But, that's quite incidental, actually, to what mainly concerns us here. Such a world may be almost all filled up with matter – say, well over ninety percent of it, regionwise, or volumewise. As long as all the matter is distributed in chunks, pieces, or whatnots that are each surrounded by empty space – however slender the surrounding envelope – they'll do as well, for us now, as iconic Newtonian worlds – or, at the very least, very nearly as well.<sup>5</sup>

Intuitively, what do we think about this third sort of world, this particulate distributed material world, epitomized by my talk of Newtonian particles? Intuitively, do we think that, as with our first two sorts of material worlds, here, too, all of the world's matter comprises a single vast material individual?

Not by a long shot. On the contrary, and for however much or little they may be worth, our intuitive thought on the matter is that, in this world where so much of the matter is completely separate from all the rest of the matter, there *isn't just one (vast) material object* –

there *isn't* just a single physical individual that all the world's (largely scattered) matter serves to compose. Rather, we naturally think that, in such a particularly distributed material world, the matter serves to form, or to compose, ever so many distinct and different material individuals – perhaps ever so many material spheres - each spatially distant from all the others.

As is no news, we have a word that, most typically, we use for each of the many physical things that, intuitively, we take to inhabit this sort of world. Just as I say that, in such a world, the matter is distributed particularly, so we're prone to think, intuitively, that this is a world with ever so many material *particles*. And, in the most commonly contemplated worlds of this sort, it may be that all the matter in the world is exhausted in the formation of the world's (infinitely) many distinct particles.

The Soloism that I've sketchily articulated refuses to acknowledge that there's any important difference – as far as what counts towards there being any material individual – between the last (or, the third) of these three (sorts of) worlds and the previous two worlds. Or, at the very least, it will hold that anything there'll ever be, along those lines, will be utterly overwhelmed by contrary considerations – so that, overall, all three (sorts of) worlds are quite in the same boat, as concerns how many physical objects inhabit the worlds. Even in the case of the third (sort of) world, the truly correct answer is “One.”

Like the Nihilist before him, the Soloist isn't concerned with any considerations of language, and certainly not any considerations peculiar to this or that particular human language. To put the point mildly, he holds that any attention to any such merely linguistic matters is most likely to mislead us about the true nature of material reality.

Accordingly, and like the Nihilist before him, our Soloist will be wholly unimpressed by any thoughts along these following lines: With many sorts of concrete worlds, we may characterize their ultimate physical nature by adverting to the basic *particles* that, alone, are the basic physical individuals of the worlds, that is, the worlds' only perfectly fundamental material things. By speaking of the particles, and by saying how various particles may be variously propertied, we may explain, in a physically satisfactory manner, what goes on in such worlds. Thus, certain worlds may have just three basic sorts of basic physical individuals, each an elementary particle of one or another of these three kinds: protons, electrons and neutrons, much as conceived by Niels Bohr, and others, in an early part of the twentieth century. In each of these worlds, each of these three kinds (of elementary particles) will have very many members, that is, in each world, there'll be very many protons and very many electrons and very many neutrons. How will these particles interact with each other, in ways affecting how the particles move?

Will their trajectories be just *wholly accidental* matters, devoid of any such influence?

On the instructive assumptions we're making, the careers of the particles certainly *won't* be a wholly accidental affair. Rather, there's at least this much to be truly said: Any one of these basic particles will be propensitized for dynamical interaction, with any other of the world's basic particles, in one of three ways, which way depending upon, of course, just which is the basic sort of particles, or the basic kind of particles, to which the concretum in question belongs – that is, depending upon whether it's a proton, or an electron, or a neutron. So, each electron will be (electrically) propensitized to repel, quite strongly, any other electron, and it will be (electrically) propensitized to attract, just as strongly, any particle that's a proton; at the same time, an electron will be (electrically) propensitized neither to attract, nor to repel, any of the neutrons; rather, as far as electrical propensity goes, each electron will be disposed *not to interact dynamically* with any

neutron. And, for its part, any neutron will be (electrically) propensitized not to interact with any other particle, whether the other particle should be an electron, or a proton, or whether it be another neutron. As well, every particle, even the neutrons, will be propensitized (massively, or gravitationally) to interact dynamically with each of the other particles. More specifically, each particle – as it is at least somewhat massive – will be disposed to attract, pretty weakly, any of the other particles. For anyone who's had a decent amount of science in a good high school, there's already enough here for a nice grasp of the sort of sketchy physical description that I've been aiming to indicate.

By contrast with what we've just observed, what might a Soloist say about any such nicely behaved Bohrian concrete world, by way of providing us with (at least the beginnings of) a decently articulate explanation? Remember, according to the Soloist, there isn't any plurality of particles, much less a plurality of basic physical concreta of each of three basic physical sorts, or kinds. That being so, it might well be that our Soloist can't get very far with the sort of descriptive-and-explanatory task we've just rhetorically set for him.

But, then, as the Soloist herself should be the first to insist, none of that really matters, from any philosophically most fundamental perspective. After all, the point at issue concerns what's the true nature of (mind-independent) concrete physical reality, a point that's quite independent of anything involving any (apparently quite contingent and even provincial) questions concerning any of our human capacities, including our abilities to describe, or to explain, one or another sort of phenomena.

That's certainly the main thing for our Soloist to say, relating to anything in the recently canvassed neighborhood. And, of course, that should be just fine with our happily alert Soloistic

philosopher. Still, it may be useful to go beyond that central thought, to observe a few descriptive-explanatory things that, in addition, she might take it upon herself to say, even if our noting these additional remarks may be no more than just a bit it's helpful for our getting a slightly fuller sense of what our Soloist may take, quite rightly enough, to be the full import of her preferred position.

As I'll imagine things here, our engaging Soloist may begin to tackle the descriptive-explanatory task, she's just set for her, or we've rhetorically just set for her, along some such line as this: Just *some of the matter* of the world's sole material object is propensitized electrically in one (certain) way – the way that was sketched, just above, when my opponents were trying to say how some so-called electrons – an first sort of alleged particulate individuals - are electrically propensitized. And, as far as electrical propensity goes, the *rest of the only object's matter* is propensitized in either one of just two other ways – with some of this remaining *matter* propensitized just as so-called electrons were said to be electrically disposed, and with the rest of what matter remains propensitized just as so-called neutrons were said to be electrically (so statically) disposed (for only perfectly mono and completely static interaction with other matter, or with others of the merely alleged (sorts of) material particles). Any of the matter that's electrically disposed in the first way of those three ways, the *electronish* way, as we may call it, well, *that* much of the matter will be disposed to repel, quite strongly, any of the rest of the matter that's electrically disposed in *just that* way – anything that my opponents would have us recognized as material things of the sort *electron*. (Of course, matter that repels some other matter will do that far more strongly when the matter to be repelled is very nearby matter than if the other matter is far more distant from it.) And, any of the matter that's electrically disposed in just this same first way, this *electronish* way, well, it will be disposed to attract, just as strongly,

any of the rest of the matter that's electrically disposed in the second of our three ways, the *protonish* way, as we may call that. (Of course, matter that attracts some other matter will do that far more strongly when the matter to be attracted is very nearby matter than if the other matter is far more distant from it.) Finally, in this little go around, any matter that's electrically disposed electronishly will be electrically disposed *not* to interact dynamically with any of the matter that's electrically disposed in the third (and final) way we're considering, what we'll call the *neutronish* way, thus naturally completing our barely new nomenclature. (Of course, as there'll be no disposition toward any changes here whatsoever, there'll be nothing (the degree of which) will vary with the distance between any of the matter involved and, on the other side, any of the rest of the matter involved.)

Perhaps the previous paragraph's paraphrastic phrasing is only a pretty poor attempt at even beginning to shoulder the indicated descriptive-explanatory task. None of that matters, of course, to what's the main point for our Soloistic philosopher, or to anything that she ought to regard as very basic, or as clearly central, or as metaphysically fundamental.

Now, it's time for a little bonus, whether or not you're in the mood for any bonus material: So, no matter what your mood, do please return to consider our (Absolute) Nihilist about Material Individuals. Intuitively, one might very well think, he may be on pretty strong footing when it comes to characterizing, comprehensively and accurately, worlds of our first sort, where everyplace in the world is occupied by matter and also worlds of our second sort, where, even though there are some materially empty places, still, all of the world's matter is spatially, and physically, continuous with all the rest of the world's matter. About these two sorts of material worlds, our (Absolute) Nihilist about Material Individuals may be on ground that's about as strong, and maybe even that's exactly (and completely) as strong as the apparently

perfectly solid intellectual ground on which our Soloist seems to stand: In worlds as materially connected as those two are, perhaps we don't really have a world with any inhabitant that's truly a material *object*, or a physical *entity*, or material individual. In such worlds as those, there's nothing material that's truly separate from anything else that's material; so, as might be quite well said, there's nothing - or there's nothing material, anyway - that's an entity in its own right. But, of course, each and every entity must be an entity in its own right. So, in such seamlessly material worlds as those two sorts of world both are, all that there ever is, we might well be motivated to think, is just so very much matter, distributed in such-and-such a perfectly connected or seamless way.

In what's just above, I didn't mean to present material that for the thought that, in such worlds, there are no material individuals, is more convincing than any material for the correlative Soloistic claim, namely, the thought that, in such worlds, there is, in each instance, exactly one material individual. Rather, I meant to present material that would serve toward there being a stand-off here, between the Nihilistic idea that, in any such world, there'll be no material object, and, on the other side, the Soloistic idea that, in any such world, there'll be (just) one material object – with no great prospect of ever resolving this stand-off, in any way that's non-arbitrary and otherwise quite satisfactory. Still and all, that's not half bad for our Nihilist, especially as he has the (at least apparently) more extreme position.

By contrast with how well he may do in motivating his position for worlds of our first two sorts, our (Absolute) Nihilist won't do nearly as well, it appears, when it's the our (sort of) world that's under consideration, a world where much of the matter is absolutely isolated from much else of the world's matter. At least apparently, our Nihilist won't do nearly as well with, in other words, or maybe just in particular, in motivating his position in regards to a (sort of)

world that, off the cuff, so to say, we'd happily take to be, quite clearly, a world containing many spatially separate material objects – perhaps each of them a distinct particles – even as each of the fully material things is entirely surrounded by absolutely empty space, perfectly devoid of any matter whatever.

But, though he may have a harder time of it, with such apparently particle-infested worlds, in pressing his (Absolute) Nihilism about Material Individuals, yet our Nihilist may persevere in this apparently much more trying instance, too. He may quite certainly do so very insistently and he might just possibly do it quite successfully. How so? Well, first, he may follow out some lines we just sketched for our Soloist. Following our Soloist, but being yet more parsimonious, our Nihilist may say that, where most would take there to be many numerically different particulate material objects, there's *at most* just one material object – a spatially scattered candidate material thing – whose presumably constitutive matter is really just so much matter that's spatially distributed *particulately*. But, really, our Nihilist says, the particulately distributed matter doesn't serve to constitute anything, leastways not any material object, or physical individual or material entity. In saying this, it at least appears, our Nihilist goes further than our Soloist ever does, in keeping down the number of material objects a world's matter ever serves to constitute – objecting to any count on which there is as much as one, while favoring an account on which there's none. Just, so, our Nihilist may say that, overall, our third world does no better for material individuals – not one jot better - than does the first world (or than the second world does). And, even as both the first (sort of) world and the second (sort of) world see no success here at all, at being a (sort of) world containing even as much as just a single material individual, so it will be, too, with the third (sort of) world, despite

whatever initial considerations might have seemed to make for better prospects, on this issue, for a world whose matter is distributed particulate.

With that nice little discussion just provided, it's now time to take some stock and, perhaps, to start to draw a little lesson about what we've just been observing.

We've observed three things for someone to say, as concerns the number of material individuals in a material world, for three substantially different sorts of concrete material reality, including, most saliently and interestingly, a third sort, in our little listing. Just so, even for a material world in which all of the world's matter is always distributed particulate, these following three things may be said, each with a certain pretty considerable aptness, or appeal: First, it may be said that, in such a world, there'll be very many quite distinct and numerically different physical individuals, including, at the very least, infinitely many quite simple and basic particulate entities or, more compendiously put, infinitely many elementary particles. (No doubt, it is just this first thing that most mainstream philosophers will affirm, as well as most nonphilosophers who may come to have even the least understanding of the issue, and even just the least little interest in the question.) Second, and following our (Absolute) Nihilist about Material Individuals, it may be said that, even with a world whose matter is all distributed in such a nicely particulate manner, as concerns what's material in the world, there's only the world's matter itself that present anywhere and nothing more at all; and, so, in particular, there aren't any physical individuals anywhere about, or any material objects anywhere around. Third, and following our Soloist about Material Individuals, it may be said, even of such a world, that, as regards any material individuals, there's always only a single (spatially scattered) material entity that's ever in the world, an object whose matter fully exhausts all the matter of the concrete reality in question. As this Soloist may remark, perhaps just for added emphasis, this

world's only material object – a spatially scattered individual, of course – is an object *whose* matter *is all* the matter in, or of, the world we're contemplating, a world with just that one material inhabitant individual.

With each of these things that there is to say, even for a world whose matter is distributed ever so perfectly particulately, we have something that may be taken to represent a different *position* on a certain single matter, or question. One represents the Majority position, of course, even as so very many people will hold that, in our particulately distributed world, there are very many numerically different material individuals. Another, of course, represents the position of our Nihilist about Material Individuals, even as yet another, a third statement, represents the position of our Soloist about Material Individuals.

In application to a world whose matter is all distributed so very particulately, does any one of these three *positions*, as they may be so fairly called, *differ substantially* from any of the others? I do not think so. Nor do I think that, in application to any other sort of world, there's any concretely substantial thought here, in any of these so-called positions, fit for conflicting with any (other) concretely substantial idea. Rather, any (alleged) disagreement between, or among, any of the three parties to the indicated dispute will concern only some such questions as are all utterly *inane* issues, in our systematically central sense of that catchy term.

### **3. Various Views about So-called Material Complexes: More than Meets the Mind's Eye?**

Near this chapter's beginning, we sketchily described a currently fashionable debate about material composition, and we noted the three main (sorts of) positions regarding the professionally salient dispute. Fundamental to all of that, there was a certain commonly shared

supposition, an idea that's not only agreed to by all three of the positions noted, but that seems quite natural and plausible to most folks who so much as ever hear mention of these recondite matters. At least for the most part, that shared idea amounts to this: In concrete worlds with matter that's distributed happily enough for that matter to constitute anything at all - which, for some philosophers, maybe any old world with matter distributed any old way - the matter will serve to constitute a plurality of distinct basic material individuals. With that basic supposition happily shared, and never questioned, it's then just this further (complex) issue on which our fashionable disputants disagree: First, whether (some happily enough related) material simples will ever serve to compose some (nonsimple) material complexes and, second, if there will be such composition, at least in some certain circumstances, then when is it that some material simples will compose some material complexes, that is, under which sort of circumstances will it be that some such simples compose some such complex material individuals.

To this *less than fully fundamental* question, a certain familiar sort of nihilist - *not* our (Absolute) Nihilist about Material Individuals, but, rather - our *Nihilist about Complex Material Individuals* "never will there be even so much as a single material complex, not in any circumstances at all". Diametrically opposite that, our *Universalist about Complex Material Individuals* will say "whenever there are even as many as just two material simples, no matter how they should be related, those simples will serve to compose a material complex; no special circumstances are ever needed, for material simples to compose complex material individuals". Various between these two extremes, the one represented by our currently considered Nihilist and the other by our presently contemplated Universalist, there are various *Moderate Views about Complex Material Individuals*. Some of these Moderates will hold that only when *certain circumstances* obtain will some material simples serve to compose some complex material

objects, while others will hold that it's only when *certain other* circumstances obtain that some material simples serve to compose some complex material objects.<sup>6</sup>

In this present section, I'll explore some matters that, as I suspect, may well underlie much thinking on the question about material composition, as concretely inane as it's currently fashionable, that I've just called *less than fundamental*. Let me amplify.

Comporting nicely with what's been covered in the chapter's earlier sections, my exploration will center on the idea that what should constitute whatever material entities exist will always be, at least first and foremost, some existing *matter*, however nicely (or maybe not so nicely) any of this matter may be propertied, and however any of the matter may be related to any of the rest of its world's matter. That being so, we may now do very well to ask: "How might it be that a world's matter – or at least some of its matter – will serve to constitute any material individuals, at all, whether (some or all of) these putative material objects should be simple and basic material things or whether at least some of the alleged material objects should be complex (nonbasic) material individuals?"

In a most general sense of the term "way," we may usefully say that there are *at most two main ways* for some *matter* – that is, for some *material stuff* - to constitute a material individual, or, just possibly, a plurality of material individuals: First, some matter may constitute a material object (only quite) *directly*. And, second, it might be – perhaps or just barely possibly - that some matter may constitute a material object - or maybe some several material objects - (only) *indirectly*.

In the present context, what do these thoughts amount to? Well, some matter will constitute a material object directly just in case, even while the matter does indeed constitute the

physical thing in question, the matter doesn't do that *by constituting* anything *else* (or *by composing* anything else, and so on). Most centrally for us now, our material stuff *doesn't compose* our "target" material individual – *by composing any material object*. Of course, our matter *doesn't* compose our contemplated physical object *by composing that very object* – which silly suggestion is, of course, perfectly absurd. Less absurdly, and very centrally, our considered matter *doesn't compose* our contemplated material individual by (its) composing any *other* physical object, or by (its) constituting any *other* physical objects.

Suppose that all of a certain concrete world's material stuff was distributed in a perfectly paradigmatic particulate way. (For an example, you may think of a world all of whose matter is distributed in such a way that, at the very least, the matter is *as of* constituting Newtonian particles, with each particle distant from all the others, and with each surrounded by much absolute Newtonian space. If our (Absolute) Nihilist about Material Individuals should be right or even if our Soloist is right, then even this matter, even as nicely distributed as it is, won't really constitute any particle, or particles. Rather, the perfectly particulate matter will be *merely as of* constituting Newtonian particles.) Perhaps begging a few questions, all of them inane issues, we'll suppose this world's matter will constitute every so many material particles - maybe even infinitely many of them - with each of the particles surrounded by lots of empty space, so that each is so very clearly separate, distant and distinct from all the others. Now, just for the sake of an instructively illustrative argument, suppose that, at least in this world we're contemplating, there aren't ever any complex material individuals: Even if she might not be right about what's what in all sorts of material worlds, our Nihilist about material individuals will be right, we're supposing, about the material world we're now contemplating. Well, then, granting all of that, we should say that, in this sort of material world, at least, all the constituting

that any (of the world's) matter ever does will be *direct* constituting. On the supposition shared by all three main sorts of position in the currently salient dispute, a debate concerning the alleged composition of material complexes by simpler material objects, some of our world's matter will *directly constitute* a certain material particle, and some *other matter*, of this same world - some of its matter that's all quite distinct from all the material stuff just previously mentioned - will constitute, *just as perfectly directly*, a certain *other material particle*, and so on, and so forth.

(On our Soloist's view, of course, this world's matter won't constitute any particles. Nor will it, of course, compose any other plurality of material individuals – neither directly nor, of course, indirectly. Rather, all that matter will *directly compose*, or it will *directly constitute*, just a single material object, just a single physical individual that, perhaps quite remarkably, is scattered around and about, a single object whose matter is all distributed perfectly particulary. With that being so, we may start to have a few doubts, I imagine, about a distinction between simple material individuals and, on the other side, material particles that fail to be so simple. Not that these doubts must be very severe doubts, much less any ineradicable doubts, but, as I sometimes suspect, they still might be worth some contemplation.)

Though it may not really get at any truly genuine possibility, here is line of thought that, at least to my mind, sometimes seems interesting. Wanting to get on with some more salient business, I'll offer it in just a note, appended to this sentence that closes this present section.<sup>7</sup>

#### **4. Revisiting the Salient Debate about Alleged Complex Material Objects: A Start**

In section 1 of this chapter, we briefly encountered a certain currently quite fashionable metaphysical debate, which I there dubbed “the debate about the apparent *material composition*

of putative complex physical particulars by, or from, suitably simpler, or sufficiently simple, physical individuals”. As I suggested right after just briefly sketching that presently salient debate, each of the main parties to it upholds nothing more than just so many concretely inane ideas. And, as I went on to suggest, at least one of the inanities embraced by each of the parties to the debate conflicted with at least one of the inanities upheld by each of the other, opposing parties. In other words, as I suggested, while there may really be disagreement among these parties, the main *issue on which they disagreed* was itself only a *concretely inane* question.

In the next two sections, sections 2 and 3 of our chapter, we noted several things that, especially when they’re taken altogether, (at least apparently) confirm that early thought as to inanity. For one thing, and quite fundamentally, we observed that the salient debate all took place on what might well be deemed a *relatively superficial* level of thinking about material reality, not anywhere nearly so basic as *certain other* ways of thinking about matters material, including even some that are ever so readily available. In line with that, as we observed, all the standard positions on that debate share certain (at least relatively) fundamental suppositions, as with (something like) a thought to the effect that (at least when) matter is distributed particulate, that matter will serve to compose a plurality of material objects, or physical individuals. Indeed, as we still further observed, the propriety of these shared assumptions may itself be debated, and even from quite a variety of sides or directions. And, at least apparently, all of those disputes will be *more fundamental debates* than is the *currently fashionable* debate – that is, than the debate about “the apparent *material composition* of putative complex physical particulars by, or from, suitably simpler, or sufficiently simple, physical individuals”. And, what’s more, the thoughts central to the ostensibly more fundamental debates will be just so many concretely inane propositions.

Here in section 4 of the chapter, we do well to draw the most salient moral from the just previous paragraph, where we presented the main results of sections 2 and 3. That is, we do well to suspect, all over again and perhaps yet more deeply, that the central thought of section 1: Each of the main parties to the currently fashionable debate – the debate over whether some material objects ever compose some other (more complex) material objects (and, and if so, when such material composition should happen) – well, each of those parties upholds, as her central idea, nothing more than just a concretely inane proposition. The answer upheld by our Nihilists about Complex Material Individuals - that no material things ever compose any other (more complex) material things – is just a concretely inane idea; the answer upheld by our Universalists about Complex Material Individuals - that any (simpler) material things always compose other (more complex) material things – is also just a concretely inane idea; and, finally, the answer affirmed by our Moderates about Complex Material Individuals – that only sometimes will (simpler) material things compose other (more complex) material things – is also just a concretely inane idea, as well.<sup>8</sup>

That being so, in this section I'll return to consider, all over again, the currently fashionable debate among our Nihilists about Complex Material Individuals, and our Universalists about that matter, and, finally, our Moderates about Complex Material Individuals.

To help you get a feeling for the zest with which this debate is still pondered, at least as recently as the time this very passage is being written, in the first decade of the twenty-first century, I'll rehearse (at least some of) the main positions on the debate indirectly, by relying on the words of a writer who, along with many other contemporary metaphysicians, finds far more interest in the dispute than I can manage to do. In characteristically crisp and engaging philosophical prose, here is Ted Sider, starting off his paper "Ontological Realism":

## 1. The ontology of composite material objects

In 1987, Peter van Inwagen asked a good question. .... He asked: what do you have to do to some objects to get them to compose something ---- to bring into existence some further thing made up of those objects? Glue them together or what?

Some said that you don't have to do anything. No matter what you do to the objects, they'll always compose something further, even if they're scattered. Thus we learned of the fusion of the coins in our pockets with the Eiffel tower.

Others said that the objects have to be fastened together in some way, the way that the things we usually think about are. But van Inwagen taught us of people stuck or glued or sewn or fused to each other. Such entanglements, van Inwagen thought, create no new entities.

Others said that nothing you could do to the objects would make them compose something further. According to these "Nihilists", tables, chairs, computers, molecules, people, and other composite objects, simply don't exist. All that exist are subatomic particles "arranged table-wise", arranged "chair-wise", and so on.<sup>9</sup>

Questions about what's alive placed well to the side, van Inwagen agrees with our Nihilist (about Complex Material Individuals). In stark contrast with that, and following in the footsteps of Quine and Lewis – with a special accent on the latter, perhaps - Sider agrees with our Universalist. And, so, he greatly disagrees with van Inwagen (though in the paper from which I've just quoted, he has no great interest in siding with any of the main parties to the currently salient debate, nor in taking sides on any (other) question of what we might call *straightforward* ontology, or (apparently) *first-order* metaphysics, or (apparently) *ground-level* ontology).

With all that duly noted, in a manner, I hope, conducive to an accessible, comprehensive and fair-minded exposition, I'll next take a lead from some of van Inwagen's writing. Before he comes to the chapter of his *Material Beings* that's mainly concerned with "problems of paraphrase", in which he makes use of his (coined) "adverbs of arrangement," like *chairwise* and *tablewise*, van Inwagen has a long Nihilism-friendly passage that, while it also features some

coined verbiage, should help quite a few folks, especially folks innocent of metaphysics, to get a good feel for the currently fashionable debate. Here's (what I take to be) a central selection from that long but still happily instructive passage:

To make things as simple as possible, let us suppose that chairs -- if there are any -- are made entirely of wood and let us suppose (though nothing remotely like this is true) that any object that is "made entirely of wood" is composed of simples called 'wood-particles'. Now consider those regions of space that, according to those who believe in the existence of chairs, are occupied by chairs. Call them chair-receptacles. One of these chair-receptacles is beneath me as I write. Call it R. I concede the truth of this proposition:

(A) The chair-receptacle R is filled with rigidly interlocking wood-particles; the regions immediately contiguous with R contain no wood-particles; the wood-particles at the boundary of R (that is the wood-particles in R that are not entirely surrounded by wood-particles) are bonded to nearby wood-particles much more strongly than they are bonded to the non-wood-particles immediately outside R; the strength of the mutual bondings of wood-particles within R is large in comparison with the forces produced by casual human muscular exertions.

What [I endorse] entails the denial of is not (A), but rather the two following theses (and therefore the proposition that either of them is entailed by (a)):

(B) There is something that fits exactly into R.

(C) There is something that the wood-particles within R compose.

Now if either (B) or (C) were true, there would be a chair. If either of them is false, then there are no chairs. (Or, at least, there is no chair in R.) Because it is (B) and (C) that I deny, and not (A), I am a metaphysician and not a madman.<sup>10</sup>

With the aid of that selection, this much, at least, should be tolerably clear: First, van Inwagen holds that, where we should ordinarily take a certain single chair to be, there is plenty enough by way of materiality, and that this materiality does plenty well by - even if it does not do perfectly well by - satisfying our ordinary phrase "exactly one chair". And, second, he denies that, where we ordinarily take a chair to be, there really is even as many as just one single chair - perhaps because the materiality that's here most relevant isn't up to doing perfectly well by our ordinary

“exactly one chair”, or even our “a chair”, or by anything else in that immediate neighborhood. Finally for now, and as I’ll try to make at least passably clear, (he thinks he may consistently do all this even while) he correctly says that, in these matters, he is relevantly unlike a hapless madman: Presumably, the madman will deny not only that there’s something in the apparently chair-infested region that’s a chair, but he’ll also deny that, in that region, there’s any significant (amount of) matter at all – or, at least, that there’s matter sufficient to do even the least bit well toward satisfying any term even remotely like our two-word term “a chair”.

Before I go on to cite another passage from *Material Beings*, which I think may also prove helpfully instructive, let me very forcefully say something about what’s really going on in the passage already cited, as I view these matters: Between van Inwagen’s nearly Nihilistic position, as just above, and the much more generous view of all perfectly sane folk who are perfectly innocent of protracted metaphysical thinking, there is, as the cited passage serves to show, some disagreement. Of course, it’s a certain sort of disagreement about the existence of chairs – and, by extension, about the existence other ordinary mid-sized objects, like tables, and sticks, and stones. But, unlike the sort of disagreement that the ordinary sane folk may have with the madman, and that van Inwagen himself may have with his madman, this is *not*, I’ll suggest, any *concretely substantial* disagreement. Rather, the issue on which van Inwagen and the sane innocents agree *is a concretely inane* question, not any relevantly substantial matter at all.

## **5. An Exploration of the Salient Debate: Popular Paraphrases, Problematic Parallels**

Only a few pages after the passage I’ve just cited from *Material Beings*, van Inwagen starts his chapter on (what he calls) *paraphrase*. It’s on the second page of this chapter, as far as I can

discern, that he introduces some then-newly-coined “adverbs of arrangement,” so to speak, when he “helps himself”, as he says, to some newly coined predicates, saliently including the by-now-philosophically-popular predicates ‘are arranged chairwise’ and ‘are arranged tablewise’.

Here’s the writing to which I’ve just alluded:

Let us consider the problem of how to paraphrase the sentence ‘Some chairs are heavier than some tables’ in language that does not appear to make reference to, and does not appear to presuppose the existence of, anything material besides simples. I shall help myself to three variably polyadic predicates: ‘are arranged chairwise’, ‘are arranged tablewise’, and ‘are heavier than’. The Xs are arranged chair- (table-) wise if they fill a chair- (table-) receptacle and satisfy certain conditions that can be gleaned from an inspection of proposition (A) of the preceding section. For the Xs to be arranged chairwise is as much a matter of their contrast with their surroundings as it is of their distribution in space. Thus, the simples occupying a chair-shaped and chair-sized region of space that falls entirely within a certain tree are not arranged chairwise, though they would be if the rest of the tree were stripped away. Simples arranged chairwise do not, of course, compose a chair or anything else (unless there should be chair-shaped living things). The third predicate, which could also be written as ‘are collectively heavier than’, seems to me to be unproblematical. There is nothing unclear about such sentences as ‘The weights on the left-hand balance are (collectively) heavier than the weights on the right’ and ‘The pebbles in the jar are heavier than the jar and the lid’.

We are now ready to consider a paraphrase of ‘Some chairs are heavier than some tables’:

There are Xs that are arranged chairwise and there are Ys that are arranged tablewise and the Xs are heavier than the Ys.<sup>11</sup>

For almost all the points of most interest to us here – and maybe for absolutely all of them – it would serve us quite as well to have, for our curious contemplation, a (putative) paraphrase - in the style of van Inwagen, of course – of even the most simple apparently-chair-requiring (positively existential) sentences. So, for all that currently most concerns us, we would do as well to consider just the correlative paraphrase of the very simple and boring sentence ‘There is at least one chair’. That very simple putative paraphrase is, of course, just this: There are Xs that

are arranged chairwise. Quite as well, of course, we could consider no more than the correlative of ‘There is at least one table’, which putative paraphrase would be just this little sentence: There are Ys that are arranged tablewise.

For the sake of an instructive argument, let’s suppose that the paraphrastic predicates, to which van Inwagen has helped himself, are each perfectly equivalent, semantically, to their obvious (respective) ordinary English predicates. At least in such an event, there’ll apparently be a debate between the (Moderately) nihilistically inclined likes of van Inwagen and, on the other side, the friends of tables and chairs. Quite well enough, I’ll suggest, this debate may be regarded as revolving around what to make of the propositions expressed, quite well enough, by certain English conditional sentences, including at least this one conditional that, even as early on as was our very first chapter, this book has on display:

*“Tablewise” Entailment to a Complex Table:* If there are (however many) distinct material simples, in a certain spatial region, (maybe including many materially simple electrons, just perhaps), which material simples are all arranged *tablewise*, and, if there *aren’t any other* material simples in that region, or even anywhere very near the region, then there *is*, in that region, a complex *table* (a material complex whose basic physical constituents are just those many material simples).<sup>12</sup>

As I beg you to recall, when I commented on the proposition that this sentence (at least apparently) expresses, I made some remarks about folks on two saliently opposite sides of the currently fashionable debate, the Nihilists about Complex Material Individuals tables as well as some few pretty Nihilistically-inclined Moderates about Complex Material Individuals and, on the other side of the dispute, the friends of (real existence for) tables, including both our

Universalists on these matters, also many our Moderates here, namely all those who are Nihilistically-*disinclined*. Those remarks of mine proceeded along some such lines as those now upcoming.

Thinkers on the more Nihilistic side of the present dispute can say (something like) this: No material simples can ever be so related in a manner that's conducive *enough* toward there being tables for there ever to *be* any tables. Why so? Well, the putative tables in focus would have to be material *complexes* and, so, not any material simples. But, in truth, the only real material existents are, just as they always must needs be, just so many perfectly simple material things.

Thinkers on the other side of the present debate - the *less* Nihilistic side, of course - will say, by contrast, something to an opposite effect: At least in many (sorts of) concrete possible worlds where there is both plenty of matter and also plenty of space that's entirely empty of matter, it's perfectly possible that, at least at certain times, there should be at least one material complex – indeed, even quite a few complex material individuals, each perfectly distinct from all the rest. What's more, in some of these worlds (doubtless, including even the actual world) sometimes there *are* material complexes, including not only a great number of them, each distinct from all the others, but also even a great variety of them, as well. Now, in the situation we're currently contemplating, there will be, among many other material complexes, a certain *table*, which table will occupy, quite fully, exactly and precisely, in the spatial region we're now contemplating. This table will be, of course, just that complex material individual whose basic physical constituents are, in just that spatial region, are *related just so conducively for them to constitute* a table, even while, at the same time, they're also related just so conducively to the basic physical entities in spatial regions surrounding the one that's in our contemplative focus.

At least at first blush, it strikes me that any question concerning the (possible) truth of our tablewise-conditional (or concerning its (possible) untruth) well, it will be a question that's concretely inane. That will be so even if there may be an obviously answer to the question (and, just as well, it will be so even if there may be no obviously correct answer to it).

With that said, perhaps I've just said what, in this present context at least, is the most important thing for me to say about the contemplated conditional proposition. Still, it may remain for us to notice some further points about that conditional inanity – points that, in certain ways, may be pretty interesting idea. Perhaps, these ideas may be pretty interesting thoughts, I imagine, even if they'll never do anything, after all, to call into any serious question the concretely inane status of the table-wise conditional conception, which status may be, I'll suggest, pretty certain and utterly immutable.

On a most proper understanding of "*Tablewise*" *Entailment to a Complex Table*, and on a most appropriate understand of "strictly necessary", as well, we may quite safely say, I think, that the conditional sentence in question, "*Tablewise*" *Entailment to a Complex Table*, expresses a strictly necessary proposition. That is, this conditional sentence expresses a proposition that, if it's true, is necessarily true, in the strictest sense of that phrase, and, on the other side of the matter, it's a thought that, if it's false, is a necessarily false idea, in the strictest sense of that relevantly opposite phrase. But, then, it seems most appropriate to ask: Even in a very broad sense of "analytic" - though still a sense of the term much favored by quite a few philosophers - is *Tablewise*" *Entailment to a Complex Table* an *analytic* sentence, a sentence well-suited to express an *analytic* proposition?

Please remember, in thinking about this latest question, that, right off the bat, we really have no very considerable understanding of the quite contrived and artificial predicate “are arranged tablewise”. As we noted in Chapter 1, this quasi-barbaric conditional differs, precisely in this way, from certain quite ordinary conditionals that, at least superficially, appear very much like it. For a salient example, drawn from just that chapter, we may recall this quite ordinary sentence:

*“Hexagonally Arranged” Entailment to a Hexagonal Arrangement:* If there are some (six) material simples, in a certain spatial region, (maybe some simple electrons, just perhaps), which six are arranged hexagonally, and, if there *aren’t any other* material simples in that region, or even anywhere very near the region, then there *is*, in that region, a hexagonal *arrangement* of those (six) material simples (a spatially complex arrangement of just those material simples, and not any other simple material things.)

Just as we can be quite confident that we have quite a good understanding not only of “hexagonal arrangement”, but also of “are arranged hexagonally”, we may be confident that we understand, quite well, this ordinary sentence and, in the bargain, also what proposition it is that the sentence most standardly serves to express.

To be sure, there may be those of us so ontologically scrupulous – or maybe just so Nihilistically inclined – that they will deny that there should ever be any such things as (mere) arrangements, whether hexagonal (or whether spherical) or whether (still) otherwise, no matter how it is that any concreta should ever be arranged. Undue reification, they will say. If they’ve very alert and astute, they’ll know what recourse to take in the face of any who might try to bully them out of their denial here - perhaps by trying to force them to embrace the ordinary conditional sentence just displayed and, in the bargain, by having them embrace, as well, the

“ontologically profligate” proposition it appears to express. One course open to our ontologically scrupulous deniers is this. They may just refuse to accept such *English* sentences as “There are six objects arranged hexagonally.” At least when they’re seriously doing philosophy, rather than (at all deeply) involving with English, their native tongue, they may employ, instead, what may be an ontologically less loaded language, even if it should be a language whose constructions are often homophonic with correlative English constructions. Call such a language *Ontologically Sparse English* or, shorter, *Sparse-English*. As they’ll then do well to point out, while the English sentence “*Hexagonally Arranged*” *Entailment to Hexagonal Arrangement* is indeed analytic, or it’s analytic-in-English, that’s not true of the homophonic *Sparse-English* conditional that’s its semantically less loaded correlative and, in the bargain, that’s its ontologically less loaded cousin. What’s more, as they then might say, when it comes to describing reality in a most truthful and perspicuous manner, *Sparse-English* does better than English ever does, even as English is far too profligate in the entailments it foists upon its entrenched speakers – or those among them always too fearful ever to engage, instead, in some *Sparse-English*. So, quite unlike what happens with the *ontologically unloaded* analytic conditionals of *Sparse-English*, the analytic conditionals of English aren’t fit to express very many strictly necessary truths. Indeed, in ever so many cases, they’re not fit to express any truths at all.

Now, if we had a good understanding of phrases like “are arranged tablewise,” then the ontologically most parsimonious among us would do quite well, I suspect, to employ a quite parallel move against any who might try to bully them with the (alleged) analyticity of “*Tablewise*” *Entailment to a Complex Table*. But, quite as I’ve been saying, we really don’t

have, already in place, any good understanding of such contrived phrases as “are arranged tablewise,” and “are arranged chairwise,” and so on. Given that, what are we to do?

As I suggested in this book’s first chapter, about the best we can do, with such contrived sentences as “*Tablewise*” *Entailment to a Complex Table*, toward giving the fabricated sentence any very readily intelligible, is to pair the contrived sentence with a happily correlative more ordinary sentence. In the case at hand, a sentence that serves us, in this way, about as well as any may well be this piece of pretty ordinary English, also recalled from our very first chapter:

“*Most Conducive*” *Entailment to a Complex Table*: If there are (however many) material simples, in a certain spatial region, (maybe some simple electrons, just perhaps) which are related in a manner that is, for the constitution of a table by those simples, just as conducive as can be (and, especially, if there aren’t any other material simples in that region, or even anywhere near it), then there is, in that region, a complex *table* (a material complex whose basic physical constituents are just those many material simples).

Is this quite ordinary English sentence an analytic sentence? Even with a broad sense for “analytic”, where quite a lot is reckoned as properly analytic, I find it hard to be very affirmative here (though I also find it hard to be very negative, too.) This is a very much more difficult matter, to say the least, than the question of arriving at a confident positive judgment about the analyticity of “*Hexagonally Arranged*” *Entailment to a Hexagonal Arrangement*.

But, for any serious questions of ontology, as well as for the most serious of metaphilosophical questions, it may not be very important – and, maybe not even important at all – to arrive at any judgment concerning the (alleged) analyticity of “*Most Conducive*” *Entailment to a Complex Table*. Indeed, even without our making so much as the slightest progress on that

question, we may provide quite sensible treatments of those (much more obviously) extra-linguistic questions, so paradigmatic for serious metaphysical matters.

Toward an apt commentary on what serious metaphysicians may learn from a consideration of that very readily understood sentence, I can hardly do better, I imagine, than to paraphrase, very lightly, some remarks I made in the first chapter: Those on one side of the ontological dispute, the Nihilists about tables, can say this about the present issue. No material simples can ever be so related in a manner that's conducive *enough for there really being the composing of a table*, since the putatively composed tables would all have to be *material complexes*, of course, whereas, in point of necessary fact, the only real material existents will always be just so many perfectly simple physical things, each of them completely lacking any constituent individuals. And, of course, those on the other side of the present ontological issue, the friends of existence for tables, of course, well, they'll say that, even as there sometimes (or often, or always) can be material complexes, in addition to however many physical simples there are, so there will be, in the currently contemplated situation, a certain table in the contemplatively high-lighted region; there'll be just that table whose basic physical constituents are related, both to each other and also to nearby physical simples, just so very conducive that, in just precisely that situation, they serve to constitute a (complex material) table.

Before turning to various further questions, let's sum up and take stock: Consider the propositions standardly expressed by each of the three conditional sentences that we've just recently placed on (indented) display. Even as each of these three thoughts is a concretely inane thought, so, none of them is a concretely substantial proposition.

## 6. Complex Material Objects and Arrangements of Simple Material Objects

In this new section, I'll be more generous than I've just lately been. In particular, I'll grant that there's nothing the least bit troublesome about the contrived predicate 'are arranged tablewise' and, what's more, I'll suppose that each of us has an excellent understanding of what the predicate means, quite as excellent, indeed, as our understanding of the perfectly natural 'are arranged hexagonally'. On these generous suppositions, we may have a fun-filled putatively-profligate ontological field-day. (The advertised romp may be reminiscent of a heady time enjoyed in the previous chapter, when we managed to suppose that some material stuff might *simultaneously* compose a hunk of matter, and a lump of matter, and a piece of matter, even while the hunk and the lump and the piece were three numerically different material things, each of them spatially perfectly coincident with the others and each wholly composed, at the single time in question, of the very same matter that also served wholly to compose each of the others.)

As a first step on our happy new romp, let's rehearse, toward a suggestive inspection, two sentences saliently displayed in the previous section:

*"Tablewise" Entailment to a Complex Table:* If there are (however many) distinct material simples, in a certain spatial region, (maybe including many materially simple electrons, just perhaps), which material simples are all arranged *tablewise*, and, if there *aren't any other* material simples in that region, or even anywhere very near the region, then there *is*, in that region, a complex *table* (a material complex whose basic physical constituents are just those many material simples).

*"Hexagonally Arranged" Entailment to a Hexagonal Arrangement:* If there are some (six) material simples, in a certain spatial region, (maybe some simple electrons, just perhaps),

which six are arranged hexagonally, and, if there *aren't any other* material simples in that region, or even anywhere very near the region, then there *is*, in that region, a hexagonal *arrangement* of those (six) material simples (a spatially complex arrangement of just those material simples, and not any other simple material things.)

By juxtaposing the two displayed sentences, as done just above this very line of writing, we've made it easy to come up with this third sentence, which happily borrows from each of those two:

*"Tablewise" Entailment to a Tablewise Arrangement:* If there are (however many) distinct material simples, in a certain spatial region, (maybe including many materially simple electrons, just perhaps), which material simples are all arranged *tablewise*, and, if there *aren't any other* material simples in that region, or even anywhere very near the region, then there *is*, in that region, a *tablewise arrangement* of just those material simples, and not any other simple material things.)

What may we now be moved to say, upon observing this third sentence? In the present context, it's safe to say that this new sentence expresses, or it implies, at least two thoughts worth noting.

First, there's this to notice: Not only may this sentence be taken to express a strictly necessary truth, but, what's more, it may be taken to express an obviously analytic truth (with the obvious analyticity then to be the source of the strict necessity). In this regard, at least, *"Tablewise" Entailment to a Tablewise Arrangement* contrasts with *"Tablewise" Entailment to a Complex Table*, as it's *not* so obvious that the *latter* sentence expresses an *analytic* proposition, even if it should (as we're supposing it to do) express a strictly necessary truth.

Secondly, there's this to be safely said: Just as an hexagonal arrangement of some certain material simples is *an arrangement of just those* simple material individuals, so a tablewise

arrangement of some certain *other* material simples is *an arrangement of just those* other simple material individuals. And, for good measure, we may make this comment about that safely made remark: Even as that safe statement is, quite obviously, a strictly necessary truth, so it's also, again quite obviously, an analytic truth. (What's more, its strict necessity is logically related to, and it's even logically "grounded in", it's analyticity, whatever, exactly, that may mean.)

Now, when we juxtapose our just newly provided proposition, "*Tablewise*" *Entailment to a Tablewise Arrangement*, with our older, slightly more familiar "*Tablewise*" *Entailment to a Complex Table*, it becomes ever so easy, indeed, for this next question to occur to us: When some material simples *compose* a complex table, and when these same material simples *are in* a tablewise arrangement, as they'll then also have to be, is that complex table *the very same thing* as this tablewise arrangement or, alternatively, is the complex table *one* thing while, perhaps always perfectly coincident with the noted table, the tablewise arrangement is *something else*, again? (Compare: When some copper composes a table, and when the very same copper is in a tablewise arrangement, is the copper table the very same thing as the tablewise arrangement of the copper or, alternatively, is the copper table *one* thing while, perhaps always perfectly coincident with the copper table, the arrangement of the copper is *something else*, again?)

In what follows, I'll argue that, given that there really are complex tables - tables constituted of simple material individuals - and given that there really are tablewise arrangements of those selfsame (constituting) simple material entities, well, then, in each and every case of what we've just been given, the complex table will be one thing and, numerically different from the aforesaid table, the tablewise arrangement (of material simples) will be something else, that is, it will be another thing. Indeed, not only will I argue to the effect just advertised, but, thinking that a truly skinnable cat can be skinned in each of several different ways, I'll offer two distinct arguments

to the divisive effect I've just articulated. Myself, I think each of the arguments suffices. But, as this present inane matter may be more delicate than I suspect, I'm not certain that the arguments are sound; for all I know for sure, indeed, I may be wrong about this concretely inane issue.

A complex material object has many nonrelational physical properties, so to put a certain central point – saliently including (properties concerning) the mass of the object. So, a certain table may have a mass of 10 kilograms – if the mass isn't one of that table's properties, then, at the *very least*, one of its properties is *having a mass of 10 kilograms*. By contrast with the comparatively robust likes of a table, which we're supposing to be a *physical object*, a (mere) *arrangement of* physical objects doesn't have any mass, no more than an inventory of physical objects has any mass, and no more than any mere indentation, in any physical object, has any mass. So, an *arrangement of* things, even an arrangement of *perfectly fundamental physical* things, won't have any mass, and it won't have any such worldly property as the property of having a certain mass.

Because complex physical objects have mass, and they have the properties pertaining to mass, whereas (mere) material arrangements lack all that, the material arrangements aren't any complex objects, and the material objects aren't any arrangements of material things. So, if some matter composes a complex material object even while that very matter is in a certain material (or spatial) arrangement, the material object is one thing and - perhaps all the while spatially wholly coincident with that object - the arrangement of the object's basic constituents is something else, quite another thing, altogether.

Well, for whatever it's worth – maybe quite a lot, maybe just a bit - that's the first argument.

Now, I'll offer a second argument. At the least, this second piece of reasoning will work well for almost any actual material table, supposing that there are, in our actual world, real tables that are each complex material individuals. At any rate, here's the argument: A typical complex table may be readily taken apart, in what's naturally regarded as a process of disassembly. Here, I have in mind such tables as are first assembled, as with wooden tables that were assembled from four wooden legs and a wooden slab (or wooden table-top) – often, it's true, with the use of screws, or with the help of some such extra objects - but sometimes, I'll note, by just shoving the legs into indentations in the “bottom of the table-top,” each leg shoved into an indentation that's just barely big enough to receive the shoved leg, so that the result is a leg very snugly fitting into (the bottom of) our targeted table-top, quite snug enough for the leg to stay put, under anything even remotely like any perfectly normal conditions. With such tables as this, we can detach the table's top from each of the four legs of the table - basically, we just pull very hard on the legs, with a force that may just slight exceed that of our previous shove, in no way a danger to either the integrity of the leg or that of the table-top from which it is pulled loose. At any rate, when we do all of the relevant detaching, there will be five salient wooden objects scattered about – one of them tabletop, and the others each a table-leg. After a certain period, during which time these five biggish complexes are in some such disarray, they all may be rejoined, to be spatially and (otherwise) physically related just as they were right before their detachment, which was, of course, in a quite nicely tablewise way.

Now, what are we to think of the (wooden) matter in the *middle* period?

When the matter was relevantly so disoriented, so to say, as it was in this middle period, then the wooden stuff *wasn't* in any *tablewise* arrangement. Nor was there, in the contemplated situation, any other matter that was, during that period, arranged tablewise. So, in the middle

period, at least, there wasn't any tablewise arrangement. For, first, there wasn't any tablewise arrangement of the aforementioned complex table's constituent parts, including its most basic physical parts. And, second, there wasn't, in our contemplated situation, any other tablewise arrangement (of anything).

At the same time, that is, during this very middle period, the complex table in question still existed – or, at least, things certainly seemed to be that way. During that period, the noted table wasn't fit to serve as a table, of course, for its salient parts were “all over the place,” rather than being spatially structured in the familiarly supportive manner, so customary for ordinary tables. But, though it could not then serve well as a table, even so, our table still existed. It's not that, at first there was the table, and, at the end, there was the selfsame table – but in the middle the table was “out of existence” – though all of its constituting matter still existed. No; that does not seem right, at all.

On the one hand, then, a complex material table can withstand periods when there's no relevant matter that's in any tablewise arrangement. But, on the other hand, a tablewise arrangement of material things cannot withstand a period when those material things aren't arranged tablewise. So, a complex material object – a complex material table, for example – is numerically different from any tablewise arrangement of material simples – even including a perfectly tablewise arrangement of all the perfectly simple material particulars that, at a certain particular time, are all of its very own perfectly basic material constituents.

Well, for whatever *it's* worth – maybe a lot, maybe just a bit - that's the second argument.

Not that there should be any great surprise here, but, as I'll now submit, not even very complex material tables are ever any tablewise arrangements of simpler material things (nor are

any tablewise arrangements of material simples ever any materially composed tables, not even if there should be, even in the actual world, ever so many materially composed tables). Though that is something which I now do believe, it's nothing I believe with any great confidence. Indeed, one thing I much more confidently believe than that is this clearly related proposition: The question of whether any complex material tables are ever any tablewise arrangements of simpler material things is, insofar as it's any very intelligible question, just a completely concretely inane issue and, at all events, it's never any concretely substantial question at all.

## **7. Mereological Sums of Simple Material Objects: Fusions, Fusions Everywhere**

In the last several sections, our exploration of the fashionable debate about (the possibility of) material composition has focused mainly of the views of certain *Moderate* philosophers, sometimes highlighting the quasi-Nihilistic thoughts of van Inwagen and other times exploring much more generous positions, not very unlike the views of more than a few quite commonsensical metaphysicians. In this present section, by contrast, I'll focus mainly on (what I've called) the *Universalist View about Complex Material Individuals*. According to these Universalists, you may recall, whenever there are several (two or more) utterly basic material individuals, or perfectly simple material entities, those simply basic material objects will serve to compose a complex material individual, which complex physical entity will be yet *another* material object, numerically different from – and, so, quite in addition to – the simpler material things that serve to compose it.

(Much more cautiously, perhaps, there will those Universalists who will say just this: Whenever there are two or more simpler material things – and especially, perhaps, whenever

there are two (or more utterly) basic and simple material objects, those several simpler material objects will compose *another* thin - in addition to all of the material constituents of, whether or not this composed object - this fusion that's the mereological sum of the simple material objects is itself a material object (in which case, this fusion will be, of course, a more complex material object than are the simple material entities of which it is the mereological sum. If we're to go in for mereological sums, at all, then there's a lot to be said for such cautious Universalists as these, who may well refuse to take part in the fashionable debate. But, as what's distinctive about their position is hardly ever recognized, to put the point mildly, I won't trouble us with more than these few parenthetical words about these peculiarly cautious thinkers – maybe, for all I really no, none of them denizens of the actual world. Anyhow, let's get back to the main line of this discourse, where our topic is, of course, the fashionable debate on material composition.)

In his very brief characterization of our currently fashionable debate, as you'll remember, Sider introduces us very quickly to those on the Universalist side of the dispute, before we ever encounter anyone who may oppose them. These Universalists are those philosophers who, like Lewis, and Quine, and quite a few lesser lights, too, will give the “laziest” possible answer to van Inwagen's question, “What do you have to do to some objects to get them to compose something ---- to bring into existence some further thing made up of those objects?” In other words, these are the thinkers who will say such relevantly “lazy” things as this: “You don't have to do anything all. As long as you don't annihilate the simple material things – or, you don't (otherwise) get them *not to exist* –well, they'll *always* compose something. Indeed, they'll always something that's as fully and fairly a material thing as is any of them. Thus, without anyone's taking any pains to produce it, there'll the fusion of the coins in your pockets with the Eiffel tower. Though it will be a quite widely scattered material entity, it will still be as fully and

fairly a material thing as is any of the coins in anyone's pocket or, indeed, as is any of the presumably quite simple electrons that serves to constitute a pocketed coin."

What are we to make of any such so-called "fusion" or, what passes for the same, of any of these presumably material "mereological sums," apparently so beloved by so many Universalist philosophers, including, of course, some enormously intelligent philosophical authors?

To my way of thinking, these alleged objects – these mereological fusions, or mereological sums – are simply the ill-defined contrivances of certain high-minded philosophers, brilliant thinkers though they may be. These fusions, or sums, are technically conceived whatnots, rather ill-understood by us not-so-high-minded guys. And, as I suspect, they might not be all that well-understood even by the Universalists themselves. But, that may be a somewhat hasty judgment on the matter.

To look more closely at what a most brilliant Universalist may have in mind, I'll quote, at some length, from David Lewis's most widely-ranging work, *On the Plurality of Worlds*. But, before doing that, I'll make a few hopefully judicious statements, which, as I hope, may comport quite well with much of what's gone before, in this chapter: Whatever the mereological sum of some material things (positively) may be, one thing that a mereological sum *won't be* is a complex material object. Even when each of the items mereologically summed is a perfectly simple material individual, the mereological sum of these physical things – or their "fusion" – won't itself be any material object, or physical individual. This will be so for reasons that, at least to a fair degree, parallel those explaining why *an arrangement of* physical objects won't ever be a complex material object – not even when the things are arranged is each a perfectly basic material individual, and not even when the way in which they're all arranged is a fully

physical way, that is, a way that's no less than perfectly material. As I'll argue in the next section, after we've been pretty well introduced to mereological sums, we can be reasonably confident that all this must really be so – though I'll *never* be even anywhere near to certain of it.

At all events, and as I *am* quite nearly certain, all the issues getting our attention, in our little exploration of (so-called) mereology, will be, like so many other matters we've pondered in these pages, just so many concretely inane questions.

Having just boldly staked out our main claim, in regards to the territory next to be explored, and having done so with some very considerable confidence, let's turn, rather less boldly, to take a pretty protracted look at some salient mereological sentences from Lewis, most likely the leading Universalist about material composition, at least during the last few decades.

Though sometimes Lewis is a man of few words, he is always a man of very many worlds. Now, because he recognizes an infinity of mutually isolated concrete worlds, among them an infinity each with material individuals distinct from those inhabiting any other world, Lewis will be a far more profligate Universalist – or, at least, a far more generous one – than those who, much more commonly, hold that there's only ever a single concrete world, our actual world, with its many (basic and maybe also nonbasic) physically related material particulars. But, while that difference may matter greatly for many inquiries, in the present context, it's not a pertinent difference. So, both very fairly and perfectly pertinently, here's Lewis on some central matters of (so-called) mereological composition:

I claim that mereological composition is unrestricted: any old class of things has a mereological sum. Whenever there are some things no matter how disparate and unrelated, there is something composed of just those things. Even a class of things out of different worlds has a mereological sum. That sum is a trans-world individual. It overlaps each world that is a part of it, and so is partly in each of many worlds.

We are happy enough with mereological sums of things that contrast with their surroundings more than they do with one another; and that are adjacent, stick together, and act jointly. We are more reluctant to affirm the existence of mereological sums that are disparate and scattered and go their separate ways. A typical problem case is a fleet: the ships contrast with their surroundings more than with one another, they act jointly, but they are not adjacent nor do they stick together. A class of things from different worlds may do well on the first desideratum, but it will fail miserably on the other three. Far from being adjacent, these things will not be spatiotemporally related in any way; they can exert no cohesive forces whatever on one another, nor can they have any joint effects. ... So if composition could be restricted in accordance with our intuitions about this-worldly cases, then doubtless trans-world composition would fall under the ban.

But composition cannot be restricted in accordance with our this-worldly cases, as I shall shortly argue. ... The simple principle of absolutely unrestricted composition should be accepted as true.<sup>13</sup>

Appended to the last sentence displayed just above, Lewis has a striking footnote, which reads as follows:

I really do mean *absolutely* unrestricted – for instance, I see no bar to composition of sets with individuals, or particulars with universals, or cats with numbers. But here it will be enough to consider the composition of particular individuals.<sup>14</sup>

Rather later in this present work of mine, I may raise some questions about what, exactly, thoughts as sweepingly generous as that might amount to. Right now, I'll do little more than suggest that, whatever they may amount to, the sweeping thoughts will all be concretely inane.

In the material so far quoted in this section, from *On the Plurality of Worlds*, Lewis refrained from giving us any very helpfully specific example of a (material) mereological sum of material *mereological components* – that is, of *material things mereologically summed*. Most certainly, he refrained from providing a very helpful this-worldly specific example. For a variety of reasons – some of them stated by Lewis, others (probably) wholly unnoticed by our author - the example of a fleet of ships is *not* a very helpful example of a (*mereological*) *sum* of material

individuals or, as Sider and others (also) say, of a (*mereological*) *fusion* of material individuals. Of course, Lewis *didn't mean* his case of the fleet to be very helpful to us, a useful aid to our recognizing how terribly gerrymandered, or gerrymanderish, or arbitrary, are so terribly many of these fusions or, what's the same, these mereological sums. Quite to the contrary, he meant that case to be, for its very lack of sheerest arbitrariness, an *intriguingly problematic* example of a *mere* (material) fusion, rather than any helpfully paradigmatic case of what's little more than just a mere material mereological sum. (In just a few moments, I'll now bother to signal, we'll notice some nice uses for this example, some of them quite foreign to anything Lewis suggests.)

At all events, and as is so very familiar to so very many mainstream thinkers, for a decently good grasp of what (many) philosophers mean by “mereological sum” and, equally, by “mereological fusion,” tons of helpfully specific examples can be generated almost at will. And, in any case, they fairly pervade the recent literature: For one of these helpful cases, we'll recall Sider's case of “the fusion of the coins in our pockets with the Eiffel tower.” (See the passage I cited from Sider in section 4.) For another, from Lewis' *On the Plurality of Worlds*, we need look no further than the very next page of that seminal text to notice “the mereological sum of the right half of my left shoe plus the Moon plus the sum of all Her Majesty's ear-rings.”<sup>15</sup>

Yet, even while fully recognizing all that, we should also recognize this: When some material individuals are pretty well-ordered, even along the lines Lewis himself relates, that does not disqualify them from being the (only) mereological parts of a (unique) mereological sum. So, the elementary particles involved in constituting all the ships of a certain fleet, they may be all of the individual mereological components of a certain (unique) mereological fusion of basic physical particles. And, so it may be, too, when the material individuals are quite comfortably (for us) well-ordered, as with the elementary particles involved in constituting just a single ship –

one whose matter is very nicely contiguous, and one whose matter is configured so that it is all quite rigid, and so on. All the particles constituting just such a ship, and only those just those very material entities, may be mereologically summed. In such a case, of course, one won't have any mereological fusion that's saliently gerrymandered, or that's terribly arbitrary – leastways not by Lewis's sketchily provided standard. Nonetheless, there'll be a perfectly good case of a mereological sum that's offered – provided, of course, that there ever really are any such things as mereological sums.<sup>16</sup>

### **8. Fusions of Simple Physical Entities and Complex Physical Individuals**

In a certain region of space, let us suppose, there are very many elementary particles arranged tablewise and, as well, arranged *cuprously*, now coining another new term. (When such particles are arranged so as to compose some copper, then as we'll say, they're *cuprously arranged*.) As we'll grant, (all) the elementary particles in that region, for their being arranged so cuprously, compose the copper matter in the region, which copper matter is, of course, a somewhat complex kind of material stuff – much more complex than, say, the negatively charged matter that's to be found with each electron. And, as we'll also grant, going against the Nihilists about complex material individuals, the elementary particles in that region, for their being arranged tablewise, compose the (single) table in the region. Putting all this together, we're granting that, for their being arranged, at once, both cuprously and also tablewise, the elementary particles, in our region, compose a *copper table*, the only table, as we're supposing, in the region currently contemplated.

Perfectly consistent with all of that, though also quite distinct from it - or so the mereologists tell us - we may consider the mereological sum of just exactly the elementary particles that, at this current time, are precisely the particles in our currently contemplated spatial region.

None of this changes much when we come to talk of what, in our region, is composed of what: In our contemplated region, there is, right now, a copper table, wholly composed of (all) the region's elementary particles and, right now, there is a mereological fusion, also composed (even if it should be mereologically composed) of just those very particles.

Given all these suppositions, all quite unobjectionable for many mainstream philosophers, we may now do well to ask this following question: Is the indicated copper table the very same thing as the noted mereological sum or, alternatively, is the copper table one thing, while the mereological fusion (of its basic material constituents) is something else again, a thing that's numerically different from that table?

Pretty well paralleling some of our very recent reasoning, to support the thought that a complex material table is numerically different from any tablewise arrangement of any material entities, there are fairly forceful arguments for the conclusion that a complex material object, such as our contemplated table, is numerically different from any mereological sum, including even the fusion of the contemplated complex's basic material constituents.

In what follows, I'll argue that, on the supposition that there really are complex tables, constituted of some simple material individuals, and also on the supposition that there really are mereological fusions of those selfsame simple material entities, as well, each materially complex table will be something numerically different from mereological sum of material entities (and, of course, vice versa).

Largely for the fun of it, I'll offer several arguments to that distinctive, or divisive, effect. About them, I should say this: First, I think that any of the arguments is, quite by itself, sufficient to make the point that I'm after, to show it to be correct. But, second, I'm not sure that, even with very many arguments provided favoring the point I'm after, this point will be a correct idea. Anyhow, it's time for some argumentation.

A complex material object, such as our copper table, has many nonrelational physical properties, as with, for example, our copper table's being *meltable*. Having nothing to do with its being a table, of course, and everything to do with its being a complex object that's composed of copper, still and all, our copper table is a meltable table. When the temperature of the table reaches a certain (relevantly high) point, or threshold, the copper will melt and, with that, the table composed by the copper will melt, of course. As we say, the table will then melt away, even as the copper comes to form nothing more interesting than a very hot puddle, which is, then and there, quite far from being any table at all. By contrast, a (mere) mereological fusion of elementary particles – say, of quarks and electrons – *isn't* something that's meltable. Forget about trying to speak sensibly of the temperature of the fusion, which completely contrived verbiage may make very little sense, maybe none at all. Anyway, right now none of that much matters. For, we may quite sensibly speak, I'll grant, of the fusion's elementary particles coming to move very rapidly, each relative to (almost all) the others, certainly very much more rapidly than before the melting began. But, when even all the melting happens, it won't be true that, quite like the table melted away, the *fusion* will melt away – nor is anything even remotely like that true, or correct. As this example suggests, each complex material object will have very many intrinsic physical properties – doubtless, all of them physically derivative properties – while no fusion (whether of material simples or whether of anything else) will have all of these

properties, or most of them, or maybe even any of them. So, a complex material object is not a mereological fusion; nor is any such fusion any complex physical individual.

Here is a second argument. At the least, it will work well for any material table that's at malleable, or anything much like that, very saliently including a copper table: From our previous chapter, recall the process of Extrusion: Our copper table may be forced through a wire-forming copper-extruder. The resulting piece of copper will be very long and very thin. Just so, along "one of its dimensions", it will extend for a great length – far greater than along its other dimensions, taken as perpendicular to the aforementioned dimension. When this happens to our copper table, and no other notable thing ever happens, then the table ceases to exist. By contrast, when all the table's elementary particles are forced through the extruder, then, even as all those particles continue to exist – as we're supposing, anyhow – so the mereological sum of the particles also continues to exist. As this serves to show, our complex copper table is one thing, something quite vulnerable to the likes of Extrusion, while our correlative mereological sum is something else again, something that's very far from being so vulnerable, in that way.

Here's the third argument and, as our patience is limited, it must be our final argument here: For the mereological sum of certain material particulars to exist, each of those selfsame material particulars must exist. By contrast with that, a complex material table may continue to exist even when one of its very many, relatively interchangeable basic physical constituents ceases to exist – for example, one of its very many trillions of constituent electrons. On the one hand, then, a complex material table can withstand the complete cessation of one of its basic material constituents, which basic material individuals have been, as we may grant, arranged tablewise. But, on the other hand, a mereological fusion of some certain material things cannot withstand the complete cessation of any one of those very same material concrete particulars. So, a

complex material object – a complex material table, for example – is numerically different from the mereological sum of its simple material constituents.<sup>17</sup>

## **9. Four Distinct Sorts of Spatial Inhabitants: Material Fusions, Material Arrangements, Complex Material Objects and (Complex) *Ordinary Things***

In the last several sections, most of our discussion has been prompted by an attempt to understand a certain salient debate that, for the last several decades, at least, has loomed quite large in the literature of mainstream philosophy. This salient dispute is, of course, the Debate about (Alleged) Complex Material Objects.

Regarding that currently fashionable dispute, it's now time for what might well be regarded as salutary "house-cleaning" section. Indeed, this cleansing and clarifying work may be overdue.

At all events, and as is obvious from the literature, there are several Assumption commonly shared by the main participants to this Debate. Here are four salient Assumptions, perhaps the four most salient, along with a bit of parenthetically presented commentary.

The First Assumption: Tables and chairs, if there really are any such things, *are material objects* and, what's more, they're all *complex* material entities, each wholly composed, most fundamentally, of certain simple and basic material individuals.

(This is not a strictly necessary truth, as thoughts of Berkeley, for example, suffice to show. But, even when Berkeley is placed aside, it's quite doubtful, really, whether this assumption is even true, at all, even during the current eon of the actual world. Indeed, as I'll argue after presenting all four assumptions, it should be doubted, even by utterly materialist philosophers, whether any

of the four Assumptions is anywhere close to being true. In presenting my arguments against the First Assumption, I'll choose pieces of reasoning that, with only minor variations or extensions, can be deployed, to an almost equally devastating effect against, the other three Assumptions I'm now in the midst of listing.)

The Second Assumption: Among the complex material objects, or composite material entities, if there really are such things as *those*, there will be many tables and many chairs.

(Some philosophers who may be aptly enough called "Nihilists about Complex Material Objects" will deny, of course, that there really are any complex material objects, or any composite material individuals. As well, at least on the whole, the commentary supplied for The First Assumption will apply here just as well.) And, once again, I won't bother to supply any further commentary.)

The Third Assumption: The Nihilists about Tables and Chairs, if they're to have a consistently sustainable position, must all be Nihilists about Complex Material Objects. And, conversely, the Nihilists about Complex Material Objects, if *they're* to have a consistently sustainable position, must all be Nihilists about tables and chairs.

(On the whole, and once again, the commentary supplied for The First Assumption will apply here just as well. At all events, I won't bother to supply any further commentary here.)

The Fourth Assumption: Those who uphold unrestricted mereological composition, if they're to have a consistently sustainable position, must all also uphold the existence of many tables and many chairs. What's more, each of the many tables will be a certain mereological sum, or mereological fusion, distinct from all the others, as will also hold true, in parallel, for each of the many chairs.

(Once again, the commentary supplied for The First Assumption will, on the whole, apply here just as well. And, once again, I won't bother to supply any further commentary.)

When parenthetically commenting on the First Assumption, I said I'd present arguments to show that, even for utterly materialist philosophers, that apparently almost obviously true supposition is actually pretty certainly quite false. Here's the first of my arguments to that rather surprising negative effect.

A typical table, for example, may be broken into two (roughly) equal pieces, equal both as concerns their mass and also as concerns their volume. Harkening back to the previous chapter's discussion, we may have the typical table that we'll bisect, or that we'll break in two, be made entirely of copper and, indeed, be made of copper that, to the extent that our pretty particulate world allows, is all seamlessly all of a piece, so to say. With this copper candidate for impending bisection, we'll have a table that, in our pretty particulate actual world, is about as good a candidate, for being a single material object, as any mid-size ordinary piece of furniture ever is. Now, if before our bisection of the copper before us, the copper table we're confronting is a material object, then, once the bisection is completed, each of the two "resultant pieces of copper" will be a material object, too, each with a mass about half that of the pre-bisected table's, and with a volume about half that of that "original" table's volume, too. (Of course, by itself, neither of these "resultant pieces" will be any (quite small) table, nor will either piece serve to compose any (quite small) table - on any assumptions now worth making for an instructive case, concerning matters like questions of shape, for example, and, so, on any of the assumptions that are, of course, presently in force, helping to make our case an instructive one.)

Now, as should be all but self-evident, when our (original) table was broken in two, it did not cease to exist, not even for a minute: A table that's been broken like that, that's been sliced in two, so to say, is simply a broken table or, in other words, it's just a table that's broken. But, of course, a table that's broken is quite certainly a table, very nearly as certainly, I'd say, as is a table that's sanded, or painted, or disassembled.<sup>18</sup>

By contrast with our original table, our original (table-shaped) material object ceases to exist when once it's been so nicely bisected. It's not that there's still, on the scene, a material object with that same biggish mass, partly in one location and, distant from that, partly in a separate location. Whether or not our original material object *may yet later* exist – as *perhaps* may happen should all its original matter again come to be in one cohesive (table-shaped) piece, so to say, or in one relevantly continuous (table-shaped) region, well that's another question. But right now, with the relevant matter so scattered about, there doesn't exist the material object that was just so decisively and violently bisected.<sup>19</sup>

So, our copper table *will still* exist, right after the envisaged bisection. But, if there was a material object that, just before the bisection, was right where our table was, presumably a copper material object perfectly collated with our table, this table-shaped copper material object *won't still* exist, right after the envisaged bisection. And, as we're properly supposing here, there was just such a material object. So, as it certainly seems, our copper table is, and all along it was, one thing and, numerically quite different from it, our table-shaped material object was another thing. (Of course, there was nothing here that depended upon the matter chosen being copper, or the ordinary object chosen being a table.) Quite generally, I'll suggest, medium-sized pieces of furniture – the furniture of the earth, so to say – are all one sort of things and, distinct from all of them – complex material objects are quite another sort of thing, altogether.

Here's a notably similar argument to the same effect, but one that, in an obvious way, runs in the opposite direction.

Again we consider our original copper table. (Or, if we don't want to use the very same table all over again, perhaps for fear of breaking a table too often for comfort, we may consider a perfect physical duplicate of that copper table.) Anyhow, this time we don't do any bisectional breaking. Rather, this time, we put our copper table through our Extruder, happily recalled from the just previous chapter. With that, of course, we put our (malleable and ductile) copper table through our process of Extrusion – at the end of which all its copper serves to compose a very long and very thin solidly cylindrical copper object, perfectly fit for filling the roll asked of certain (sorts of) copper wires, partly for its being made of copper and also, of course, partly for its having just such a shape as that. But, of course, at the same late time, and for much the same shapely reason, once the matter's all been put through the Extruder it composes nothing that's a table. Nor is there, at this latish time, any other matter that composes our original table. Rather, that table then doesn't exist (whether or not it might ever still later exist). So, even while our table-shaped material object survived extrusion, our table did not. So, this time looking at the matter from the opposite logical side, we may again see reason to think that our copper table is, and all along it was, one thing and, numerically quite different from it, our table-shaped material object was another thing. Quite generally, I'll again suggest, medium-sized pieces of furniture – the furniture of the earth, so to say – are all one sort of things and, distinct from all of them – complex material objects are quite another sort of thing, altogether.

Now, here are some rather different ideas, which also motivate, in a complementary way, the thought that, even as our conception of a table is, in certain ways, utterly different from our conception of a material object, so what may answer to the one conception, if anything ever

actually does so, will be quite different, in certain salient respects, at least, from what may answer to the other conception, if anything ever actually does that.

Well, there are some philosophers, aptly enough called “Nihilists about Tables and Chairs,” who deny that there really are any tables, and any chairs. These philosophers need not deny, as far as I can tell, that there are material objects, and perhaps they may even embrace the (very possibly problematic) idea that there are complex material objects. Or, and at the very least, it seems an open question, to any truly *open-minded thinker*, whether a Nihilist about Tables and Chairs must be a Nihilist about Complex Material Objects. In support of that suggestion, I’ll reference, in the notes, several of my early publications, where I provided arguments for Nihilism about Tables and Chairs.<sup>20</sup> As I’m pretty sure, nowhere in those papers should there be anything even remotely like an argument for Nihilism about Complex Material Objects. Anyway, that’s enough about the First Assumption, by now a very doubtful proposition, I should think, even for the most thoroughly materialistic philosophers.

When presenting our Four Assumptions, I said that, when I’d argue against the First of them, I’d “choose pieces of reasoning that, with only minor variations or extensions, can be deployed, to an almost equally devastating effect against, the other three Assumptions” that I’d be presenting. As I think most readers can readily see, by now I’ve done just that. Accordingly, I won’t bother to spend space here spelling out arguments for these other Assumptions.

Instead of trying your patience with many words along those lines, I’ll now move toward closing this “house-cleaning” section. I’ll begin this movement some happily general thoughts about the whole philosophical neighborhood which encompasses the Debates that this chapter has been discussing: It has long been assumed, ever so widely, that those who go in for

unrestricted mereological composition will have far more than enough, in their ontology (of materiality), to satisfy our commonsense thoughts as to existing chairs and tables, and sticks and stones. Or, as we may put it artfully, they'll have far more than enough, in their ontology (of materiality), to satisfy our commonsense thoughts as to existing *ordinary things*.<sup>21</sup> In that same bargain, of course, it's been assumed that the only real worry about what's placed on offer by these unrestricted mereologists, who have often been called Universalists - perhaps, I'll suggest, quite inappropriately - is just this following trouble: They may be asking us to embrace *too many (sorts of) material things* - including, most saliently, all sorts of gerrymanderish material things. But, as I've been arguing, the actual dialectical situation is really far more complicated than that: Whether or not tables are complex material objects - and I've just been arguing, of course, that they are *not* material things - tables (including tables wholly composed of basic material particles) *aren't ever any mereological sums* (of basic material particles, or of anything else, for that matter). Tables are no more any *mereological sums* of anything than ever they are *tablewise arrangements* of anything - even assuming that there really are all of these things - the tables themselves, the table-shaped material objects, the (tabular?) mereological sums, and the tablewise arrangements. So, for those who want to do very well by a "commonsense" ontology of materiality, or by an ontology that endorses the existence of (what I've called) *ordinary things* - as with tables and chairs, and as with sticks and stones - well, they *won't* get all they need (and then some) from those who offer little more than (what can be gotten through) unrestricted mereological composition. Rather, even while they'll then have to embrace, as real wholes, what will look to them to be unpleasantly gerrymanderish, that won't be a price to be paid, I suggest, for anything they've ever wanted - as with really existing tables and chairs, and as with really existing sticks and stones. For, from this mereological way of thinking, they really *won't* get all

they need – and, maybe, not even *any* of what they need - to uphold their commonsense thoughts about *ordinary things*.

Along with much else in this chapter, we can quite neatly sum up most of this section's material, I think, in this nicely happy way: Let us say that complex material objects are a certain sort of *spatial inhabitants*, as are material arrangements (of material objects), and as are also fusions of material objects, and as are, still yet further, very many material ordinary things, like our familiar tables and chairs. Then anything that is of *one* of these four material sorts of spatial inhabitants – that's a material arrangement, for example – *isn't* a spatial inhabitant of *any of the other three sorts* – for example, the spatial arrangement isn't a fusion, and it isn't a complex material object, and, thirdly, it isn't a material ordinary thing. This idea of so much material mutual exclusivity is a thought that, by this latish point in our chapter, we've argued for quite amply, indeed. As we've amply argued, then, and perhaps of some special interest right now, no fusion of material objects is any complex material object, (and vice versa, of course) even as no material fusion is any material ordinary thing – no fusion of material objects is any table and, likewise, none is any chair. Finally for now, and perhaps somewhat surprisingly, there's this next proposition, that may be only quite tangentially related, in point of fact, to the first Debate that we explored in this chapter, that is, to the Debate about (Alleged) Complex Material Individuals: No complex material object is an material ordinary thing and, just as truly, no material ordinary thing is any complex material object – no stick is any complex material object, just as there is no complex material object that's ever any stone.

With the preceding paragraph, we've summed up, quite nicely and neatly, I think, most of what are (at least apparently) the *first-order philosophical matters* on which this chapter's been focusing.

As with so much else that I've offered in this book, concerning what are (at least apparently) just so many first-order philosophical matters, I'm far from certain of almost everything of that (first-order) sort which this present chapter's provided, saliently including those offered in this very section. But, on the agenda of this exploratory book, that's only a quite secondary matter (not only right now, of course, but also with so much that we've explored before). More than just luckily, I feel sure, we can be more confident about questions that, on this book's agenda, at least, are more central and basic questions. Just so, we may be fairly confident, I think, that (almost) all the first-order philosophical thoughts that this section's offered are concretely inane ideas, as are also, of course, all of the denials of those inane first-order claims, all those concretely insubstantial thoughts for which, without much passion, I've just recently been arguing. And, more inclusively, we may be fairly confident that the same holds, quite as well, for all the other sections of the chapter that's now ending.

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## NOTES

<sup>1</sup> Peter van Inwagen, *Material Beings*, Cornell University Press, 1990.

<sup>2</sup> For good measure, such a world's material plenum may be infinitely extensive, and wholly unbounded, in which case it will lack, strictly speaking, any spatial size – unless, even speaking most strictly, something that's so infinitely vast and unbounded may be rightly reckoned as having an infinitely vast size. And, at all events, such an absolutely unbounded infinitely extensive plenum will have no shape of any sort at all, not even of a sort that's most esoteric or contrived. In the regard, our presently considered plenum will contrast with, for example, a plenum that, though it may be infinitely extensive in certain directions, or along certain of its “axes”, yet still may be *cylindrically shaped* – in aptly extensive senses of “cylinder”, “cylindrically,” “shaped,” and “shape”.

<sup>3</sup> Some might think to identify each of these just-specified objects with the material world “of its matter.” Others may prefer to regard each of the objects as distinct from its world, with each being the only (concrete, or material) object in its world. Myself, I prefer to ignore those inane issues, moving to focus, instead, only on certain other inane matters.

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<sup>4</sup> For good measure, this second world's material plenum, while riddled with various holes, so to say, may be infinitely extensive, and wholly unbounded, very much as with the first world's perfectly full and wholly "unholey" plenum. So, with this second world, too, it's sole material individual, if it's plenum may be so regarded, has no spatial size – unless infinitely vast may count as a size.

In certain senses or ways, however, it may be regarded as having a shape, though it will have no exterior shape, of course, as it is infinitely extensive in all directions. Still, a "holey" plenum that's riddled with only spherical (interior) holes, or bubbles, may be reckoned, I guess, differently shaped, in a certain sense or way, from a holey plenum that's riddled with only ovoidal holes, or one each of whose (possibly infinitely many vacuums) are perfectly cubical holes. Along with that, there is, at least, a certain intuitively nice sense, or way, in which this second world's plenum – and even this second world's (infinity of) matter – may be regarded as having a boundary, or maybe ever so many complementary boundaries. These points, about interior shape, so to say, and about complementary boundaries, seems to give us some intuitive motivation to think of our second world's matter serves to compose an infinitely vast and perfectly continuous material individual, notably more that what motivation appears for considering our first world's matter to compose any material individual, including even, if such there might be, an infinitely vast, perfectly shapeless and wholly unbounded material object. At the same time, the motivation just noted, for considering the second world's matter to constitute an (infinitely) vast individual may never rise to the status of any strong reason for anyone to think such a thing. Or, much the same, it may rise to that only in case there'll also be reason for thinking that even the first world's matter serves to compose a material object – one that's not just infinitely vast, but also perfectly shapeless and wholly unbounded. Happy enough to leave

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these questions quite open, in any case I'll now leave them alone, moving on to consider a third (sort of) materiality, or concrete material realm.

<sup>5</sup> For good measure, this third (sort of) world also features an infinity amount of matter, quite as clearly as do our first and second (sorts of) world. As we may do well to imagine, it's matter is distributed particulate so as to form, as many would naturally say, an infinite number of spherical particles. In any very large region of this world, there is about as much matter as there is in any other such very large region: As many would say, each very large region contains about as many particles as does any other very large region of the same vast spatial volume, extent, or size. And, as with the first and second world, this world is infinitely extensive in all directions – it has no external boundary, or boundaries, of any kind, sort or form. Though I may have left out a fair lot of what's needed to adequately characterize this third (sort of) world, along the lines that I intend for your imagination to follow, I've already said enough, I'm supposing, for you to get the hang of what I'm after here, even as you did that much, anyway, with my sketchy imaginative instructions for your contemplation of our first sort of world and our second sort of world.

<sup>6</sup> Some of these Moderates will, it's well known, be far more fastidious than others. For example, in his *Material Beings*, a work cited in this chapter's first note, Peter van Inwagen requires that the material simples be so related to each other as to compose a living organism – which organism will be a complex material thing – for such simples to compose such complex objects. For that sort of Moderate, a living cat will (presumably) be a complex material thing, but no (nonliving) stone will be any complex material entity, nor will any (nonliving skeletal)

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bone be any complex physical individual. By contrast, most moderates will hold that not only are there living cats that are real material individuals, each composed of ever so many material simples (maybe each a quark or else an electron), but there are also many nonliving bones, and stones, each also composed of ever so many material simples (maybe each a quark or else an electron). For certain philosophical purposes it is important to distinguish between these various Moderates about Complex Material Individuals. But, for our present discussion, we do best by ignoring any such distinctions.

<sup>7</sup> Perhaps there may be (some) matter that constitutes a certain very complex physical individual and this matter constitutes this very complex material object *only indirectly*. How might that be? Well, in the first place, as we'll suppose, our considered matter directly composes each of two perfectly elementary particles, one of them being a Bohrian proton, and the other being a Bohrian electron, which electron regularly orbits the aforementioned proton. As is then typically thought, the proton and the electron together compose a hydrogen atom, which complex physical individual has (exactly) those two basic physical individuals as its constituting fundamental physical concrete particulars. (While the Nihilist about Complex Material Individuals will deny this, of course, the other two parties to our currently salient debate, our Universalist and our Moderate, they may agree with this commonly endorsed proposition and, at least typically, even the Moderate will do so.) Now, on the line of thought being indicated, right now, the *matter* that constitutes our hydrogen atom will compose that *complex* physical individual *only indirectly*: The matter will constitute the atom *by composing the atom's more fundamental constituting material individuals*, that is, it will do so by constituting both its proton and also its electron. Or, in other words, the atom's matter will constitute the atom by

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constituting its electron, one of its two fundamental physical constituent objects, and by constituting its proton, its only other fundamental material constituent individual. Pretty aptly, I imagine, we might label those who uphold such thoughts as this one *Terribly Frequent Indirectors (about Material Stuff Composing Material Objects)*.

In a certain salient opposition to these Indirectors, there are those whom we may label, just as aptly, *Universal Directors (about Material Stuff Composing Material Objects)*. According to their *Universal Directism*, matter always composes material objects only perfectly directly; material stuff always composes material individuals, no matter how complex the individuals may be, only perfectly directly. In very many sorts of concrete material world, the Universal Directors say, (the world's) matter *does compose some material objects* – or, at the very least, it composes one material object, possibly a saliently spatially scattered individual. But, even if the material stuff should compose each of many different highly complex material individuals, this *always happens only just so very directly*; it always happens *without* the matter doing *any of this* composing *by its composing anything else*. In other words, or more emphatically, the matter certainly doesn't compose any of the (possibly highly complex) physical individuals *by its composing any (other) material entity*, or material entities, saliently including any only moderately complex physical object, or objects.

Consider a certain particular certain water molecule, composed of just some certain material stuff, or just that certain matter.

According to our Indirectors, the matter composes the water molecule by its composing very many quarks and electrons, just enough for it to compose two hydrogen atoms, each a complex constituent of our water molecule, and one oxygen atom, also a complex constituent of

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the water molecule. (And, as our Indirectors may well add, the matter composes the water molecule both by its composing these elementary particles, all these quarks and electrons, and also by its composing the two hydrogen atoms and the oxygen atom, which the matter does, of course, by its composing the said quarks and electrons.)

According to our Directors, by contrast, the matter composes the water molecule only quite directly, and not by its composing anything else, not even any material objects that are each a part of the water molecule, such as the molecule's atoms, and such as the molecule's (and the atoms') elementary particles.

What sort of a disagreement is there here, really, between our Directors and our Indirectors? As it certainly seems to me, the compositional question about which there's disagreement between these two views, or positions, well, it's just a concretely inane issue.

<sup>8</sup> Quite unfortunately, I imagine, most modern metaphysicians won't change their focus, not even for a moment, so that they concentrate far more on what may be involved in some matter serving to compose a material individual, or in its "failing" to do so, and continuing to think, quite unquestioningly, about only what may be involved in some (simpler) material objects serving to compose another (more complex) material individual. In some measure, this may be due to the paucity of intellectual imagination, so frequently found with even the finest of human metaphysicians. In larger measure, I fear, it may be due to the plethora of intellectual inertia, so terribly frequently found with virtually all human metaphysicians, along with almost all other human philosophers, as well, and, just perhaps, even with almost all other human beings.

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<sup>9</sup> Theodore Sider, “Ontological Realism”, in David Chalmers, David Manley, and Ryan Wasserman, eds., *Metametaphysics*, Oxford University Press, forthcoming. In the passage I’ve quoted, Sider cites these other philosophical works. First, of course, there are works by Peter van Inwagen; there’s his 1987 paper “When Are Objects Parts?” in James Tomberlin (ed.), *Philosophical Perspectives 1: Metaphysics*, 21-47, Ridgeview; and there’s his book *Material Beings*, cited in the first note for this present chapter. For what I’ve called the Universalist position – “you don’t have to do anything” special – he cites W. V. O. Quine, “Whither Physical Objects,” in R. S. Cohen, P. K. Feyerabend and M. W. Wartofsky (eds.), *Essays in Memory of Imre Lakatos*, 497-504, Dordrecht: D. Reidel Publishing Company, 1976, and he cites David K. Lewis, *On the Plurality of Worlds*, Oxford: Basil Blackwell, 1986, pp. 212-213. For what I’ve called Universalism, and what Sider calls it, too, he cites Cian Dorr, *The Simplicity of Everything*, Ph.D. thesis, Princeton University, 2002. (In my book *All the Power in the World*, at various places I suggest that the ontological standing of presumed composites may well be worse than dubious, but I don’t do (much) more than make some mere suggestions to that effect.) As well, Sider observes that locutions like “arranged table-wise” were coined by van Inwagen, in his *Material Beings*.

Directly after the paragraphs quoted in our text, Sider has this short paragraph, about van Inwagen’s own view on the currently fashionable question of (alleged) material composite objects, one that ends with a delightfully humorous (bracketed) sentence:

Van Inwagen himself also dispensed with tables and chairs, but departed from the Universalists by admitting people and other living things into his ontology. (Why he spared the living few could tell.)

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In our terminology, then, Van Inwagen was a peculiar sort of Moderate, one whose view, on this question is decidedly closer to our Universalist's position than it is to our Universalist's. And, apparently far more striking, van Inwagen is decidedly closer to our Universalist than is the commonsense view here, accepted (at least implicitly) by almost all nonphilosophers, and, as certainly bears mention here, accepted (quite often perfectly explicitly) by most (other) currently prominent mainstream philosophers.

<sup>10</sup> Peter van Inwagen, *Material Beings*, pp. 104-105. Where I've inserted the square-bracketed phrase, [I endorse], van Inwagen has "my answer to the Special Composition Question". I do that because, in this present context, it will be mostly a distraction to bother to articulate, and to make clear, what van Inwagen means by "the Special Composition Question".

<sup>11</sup> *Material Beings*, p. 109.

<sup>12</sup> See *Beyond Inanity*, Chapter 1, section 9. In the present typescript, as of March 2008, the displayed conditional first occurs at pp. 90-91 of that first Chapter.

<sup>13</sup> Lewis, *On the Plurality of Worlds*, pp. 211-212.

<sup>14</sup> *Loc cit.*, p. 212.

<sup>15</sup> *Loc cit.*, p. 213.

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<sup>16</sup> For those unacquainted with mereology, this perfectly good case of a sum, the sum of the particles composing a certain ship, well, it won't be any example that will helpfully introduce them to mereological thinking. But, as should be perfectly clear, that's not any metaphysically significant consideration.

<sup>17</sup> Even as the mereological sum of certain material simples isn't any complex table, or any other "ordinary complex material individual", so such a sum also fails to be, as well, any particular arrangement of material individuals. As I believe, and as I could argue several times over, the proposition I've just offered is yet another correct inanity, in the material neighborhood that we've been exploring. But, it is not worth the space here to provide these arguments; nor should I put you through the trouble, at this juncture, of bothering to follow them. Much as with of the other arguments I've offered, I think these are sound pieces of reasoning – even as I am far from being certain that they are sound. What I'm far more certain about is, of course, this "higher-level" matter: Even as it's a concretely inane question whether any mereological sums are ever complex material individuals, and the reverse of that is another inane issue, so it is also concretely inane whether any mereological sums, or fusions, are ever any arrangements of material individuals, as is also the question of whether any such arrangements are ever any such fusions, or any mereological sums of material individuals.

<sup>18</sup> Where is this broken table of ours? Well, quite surely, it is not wholly just where one of our two roughly equal resultant objects is located – just as sure as the fact that, by itself, neither of those unfamiliarly shaped pieces is our broken table. Rather, our (broken) table is partly where

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one of the resultant pieces is and also partly where the other of the resultant pieces is (and, presumably, nowhere else, beyond just those two locations). At any rate, there is no problem here for the thought that, upon bisection, our original table ceases to exist; it doesn't permanently cease to exist, nor does it even just temporarily cease to exist.

<sup>19</sup> Notice well this following point, even though it's made only in a mere note: Were one of the two resultant pieces *far, far larger* than the other, both in mass and in volume, and were other things much as things usually are, *then it might well be* that the original continuant material object would just have gotten somewhat smaller, rather than ceasing to exist altogether: Most of its original matter would then continue to compose the original material object, while just a bit of its original would come to compose a new material object, presumably the first material object ever composed of just its little bit of (freestanding) matter, and not of any other stuff. But, that's *another sort of case*, of course. And, so what may rightly be said about *it* does nothing at all to undermine what I've just said about the case in which there is such nicely even and equal bisecting. And, for the point in question, it's only the bisecting case that's most pertinent and relevant.

<sup>20</sup> I do this in "There Are No Ordinary Things," *Synthese*, 41, 1979:117-154, and in "I Do Not Exist," pp. 235-251 in *Perception and Identity*, G. F. MacDonald ed., London: The Macmillan Press, 1979, and in "Why There Are No People," *Midwest Studies in Philosophy*, IV (1979):177-222, all of which are reprinted in my *Philosophical Papers*, Volume 2, Oxford University Press, 2006. And, as its title indicates, I do it, as well, in "Skepticism and Nihilism," *Nous*, 14

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(1980):517-545, which is reprinted in my *Philosophical Papers*, Volume 1, Oxford University Press, 2006.

<sup>21</sup> Certainly quite conspicuously and, as I hope, pretty usefully, I first made heavy use of this expression, “ordinary things,” over thirty years ago, in my paper, “There Are No Ordinary Things,” *Synthese*, 41, (1979). (As I also hope has been pretty useful, the paper is reprinted in Volume 2 of my *Philosophical Papers*, Oxford University Press, 2006.)

In that paper, even while I was arguing against the existence of all alleged tables and chairs, and all putative sticks and stones – in other words, against all *ordinary things* - I was careful to say, and even to stress, that I was *not* arguing against the existence of *material objects*. So even in those early days, I took pains to point out that, whether or not any of them should exist, such (ordinary) things as tables and chairs, and sticks and stones, wouldn't ever be (strictly identical with) any material objects, certainly not in the actual world and, most likely, not in any (other) possible world, either.

In the present “house-cleaning” section of this book, I'm taking pains, once again, to point out nothing less than that (not very earth-shattering proposition).