



## King's Research Portal

DOI:

[10.1017/9781316612897.004](https://doi.org/10.1017/9781316612897.004)

*Document Version*

Peer reviewed version

[Link to publication record in King's Research Portal](#)

*Citation for published version (APA):*

Brewer, B. (2019). Basic Objects as Grounds. In J. Cumpa, & B. Brewer (Eds.), *Ordinary Objects* (pp. 48-62). Cambridge University Press. <https://doi.org/10.1017/9781316612897.004>

### **Citing this paper**

Please note that where the full-text provided on King's Research Portal is the Author Accepted Manuscript or Post-Print version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version for pagination, volume/issue, and date of publication details. And where the final published version is provided on the Research Portal, if citing you are again advised to check the publisher's website for any subsequent corrections.

### **General rights**

Copyright and moral rights for the publications made accessible in the Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Research Portal

### **Take down policy**

If you believe that this document breaches copyright please contact [librarypure@kcl.ac.uk](mailto:librarypure@kcl.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

# BASIC OBJECTS AS GROUNDS: A METAPHYSICAL MANIFESTO

BILL BREWER

## Introduction

According to our commonsense world-view, macroscopic material objects endure, are never precisely collocated with each other, and may survive the loss of at least some of their parts. But these commitments are notoriously difficult to reconcile.<sup>1</sup> My project in what follows is to elaborate an account that succeeds in reconciling them in the most basic cases, of what I call Natural Continuants, and to explore its potential as an adequate overall theory by explaining how such basic objects may serve as the grounds for various other material things.<sup>2</sup>

## §1 Endurance, Exclusivity, and Natural Continuants

---

<sup>1</sup> See §§2&3 below for the brief presentation of two well-known problem cases to which the rejection of Endurance and the rejection of Exclusivity are in each case the two most popular solutions. See my (2017) for extended discussion of the first problem and my (2015) for similar discussion of the second problem.

<sup>2</sup> An alternative response would be to reject the commonsense world-view right away. This would over-hasty. Our commonsense commitments are at least a constraint on metaphysical theorizing. They may have to be revised or rejected at the end of the day; but it is in my view an over-reaction to abandon them at first sign of any trouble. Although I cannot develop the point here, this is at least in part because they play an indispensable preliminary role in demarcating the subject matter for metaphysical scrutiny.

It is a non-trivial undertaking to give a clear, precise, neutral, and uncontentious characterization of the persistence of ordinary objects by Endurance. Here I rely on the familiar framing idea that this is persistence through a period of time by their being wholly present at every time in that period rather than by having for each such time a distinct temporal part. I understand Exclusivity as the following condition: for all  $x$  and all  $y$ , if there is a time at which  $x$  and  $y$  are precisely collocated, then  $x=y$ . To say that persisting material things of a given kind are Exclusive is to say that Exclusivity holds on the domain of objects of that kind.

According to the Natural Continuants View, (NCV), there are Enduring and Exclusive Natural Continuants (NCs), that are wholly naturally unified, both at a time and over time, entirely independent of our concepts; these ground non-Enduring and non-Exclusive quasi-processive Artificial Continuants (ACs) by various modes of conceptual abstraction, paradigmatically spatial partition, temporal partition, role collection, plural analogues of the last two of these and perhaps also further iteration of all of them. In order to proceed, I simply register my conviction that the Natural Continuants include individual animals, plants, and integrated portions of various materials.

What follows is a preliminary attempt to articulate principles according to which macroscopic material things may be categorized according to (NCV), to explain how certain familiar issues in the area are therefore to be addressed, and to elaborate the central features of the overall position. The bulk of the work concerns the various modes of conceptual abstraction involved in the grounding of ACs upon the basic ontology of NCs, thereby illustrating in some detail the role

of basic objects as grounds in the metaphysics of persisting material things.

Cases of non-Endurance or non-Exclusivity all involve one or more ACs.

§§2&3 concern spatial and temporal partition respectively; §4 concerns role collection; §5 concerns plural temporal partition, plural role collection, and iteration; §6 clarifies the relation between (NCV) and Fine's theory of rigid and variable embodiment (1999); and §7 considers a principled objection to (NCV). I conclude in §8.

## §2 Spatial Partition

Suppose that *o* is an NC and that the concept *P* identifies a relatively stable region within *o*. Then *o*'s *P* and *o*'s *P*-complement are AC's grounded on *o* by spatial partition.

An example would be the undetached tail-complement, *Tib*, of a cat, *Tibbles*. (NCV) therefore offers a straightforward solution to the problem of *Tibbles*' survival of the loss of his tail at time *t*. The problem is as follows. Suppose that *Tibbles*' tail is removed at time *t*. Surely *Tibbles* survives the loss and sits on the mat tailless after *t*. Equally surely, *Tib* remains on the mat after *t* too. For *Tib* is hardly touched by the removal of *Tibbles*' tail. It is natural to assume that there is only one thing on the mat after *t*. Hence *Tibbles* must be (identical to) *Tib*. But this cannot be. Since *Tib* was a proper part of *Tibbles* and so they cannot be identical. According to (NCV), both *Tibbles* and *Tib* do indeed survive, precisely collocated from *t*. But this is consistent with the Exclusivity of NCs, since *Tib* is an

AC grounded on the one NC Tibbles by spatial partition on the basis of the concept of a tail-complement.<sup>3</sup>

I propose the following general principles governing an AC, (o, P), grounded on o by spatial partition on the basis of P.

(o, P) exists at t iff P identifies a relatively stable region of o at t.

---

<sup>3</sup> There are of course many alternative solutions on the market. Nihilists deny the existence of Tibbles and every other putative composite macroscopic thing, including of course Tib (Unger 1979, Dorr and Rosen 2002, Sider 2013). Microscopic metaphysical simples never compose. Talk of all composite 'objects' is to be paraphrased away as talk about the relevant simples arranged and behaving in certain ways. Near nihilists under the influence of Van Inwagen deny the existence of Tib. Simples only compose when they constitute a life. Talk of all inanimate composites is again to be paraphrased away (Van Inwagen 1990, Merricks, 2001). Mereological essentialists deny that Tibbles survives the loss of his tail. Nothing strictly survives the loss of any part – all its parts are essential – but it may be followed by a series of strictly distinct entia successiva that provide nearly-truth-makers of our commonsense talk of persisting things (Chisholm 1973, 1975, Van Cleve, 1986). Michael Ayers (1991, vol. II, ch. 20) denies that Tib remains after  $\underline{t}$ , presumably since Tib is supposed essentially to be a proper part of Tibbles. Sortalists deny that there is only one thing on the mat after  $\underline{t}$ . Determinately individuating a single persisting material object requires subsumption under a sortal concept; and this may lead to the distinction between two or more such things in the same place at the same time, such as Tibbles and Tib – one cat and one animal-part, say – both on the mat after  $\underline{t}$  (Wiggins 1967, 1968, 1980, 2001, Thompson 1998). Relativists insist that identity itself is relative to a sortal concept. There are distinct non-extensionally-equivalent identity relations that do not mix transitively (Geach 1967, 1973, 1980, Griffin, 1977). What is on the mat after  $\underline{t}$  may be the same cat as Tibbles and the same animal-part as Tib without contradicting the fact that Tibbles and Tib are not related by either the same-cat or the same-animal-part identity relation. Occasionalists insist that identity may be temporary and again therefore not simply transitive (Gallois 1998). Tib was not identical to Tibbles before  $\underline{t}$  but is so after  $\underline{t}$ . Four-dimensionalists invoke an ontology of distinct temporal parts composing temporally extended 'worm'-like objects or spatio-temporal hunks (Quine 1950, 1960, Lewis 1986, 202-4; Heller 1984, 1990, Sider, 2001). Tibbles and Tib are distinct such things, although they share all their post- $\underline{t}$  temporal parts, since their pre- $\underline{t}$  temporal parts are all distinct: those of Tibbles strictly larger (by a tail) than those of Tib. See my (2017) for an extended discussion of the (NCV) solution and the qualifications that follow.

$(o, P)$  is located at  $\pi$  at  $t$  iff  $\pi$  is in the region of  $o$  identified by  $P$  at  $t$ .

$(o', P') = (o, P)$  iff  $o' = o$  and  $P' = P$ .

The mass of  $(o, P)$  at  $t$  is the extent of  $o$ 's mass in the region identified by  $P$  at  $t$ .

The shape of  $(o, P)$  at  $t$  is the shape of the region of  $o$  identified by  $P$  at  $t$ .

We have seen that ACs may be precisely collocated with NCs, e.g. Tib and Tibbles after  $t$ . This also happens in the case of NC proper parts of NCs, such as Tibbles' top left incisor. The AC grounded on Tibbles by spatial partition on the basis of the concept of a top left incisor is collocated with an NC proper part of Tibbles, namely a particular naturally unified tooth.<sup>4</sup> This situation is the exception rather than the rule, though. Furthermore, it is a consequence of (NCV) that an NC may not survive the loss of the complement of any of its NC proper parts. For suppose that  $p$  is an NC proper part of NC  $o$  and that  $o$  survives the loss at time  $t$  of the complement of  $p$ ,  $p'$ : all of  $o$  except for  $p$ . Then  $o$  becomes precisely collocated with  $p$ , which remains unchanged, at  $t$ . Both  $o$  and  $p$  are NCs. Hence  $o = p$  by Exclusivity. Yet  $o \neq p$ , since  $p$  is a proper part of  $o$  before  $t$ . This is a contradiction. So  $o$  may not survive the loss of  $p'$  at  $t$ . If  $p'$  is destroyed, then all that remains of  $o$  is the distinct proper part  $p$ .  $o$  itself is no more. I take this to be a substantive theoretical constraint upon the identification of genuine NCs.<sup>5</sup>

---

<sup>4</sup> Other plausible cases of NC proper parts of NCs are certain organs of animals and the leaves and fruit of certain plants.

<sup>5</sup> It is clearly met in the case of the plausible examples of NC proper parts of NCs given so far: the teeth and certain organs of animals and the leaves and fruit of certain plants. The case of a human brain may appear more difficult for (NCV), especially in the context of certain views about personal identity; but I sketch how any further difficulties in this case should be met elsewhere (2017).

(NCV) therefore rejects the closure of NC status under complementation. The complement,  $p'$ , of an NC proper part,  $p$ , of an NC,  $o$ , is not itself necessarily an NC. For there are cases such as Tibbles' incisor above in which an NC may survive the loss of an NC proper part. If Tibbles' incisor-complement were also an NC, then this would be Tibbles' survival of the loss of the complement of that NC proper part in contradiction with the constraint upon NC status just established. This failure of closure constitutes an important sense in which NCs are not mere composites of NCs: they are the basic objects of my title.<sup>6</sup>

### §3 Temporal Partition

Suppose that  $o$  is an NC and that the concept  $F$  identifies a property or role that  $o$  has for some continuous period during its existence. Then  $o$ 's being  $F$ , is an AC grounded on  $o$  by temporal partition.

An example would be the statue-shaped entity on my desk that came into existence when a lump of clay,  $Lumpl$ , was intentionally so-shaped by a sculptor, and would cease to exist if  $Lumpl$  were squashed into a ball. There is an NC on my desk that satisfies the predicate 'x is a statue', namely  $Lumpl$  itself; but this existed before and would exist after the AC grounded on it in this way by temporal partition on the basis of the concept of a statue. The name 'Goliath' as used in generating a philosophical puzzle from such a case is therefore ambiguous. It may refer either to an NC,  $Lumpl$ , or to an AC that is permanently a

---

<sup>6</sup> I return to this idea in §6 below.

statue and only temporarily precisely collocated with Lump1. In any case, Lump1 is a single Enduring and Exclusive NC.

I propose the following general principles governing an AC,  $[o, F]$ , grounded on  $o$  by temporal partition on the basis of  $F$ .

$[o, F]$  exists at  $t$  iff  $Fo$  at  $t$ .

$[o, F]$  is located at  $\pi$  at  $t$  iff  $Fo$  at  $t$  and  $\pi$  is the region occupied by  $o$  at  $t$ .

$[o', F'] = [o, F]$  iff  $o' = o$  and  $F' = F$ .

The mass of  $[o, F]$  at  $t$  is the mass of  $o$  at  $t$  provided that  $Fo$ .

The shape of  $[o, F]$  at  $t$  is the shape of  $o$  at  $t$  provided that  $Fo$ .

We have seen that expanding our domain of NCs to include also the ACs grounded upon them by spatial and temporal partition undermines Exclusivity. Furthermore, these ACs exist at  $t$  just in case their grounding NC satisfies a relevant condition at  $t$ : having a region identified by the partitioning concept  $P$  in the case of spatial partition and satisfying the partitioning concept  $F$  in the case of temporal partition. So their persistence is a matter of their grounding NCs' continued satisfaction of that condition. This gives them a non-Endurantist, quasi-processive nature, more akin to the rolling of a boulder or the running of an athlete than to the boulder or the athlete involved.<sup>7</sup> (NCV) therefore induces a structure on the metaphysics of persisting material things. Exclusive and Enduring basic objects, the NCs, ground non-Exclusive and non-Enduring ACs.

---

<sup>7</sup> See Steward (2015) and Brewer (2015) for further discussion of the persistence of individual processes.



This is the pattern that will be replicated through the modes of grounding by various other forms of conceptual abstraction that I consider in §§4&5.

#### §4 Role Collection

Suppose that  $o_1$  and  $o_2$  are NCs and that the concept R identifies a role that is played by  $o_1$  for some continuous period during its existence,  $T_1$ , and then passed on to  $o_2$  for a further continuous period during its existence,  $T_2$ . Then the R, or perhaps better, something's being (the, or that) R, is an AC grounded on  $o_1$  and  $o_2$  by role collection.

An example would be the England rugby captain, or various players' being the England rugby captain, where this is construed as an Dylan Hartley's being England captain since 2016, preceded by Chris Robshaw's being England captain 2012-2015, preceded by ..., where each of these is an AC grounded by temporal partition upon the NCs Dylan Hartley, Chris Robshaw, and so on, on the basis of the concept of being England rugby captain. The point, according to (NCV), is that, although there is nothing wrong with this individual, correctly construed as an AC unified by in part by our concepts of various roles in a team and game, it would be a serious error to regard it as belonging to the same metaphysical category as the various NC human beings upon which it is grounded in this way by role collection. For they are Enduring and Exclusive elements of the domain of basic objects that are wholly naturally unified, both at a time and over time, entirely independent of our concepts. This may not be an error easily made in

this case; but it may be the source of genuine philosophical puzzlement in what are by the lights of (NCV) precisely analogous cases along the following lines.

Suppose that I have a device that records the precise shape of any metal key that it placed in it. Having done so, it vaporizes the key and simultaneously creates a perfect duplicate. Two distinct NCs appear in this story: the original key-shaped piece of metal that enters the device and is destroyed, and the piece of metal that is created and leaves the device with the precise key-shape of the original. There is no third NC that entered and left the device intact, which must therefore be regarded as distinct from both, although precisely collocated with the original initially and precisely collocated with the duplicate finally. This way of thinking leads to the multiplication of non-Exclusive material objects supposedly on a metaphysical par with individual, naturally unified, animals, plants, and integrated portions material, yet also in some way dependent upon our concepts for their unity and individuation. We can instead ground an AC upon the two genuine NCs involved here by role collection on the basis of their shared capacity to open my front door. But we must recognize that this is an entity of a quite different nature and status from its two distinct grounding NCs. Its place in the world is delineated by concepts of lock operation and house entry. There is at each point in the story an NC that satisfies the predicate 'x is a key to my house; but these are distinct pre- and post- device-activation. The former may have existed before it became key-shaped, and the latter may continue to exist too battered and bent to open my front door. Each is an Enduring element of an

Exclusive domain. They jointly ground an AC by role collection, whose unity at and over time is in contrast absolutely not independent of our concepts.<sup>8</sup>

Role collections may be represented by a function  $C_R$  from times to AC's along the following lines.

$$C_R(t)=[o_1, R] \text{ for all } t \in T_1$$

$$C_R(t)=[o_2, R] \text{ for all } t \in T_2$$

Similarly if R is passed on to further NC's, or indeed returned to NC's that played it previously, during subsequent periods.

Then I propose the following general principles governing an AC,  $C_R$ , grounded on NCs  $o_i$  by role collection on the basis of R.

$C_R$  exists at  $t$  iff  $C_R(t)$  exists at  $t$ .

$C_R$  is located at  $\pi$  at  $t$  iff  $C_R(t)$  is located at  $\pi$  at  $t$ .

$C_R' = C_R$  iff  $C_R'(t) = C_R(t)$  for all  $t$ .

The mass of  $C_R$  at  $t$  is the mass of  $C_R(t)$  at  $t$ .

The shape of  $C_R$  at  $t$  is the shape of  $C_R(t)$  at  $t$ .

---

<sup>8</sup> Proponents of (NCV) are likely to take an analogous view of various cases discussed in the literature on personal identity that involve psychological continuity between distinct human animals. For canonical references on the other side, according to which such cases may involve a person surviving a change in the human animal with which she is temporarily collocated, see Locke (1975, II.xxvii), Shoemaker (1970), Parfit (1971), Lewis (1976). Williams (1970), illuminates the force of both sides of the debate. Ayers (1991, vol. II, ch. 25) presents a powerful case for the (NCV) approach that mirrors the case of the key in the text in such scenarios.

Once again, and for similar reasons, expanding the domain of NCs to include role collections introduces failures of Exclusivity and a quasi-processive failure of Endurance.

## §5 Plural Temporal Partition and Plural Role Collection

### §5.1 Plural Temporal Partition

Suppose that  $o_1$ - $o_n$  are NCs and that the concept  $\Phi$  identifies a relation that  $o_1$ - $o_n$  stand in for some continuous period during their existence. Then the  $o_1$ - $o_n$ 's being  $\Phi$  is an AC grounded on  $o_1$ - $o_n$  by plural temporal partition.

An example would be Fine's (1999) ham sandwich, composed of two particular pieces of bread and a particular piece of ham whilst and only whilst the ham is between the two pieces of bread, or perhaps a specific item of jewelry that is composed of three similar gold bands provided that they are made for each other to be worn together on a single wrist and are suitably spatially related to make this possible.

I propose the following general principles governing an AC,  $[o_1$ - $o_n, \Phi]$ , grounded on  $o_1$ - $o_n$  by plural temporal partition on the basis of  $\Phi$ .

$[o_1$ - $o_n, \Phi]$  exists at  $t$  iff  $o_1$ - $o_n$  stand in  $\Phi$  at  $t$ .

$[o_1-o_n, \Phi]$  is located at  $\pi$  at  $t$  iff  $o_1-o_n$  stand in  $\Phi$  at  $t$  and  $\pi$  is a region occupied at  $t$  by  $o_i$  for some  $i=1-n$ .

$[o'_1-o_m, \Phi'] = [o_1-o_n, \Phi]$  iff  $m=n$ ,  $o'_i=o_i$  for all  $i=1-n$ , and  $\Phi'=\Phi$ .

The mass of  $[o_1-o_n, \Phi]$  at  $t$  is the sum of the masses of  $o_1-o_n$  at  $t$  provided that they stand in  $\Phi$ .

The shape of  $[o_1-o_n, \Phi]$  at  $t$  is in general the shape of the region occupied by  $o_1-o_n$  together at  $t$  provided that they stand in  $\Phi$ .<sup>9</sup>

## §5.2 Plural Role Collection

Suppose  $1o_1-1o_n$  and  $2o_1-2o_n$  are NCs and that the concept  $\Pi$  identifies a role that is played jointly by for  $1o_1-1o_n$  for some continuous period during their existence,  $T_1$ , and then passed on to  $2o_1-2o_n$  for a further continuous period during their existence,  $T_2$ . Then the  $\Pi$ , or perhaps better, somethings' being (the, or that)  $\Pi$ , is an AC grounded on  $1o_1-1o_n$  and  $2o_1-2o_n$  by plural role collection.

An example would be Fine's (1999) car, realized by slightly differing collections of NC car parts being suitably assembled to function as a car over time, or perhaps a chess set realized by a given collection of 32 wooden pieces assembled and used for playing chess during  $T_1$  and then by a slightly different collection of

---

<sup>9</sup> There may be no straightforward the delineation of the region taken up by a plurality taken together as intended here. Furthermore, since  $\Phi$  may tolerate a certain degree of scattering of  $o_1-o_n$ , as in the case of the jewelry when one band is separated, say, 'the shape of  $[o_1-o_n, \Phi]$ ' may in some cases be ill defined. So I certainly do not mean this to be a precise specification of a unproblematic shape property for plural temporal partitions.

pieces performing the same role during  $T_2$  after a pawn has been lost or destroyed and replaced by a duplicate, say.

Plural role collections may be represented by a function  $\Gamma_{\Pi}$  from times to ACs along the following lines.

$$\Gamma_{\Pi}(t)=[10_1-10_n, \Pi] \text{ for all } t \in T_1$$

$$\Gamma_{\Pi}(t)=[20_1-20_n, \Pi] \text{ for all } t \in T_2$$

Similarly if  $\Pi$  is passed on to further NCss, or indeed returned to NCss that played it previously, during subsequent periods.

Then I propose the following general principles governing an AC,  $\Gamma_{\Pi}$ , grounded on NCss  $i0_1-i0_n$  by plural role collection on the basis of  $\Pi$ .

$\Gamma_{\Pi}$  exists at  $t$  iff  $\Gamma_{\Pi}(t)$  exists at  $t$ .

$\Gamma_{\Pi}$  is located at  $\pi$  at  $t$  iff  $\Gamma_{\Pi}(t)$  is located at  $\pi$  at  $t$ .

$\Gamma_{\Pi'} = \Gamma_{\Pi}$  iff  $\Gamma_{\Pi'}(t) = \Gamma_{\Pi}(t)$  for all  $t$ .

The mass of  $\Gamma_{\Pi}$  at  $t$  is the mass of  $\Gamma_{\Pi}(t)$  at  $t$ .

The shape of  $\Gamma_{\Pi}$  at  $t$  is the shape of  $\Gamma_{\Pi}(t)$  at  $t$ .

Like ACs grounded by singular temporal partition and role collection, plural temporal partitions and role collections are non-Endurantist and quasi-processive in their nature and persistence. Their existence through time depends

upon their grounding NCs' continued satisfaction of a defining condition, or, in the latter case, alternatively, upon their passing it on to other NCs. And again, like their singular counterparts, expanding the domain of NCs to include plural temporal partitions and role collections introduces multiple failures of Exclusivity. For distinct such ACs may be grounded upon the same NCs on the basis of distinct relations and roles.

### §5.3 Iteration

Given the many and varied ACs grounded in all of the ways set out so far, (NCV) may also recognize further ACs grounded upon these in turn by repeated iteration of these same modes of conceptual abstraction. An example would be a particular team of racing cars that is composed at any time of a given plurality of cars provided that they are similarly painted and competing cooperatively together to win races. Such cars may be sold on for personal use after a while and replaced by newer models in the team. So the team is a plural role collection of cars that are each individually plural role collections of their individual NC car parts. It is a nice question to which I do not know the answer whether any AC grounded by repeated iteration in this way may equally be construed as an AC grounded directly upon the basic NC parts involved by one of the modes of abstraction set out above.

### §6 Fine's Embodiments

As we have already seen from my direct adoption of his two characteristic examples, of a ham sandwich and a car, ACs grounded upon NCs by plural temporal partition and by plural role collection according to (NCV) have a great deal in common with Fine's rigid and variable embodiments respectively (see esp. his 1999 and the more general theory developed in his 2010). As a result, I claim that (NCV) inherits many of the great virtues of Fine's theory of embodiment as an improvement upon anything available within standard mereology in accounting for the timeless and temporary parts of more or less complex assemblages of such things. My aim in the present section is to clarify the equally important differences between the two approaches.

A first difference concerns the termination point that Fine envisages for his decomposition of macroscopic material objects into parts. He points out that the embodiment account has the consequence that most material objects will have a "largely unique" "hierarchical division" into immediate parts, with their own immediate parts, with their own immediate parts, "and so on all the way down until we reach the most basic forms of matter" (1999, p. 72). Put the other way around, he envisages rigid and variable embodiment as providing modes of composition by which macroscopic material objects may be constructed from the most basic forms of matter, by which I assume he means microscopic units of matter, fundamental particles without parts, at least of the kind involved in rigid and variable embodiment.

According to (NCV), on the other hand, all forms of grounding terminate in NCs, which are a privileged set of the macroscopic material objects with which we are



familiar from our basic perceptual encounters with the world around us. Plural temporal partition and plural role collection certainly provide a means by which material objects may be grounded upon smaller parts, as assemblages of such things; but grounding by these means always terminates, in the direction of decreasing size, in NCs. (NCV) also envisages material objects that are themselves smaller parts of NCs. In special cases these may be NCs in their own right, such as certain organs and the teeth of animals, and the fruit and leaves of certain plants. The general case, though, is that these are AC parts grounded on the initial NCs by spatial partition. Again, the fundamental grounds are in every case NCs.

This raises the question how (NCV) is supposed to articulate the relationship between NCs themselves and the fundamental particles of physical theory that Fine apparently takes to be basic in his hierarchy of embodiment. An attractive answer is to adopt Jones' (2015) Multiple Constitution approach. In the current setting, the proposal would be that NCs relate constitutionally to determinate pluralities of such particles one-many. No such plurality uniquely constitutes any NC. A multiplicity of pluralities are all equally eligible in that role. Put slightly differently, it is a mistake to think of the unity of NCs as traceable down to their simple constitution by any given plurality of microscopic particles. Their existence supervenes upon what is present at the level of fundamental physics; but there is no identification of an individual NC at any time as a composite, however complex and nested this may be, of a particular collection of particles. NCs owe their autonomous unity instead to their role in larger scale

commonsense explanations of coarser-grained phenomena. Yet are no less real for that.<sup>10</sup>

Jones himself advances the Multiple Constitution picture as a powerful solution to the Problem of the Many (Unger, 1980). By insisting that distinct pluralities of particles may all equally constitute a single macroscopic material object, the pressure counterintuitively to admit that there must be many of the latter anywhere that we are inclined to acknowledge just one of them is simply defused. It seems to me in contrast that Fine's embodiment account faces the Problem of the Many in its most threatening form, even in spite of his significant divergence from the standard mereological views that initially frame the Problem. For take a given macroscopic material object, such as Fine's car, C. This is a variable embodiment at t, say, of an engine, E, and chasis, X, and a body, B. These are in turn variable embodiments at t of ..., which are variable embodiments at t of fundamental physical particles,  $s_1, \dots, s_n$ . Now consider C\*, the variable embodiment at t of  $p_1, \dots, p_n$ , under the same nested principles of hierarchical composition as govern the composition of C from  $s_1, \dots, s_n$ , where  $p_i = s_i, i=1 - n-1$ , and  $p_n$  is the closest distinct particle of the same kind as  $s_n$ . Then C\* is surely also a car: how could it fail to be one given such a miniscule difference with C. C\* is distinct from C by Fine's own principles, although it is almost entirely overlapping with C. For the two have distinct parts:  $s_n$  and not  $p_n$  is a part of C and vice versa for C\*. Iterating this line of thought leads to the

---

<sup>10</sup> This kind of picture is perhaps more familiar in discussions of the mind-body problem and the relation between mental and physical properties. See my (1998) and especially Hornsby (1986) for explicit consideration of the parallels between its adoption there and in the case of the relation between macroscopic and microscopic objects that is my focus here.

presence of many distinct cars all in almost exactly the same place as C. Similarly for any macroscopic material object according to Fine's account. This is the Problem of the Many. Now of course there are other potentially viable solutions on offer (perhaps the most popular of these is Lewis (1993)); but I count it as at least a vice of Fine's theory of embodiment that it is incompatible with Jones' elegant Multiple Constitution view that strikes me as the most promising solution available.

The second difference that I wish to consider follows from the first given an important point of agreement between Fine and the proponent of (NCV). The point of agreement is that embodiment and grounding introduce a conceptual element into the unity of the material objects concerned. Modelled precisely upon rigid and variable embodiments respectively, ACs grounded by plural temporal partition and plural role collection are unified in part respectively by conceptual relations,  $\Phi$ , and by functions,  $\Gamma_{\Pi}$  from times to ACs on the basis of further conceptual roles,  $\Pi$ . The other forms of (NCV) grounding considered above all equally introduce conceptual elements into the unity of the ACs that they ground upon basic NCs. The difference between Fine's theory of embodiment and (NCV) then follows from the fact just noted that, according to Fine, all macroscopic material objects are (multiply nested) embodiments of some kind. As he himself points out, (1999, p. 73), there is therefore an abstract conceptual element to the identity of all such material things.

The central claim of (NCV), on the other hand, is that there is a basic class of macroscopic material objects, the NCs, that are wholly naturally unified, both at a

time and over time, entirely independent of our concepts and are therefore fully concrete in nature. The category of ACs grounded in the various ways outlined above upon such NCs certainly introduces material things whose unity is in part conceptual according to (NCV); but the NCs themselves are wholly concrete and entirely non-conceptually unified macroscopic material objects that are the basic grounds of all such things.

Taking these two differences between (NCV) and Fine's theory of embodiment together, it is a characteristic commitment of the former as against the latter that macroscopic material objects are not merely conceptually unified composites of specific determinate pluralities of fundamental particles, even by multiply nested rigid and variable embodiment. If we are to countenance the existence of wholly concrete such things, then there must be a basic class of macroscopic material objects whose reality and unity is autonomous rather than reductively compositional in this way and yet equally natural: not mere composites of fundamental particles. These are the basic objects that ground all other macroscopic material objects as elucidated above: the Enduring Exclusive Natural Continuants of (NCV).

### §7 A Principled Objection

Opponents of (NCV) may suspect an objectionable degree of anthropocentrism in the view. Is it anything more than an illegitimate elevation to metaphysical theory of certain merely contingent idiosyncracies of human experience of and engagement with the material world around us? NCs would not appear to

significantly smaller or larger actual or merely possible perceivers of the very same world to have the privileged status that they merely seem to us to have from our peculiarly human perspective. So why should we assume that NCs actually do have any special status as basic Enduring and Exclusive objects grounding a system of macroscopic material things as elucidated above in a true metaphysics for that world?

All I can do here to combat this concern is effectively to acknowledge its premise and to explain why its conclusion does not follow. The conclusion of the objection is that NCs do not have the privileged status assigned by (NCV) in a correct metaphysics for the material world. The premise is that our recognition of this status depends upon certain contingencies of our human perspective upon that world. The conclusion clearly does not follow. For knowledge in any domain depends upon possession of the capacities required to acquire it.

Perhaps the premise is rather that material individuals entirely distinct from the NCs of (NCV) might equally appear to have the very same basic metaphysical status to actual or possible perceivers of a quite difference scale and constitution. Once again it is perfectly consistent with this quite plausible observation to deny the objector's conclusion. For it is compatible with (NCV) to admit each of the following possibilities that all illustrate respects in which those appearances of differently scaled and constituted perceivers might be just as reliable in informing true metaphysical theory as (NCV) regards our own recognition of the basic status of NCs. First, some NCs may be proper parts of much larger NCs that we do not, and perhaps cannot, currently recognize as such, just as teeth and fruit are NC proper parts of NC animals and plants. Second, some NCs may,

perhaps, likewise have smaller NC proper parts than any that we currently recognize. Third, there may be significantly larger material individuals whose unity we are not currently in a position to discern that stand to NCs as NCs do to fundamental physical particles and that share the relatively autonomous reality and unity that NCs have in relation to fundamental particles in relation to NCs themselves. Fourth, there may even be further intermediate layers of similarly autonomous material individuals that share this Multiple Constitution relation of NCs to fundamental particles and to which NCs also stand in this same Multiple Constitution relation.

(NCV) makes no claim that we currently do or ever could discern all that is metaphysically significant in the structure of the material world that we perceive and inhabit. It certainly denies absolutely that what is metaphysically real is in any way constrained or determined by our human perceptual and intellectual capacities. All that is supposed is that those capacities, well directed and judiciously applied, may enable us to discern at least some of the metaphysical structure that really obtains and are therefore essential to our acquisition of some metaphysical knowledge. We are in a position to identify and recognize as such a metaphysically significant category of basic macroscopic material objects: the NCs as (NCV) conceives of them. A metaphysics that failed to recognize such NCs and their status as basic grounds would be substantially lacking as an account of the nature of concrete material reality.

## §8 Conclusion

(NCV) recognizes a category of Enduring and Exclusive NCs, naturally unified, both at a time and over time, entirely independent of our concepts. These basic objects ground non-Enduring and non-Exclusive ACs by conceptual abstraction: spatial partition, temporal partition, role collection, plural temporal partition, plural role collection, and their repeated iteration. The position gains theoretical credit by its systematic explanation of cases of non-Endurance and non-Exclusivity by the presence of ACs grounded on NCs, by its unified resolution of many familiar puzzle cases, and by its superior accommodation of key features of our intuitive conception of the concrete nature of macroscopic material objects in comparison to what is perhaps its closest competitor.

## References

- Ayers, M. 1991. Locke: Epistemology and Ontology. London: Routledge.
- Brewer, B. 1998. 'Levels of Explanation and the Individuation of Events: a difficulty for the token identity theory', Acta Analytica, **20**, \*.
- 2015. 'Exclusive Individuals'. Proceedings of the Aristotelian Society, Supplementary Volume, **89**, 125-42.
- Brewer, B. 2017. 'Material Objects and their Parts'. Metaphysica, **18**.
- Chisholm, R. 1973. 'Parts as Essential to Their Wholes'. Review of Metaphysics, **26**, 581-603.
- 1975. 'Mereological Essentialism: Further Considerations'. Review of Metaphysics, **28**, 477-84.

- Dorr, C. & Rosen, G. 2002. 'Composition as Fiction'. In R. Gale (ed.), The Blackwell Guide to Metaphysics. Oxford: Blackwell.
- Fine, K. 1999. 'Things and Their Parts'. Midwest Studies in Philosophy, **23**, 61-74.
- 2010. 'Towards a Theory of Part'.
- Gallois, A. 1998. Occasions of Identity. Oxford: Oxford University Press.
- Geach, P. 1967. 'Identity'. Review of Metaphysics, **21**, 3-12.
- 1973. 'Ontological Relativity and Relative Identity'. In M. Munitz (ed.), Logic and Ontology. New York: New York University Press.
- 1980. Reference and Generality. Ithaca, NY: Cornell University Press.
- Griffin, N. 1977. Relative Identity. Oxford: Oxford University Press.
- Heller, M. 1984. 'Temporal Parts of Four Dimensional Objects'. Philosophical Studies, **46**, 323-34.
- 1990. The Ontology of Physical Objects: Four Dimensional Hunks of Matter. Cambridge: Cambridge University Press.
- Hornsby, J. 1985. 'Physicalism, Events, and Part-Whole Relations'. In E. LePore and B. McLaughlin (eds.), Actions and Events. Oxford: Blackwell.
- Jones, N. K. 2015. 'Multiple Constitution'. In K. Bennett and D. Zimmerman (eds.), Oxford Studies in Metaphysics, v. 9.
- Lewis, D. 1976. 'Survival and Identity', in A. Rorty (ed.), The Identities of Persons. Berkeley, CA: University of California Press
- 1986. On the Plurality of Worlds. Oxford: Blackwell.
- 1993. 'Many, but Almost One'. In K. Campbell and L. Reinhardt (eds.), Ontology, Causality, and Mind: Essays on the Philosophy of D. M. Armstrong. Cambridge: Cambridge University Press.
- Locke, J. 1975. An Enquiry Concerning Human Understanding, ed. P. H. Nidditch.



- Oxford: Oxford University Press.
- Merricks, T. 2001. Objects and Persons. Oxford: Oxford University Press.
- Parfit, D. 1971. 'Personal Identity', Philosophical Review, **80**, 3–27.
- Quine, W. 1950. "Identity, Ostension and Hypostasis". Journal of Philosophy, **47**, 621-33.
- 1960. Word and Object. Cambridge, MA: MIT Press.
- Shoemaker, S. 1970. 'Persons and their Pasts'. American Philosophical Quarterly, **7**, 269-85.
- Sider, T. 2001. Four-Dimensionalism. Oxford: Oxford University Press.
- 'Against Parthood'. In K. Bennett & D. Zimmerman (eds.), Oxford Studies in Metaphysics, vol. 8. Oxford: Oxford University Press.
- Steward, H. 2015. 'What is a Continuant?'. Proceedings of the Aristotelian Society, Supplementary Volume, **89**, 109-24.
- Thompson, J. 1998. "The Statue and the Clay". Nous, **32**, 149-73.
- Unger, P. 1979: 'I do not Exist'. In G. MacDonald (ed.), Perception and Identity. London: Macmillan.
- 1980. 'The Problem of the Many'. Midwest Studies in Philosophy, **5**, 411-67.
- Van Cleve, J. 1986. 'Mereological Essentialism, Mereological Conjunctivism and Identity Through Time'. In P. French & H. Wettstein (eds.), Midwest Studies in Philosophy, xi. Minneapolis: University of Minnesota Press.
- Van Inwagen, P. 1990. Material Beings. Ithaca, NY: Cornell University Press.
- Wiggins, D. 1967. Identity and Spatio-Temporal Continuity. Oxford: Blackwell.
- 1968. 'On Being in the Same Place at the Same Time'. Philosophical Review, **77**, 90-95.

- 1980. Sameness and Substance. Oxford: Blackwell.
- 2001. Sameness and Substance Renewed. Cambridge: Cambridge University Press.

Williams, B. 1970. 'The Self and the Future', Philosophical Review, **79**, 161–80.