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MORE THINGS IN HEAVEN AND EARTH

Barry SMITH
SUNY Buffalo

What follows is an exercise in hunter-gatherer ontology. More precisely, the region of *space* and of *spatial objects* will be adopted as a happy hunting ground for the purposes of Meinongian metaphysics. Meinong, notoriously, struggled against the prejudice in favour of the actual and fought on behalf of the ontological rights of incomplete, impossible, and indeterminate objects. A parallel struggle, as we shall see, can be waged in the domain of spatial objects. Meinong's ideas can in this way be seen to have relevance for studies of the philosophical foundations of the theories of land-surveying and of international law.

1. *Heaven*

Heaven, for our (initially purely illustrative) purposes, is simply empty space; it is the three-dimensional counterpart of the territory that is represented by the Bellman's blank Ocean Chart in Lewis Carroll's *Hunting of the Snark*:

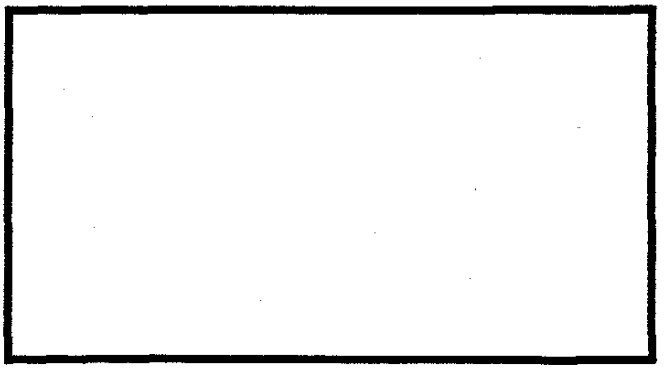

Figure One: Bellman's Blank Ocean Chart

Candidate denizens of empty space are the parts of this space. These include: three-dimensional spatial volumes, two-dimensional surfaces, one-dimensional lines, zero-dimensional points. (We shall ignore such further options as would arise in case a temporal dimension in the realm of heavenly objects were taken into account, or in case heaven were allowed more generally to contain topoids of larger numbers of dimensions. We shall ignore also the issue of deviant geometries, space-filling curves, Klein-bottle- and Sierpinski-Menger-sponge-shaped regions, and the like.[1]) We shall concentrate our attentions further on finite portions of space, though we acknowledge that, if the empty universe is itself infinite, then infinite spatial volumes, too, for example the western hemisphere of the universe, would have strong claims to be countenanced as existing within it.

Suppose, now, that empty space as here defined exists. Do all abstractly (geometrically) conceivable finite portions of this space exist also? Imagine, for example, that portion of space which consists of two disjoint and non-connected spheres. Does this double sphere exist in the same sense (have the same ontological rights) as its separate spherical parts? Or imagine a perforated spatial region that has the form of a sphere of two-unit radius, in the interior of which is a one-unit radius spherical hole. Does this perforated sphere exist in the same sense as does the corresponding solid sphere of two-unit radius?

Or imagine some single spherical volume of unit radius. Imagine further that this spatial volume is topologically closed (or in other words: includes as proper part its outer boundary or skin). Does this skin itself exist with the same rights as does the closed spherical volume with which we began? And what of the corresponding *open* spherical volume (the residue which remains when the skin is conceived, abstractly, as having been removed from the sphere as a whole)? Does this open sphere exist as an object additional to its closed counterpart? And what of the infinitely many *partially open and partially closed* unit spheres, the results of subtracting different

1. Our aim is to depart not too far from space as given intuitively, while at the same time leaving open the possibility of applying a version of these reflections to space as described by the mathematician.

fragments of this skin from the original spatial volume – all of which, we would do well to bear in mind, occupy the very same spatial region as does the closed sphere with which we began? Consider moreover the fact that, if the unit sphere exists as a closed spatial region, then its complement – that object which results when we abstractly conceive the sphere in question as having been removed from the universe – is itself open. Do heavenly complements exist with the same civil rights as do the objects which they are the complements of?

In heaven, as we see, there are many questions.

Some, more brutally minded ontologists (the practitioners of ontological *force majeure*), might want to resolve these questions by conceiving heaven set-theoretically, so that the only heavenly entities which existed with full civil rights would turn out to be extensionless spatial points. In addition to these one would recognize, as entities existing in some second sense, all sets of points, all sets of sets of points, etc. This set-theoretic account and the system of coordinate geometry which goes along with it have familiar advantages. But it also brings problems connected not least with the failures of the set-theoretical project associated with Cantor's continuum hypothesis. A further family of problems arises when we consider how the set-theoretic treatment of space is to be understood. If, on the one hand, it is conceived as yielding a mere *model* of space, then it leaves open the very ontological questions which are here at issue. If, on the other hand, it is treated not as a model but as an exercise in serious ontology – if, in other words, it is accepted that spatial regions *are* sets, then it would follow that such regions are abstract objects. But how, then, could they be such that concrete things are able to *occupy* them?

The set-theoretic account dictates finally a controversial metaphysical thesis to the effect that space is built up out of points. In the absence of secure intuitions as to the truth or falsehood of this thesis we should surely seek a more neutral theory – such as mereology – which is consistent with both the postulate of atomism and its negation.[2]

2. See Simons 1987.

Mereology proceeds as it were from the top down, taking as its starting point in our present case extended spatial continua. An extreme version of the mereological top-down approach is generated by what might be called Aristotelian mereological potentialism, a view to the effect that the part of a whole can never be an actual thing if the whole is.[3] My arm, as part of me, is real or actual on this view, but it is not a real or actual *thing;* rather, it is merely a *potential* thing: it would become an actual thing only through physical separation. Similarly a collective of bodily wholes, say of separate coral reefs, would become an actual thing only if the bodies in question were fused together to form a unitary object. These constituent bodies would then themselves thereby cease to be actual things. (My arm as part of me is, we might say, sub-unitary; the collection of non-connected coral reefs is super-unitary.) Since heaven is, by assumption, everywhere homogeneous, there is on the potentialist view only one candidate heavenly object (only one place), namely the universe as a whole. Each putative constituent place exists only potentially (i.e. it *would* exist if, counterfactually, heaven were reduced in size in corresponding fashion).

Mereological potentialism thus avoids the embarrassments of an over-generous ontology; it recognizes only one (actual) object. It appeals to those of our intuitions which suggest that our answers to the considered questions can be a matter of convention only, so that such questions might surely be ignored for any purposes of an ultimate ontological assay. These advantages of the potentialist view are spurious, however; for the very questions raised above reappear in modified form in the potentialist framework: do all those candidate denizens (open and closed regions, solid and perforated regions, and all the possible sums, differences and complements thereof) exist *potentially* in the same sense and in such a way as to enjoy equal ontological rights? In what follows, therefore, we shall defend the (Brentanian) doctrine of mereological actualism, a doctrine to the effect that parts exist with the same ontological standing as do their respective wholes. If you have a single spherical region, then you thereby also already have infinitely many pairs of hemispherical regions, infinitely many quadruples of quarter-spherical

3. On this terminology see Smith 1987.

regions, and so on *ad indefinitum*.

The doctrine of mereological actualism asserts that the parts of things are as actual as the things themselves. With Brentano (1981), we shall extend mereological actualism to boundaries also, both external (the outer surface of the closed spherical region as a whole), and internal (interior surfaces, interior lines, interior points, and so on). We shall however deny the presupposition that is at the heart of set theory to the effect that boundaries – for example isolated points – can exist independently of the entities of higher dimension which they are the boundaries of. Boundaries are actual things, but they are dependent entities; they can exist only in tandem with the larger things or regions which are their hosts. Already Abelard had remarked that 'A line ... is unable to exist apart from some bodily subject,' and as Chisholm points out, 'Brentano makes the same point with respect to every type of boundary.' (1992/93) In Smith (1993) I refer to the principle that boundaries cannot exist except in consort with the higher-dimensional entities which they are the boundaries of as 'Brentano's thesis'.

2. *Earth*

I have not the foggiest notion as to how to go about answering the various questions raised and left open in the foregoing. One thing, however, seems clear: the empty space that is described above is from the ontological (as from every other) point of view thoroughly homogeneous. What holds in one corner of heaven holds identically in every other corner, and for this reason also empty space has no dynamics and no history.

Where space is not empty, however, matters are entirely different. Here a range of different sorts of spatial objects can be distinguished, in addition to that stock of homogeneous spatial objects (the stock of *places*) which exists purely in virtue of the underlying geometry of space. Following the terminology advanced in Smith 1994 we can distinguish above all between:

1. *Bona fide* spatial objects (for example planets, moons, islands, lakes) which exist in virtue of intrinsic physical discontinuities

in the material constitution of the earth.

2. *Fiat* spatial objects (for example states, counties, land-parcels) of a sort which reflect no intrinsic physical discontinuities but are rather the product of boundaries drawn on the basis of human fiat or convention or are otherwise the artefacts of human geographical practices.

Earth, unlike heaven, contains *conventional* parts. Fiat spatial objects, in contrast to the purely geometrical denizens of heaven and in contrast to the *bona fide* ('natural') spatial objects here on earth, seem to be *human creations:* they are entities which come to be superadded to the world in consequence of human cognitive acts and practices.

The opposition between what is *found* or *discovered* and what is *made* or *created* is of course nothing new in the history of metaphysics. For present purposes we might distinguish, in the range of possible ontologies, between:

Extreme idealism: the doctrine that *all* objects are created, or in other words that all objects exist exclusively as the products or figments of human cognition.
Moderate (or 'creationist' or 'Ingardenian'[4]) *realism*: the doctrine that *some* objects are created, some discovered.
Extreme (or 'platonist' or 'Meinongian') *realism*: the doctrine that *all* objects are discovered, or more particular that all objects are found and not made.

I shall dismiss immediately the extreme idealist alternative (or is there really some extreme idealist who believes sincerely that the ground on which he stands, or the meteor speeding towards the building in which he sits, is a mere product of human cognition?). The important debate, I would argue, is that between extreme and moderate realism. Consider, in this light, the case of Wyoming which, like many political and administrative spatial objects in the United States, has a shape roughly as follows:

4. See Smith 1980.

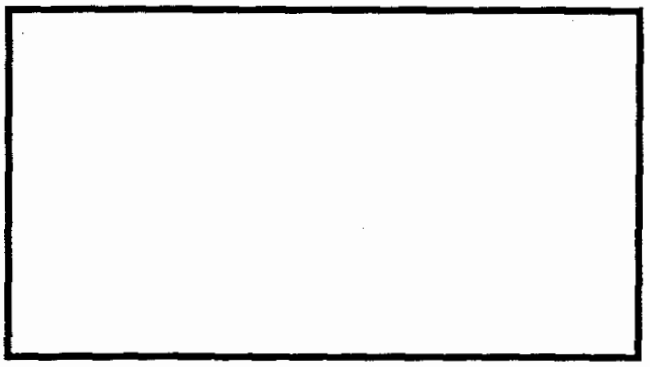

Figure Two: Wyoming

From the Meinongian, extreme realist perspective, which we might also call 'geometrical Platonism' or 'geometrical objectivism', Wyoming existed long before man first set foot on the American continent, but so also did infinitely many alternative Wyomings (Wyoming displaced 1 inch to the east, Wyoming displaced 1 furlong to the west, Wyoming minus Crook County, and so on). Wyoming is thus to be conceived along the lines of the heavenly objects discussed above. Wyoming as it is at present (*anno* 1995) geometrically constituted will on this view continue to exist even if Wyoming and one or more of its neighbours should agree to some exchange of territory (though our present geometrical Wyoming would then no longer be called 'Wyoming' and would likely not have any name at all). Surprisingly, this Meinongian view can claim the advantages of ontological economy – at least for those who have already embraced a suitably rich ontology of spatial objects distributed purely geometrically across the surface of the earth. For it conceives political and administrative spatial objects of the sort which might otherwise be seen as being *created* by acts of human fiat as mere logical constructions out of geometrical objects, and it is exclusively the latter which are granted full ontological rights. The Meinongian account can even do justice to changes in geopolitical and administrative borders: entities like Bosnia, or Poland, or the Netherlands would turn out from this perspective to be *entia successiva,* whose successive real parts are corresponding purely geometrical bits of space. (I am here clearly leaving out of account issues pertaining to the fact that the earth itself is such as to occupy distinct portions of space at different times.)

The competing, Ingardenian view, on the other hand, can claim the advantages of naturalness. This view asserts that, in the year 1890, a new spatial object called 'Wyoming' came into being as a result of human fiat and that this object has since enjoyed a certain history of its own; thus in the intervening period Wyoming might have changed its size or shape or location in relation to other spatial objects on the surface of the earth. Political and administrative entities are comparable in this respect to organisms – they may grow and develop, yet in such a way as to preserve their identity. (Unlike organisms they may even, as occurred in the case of Poland and Austria, enjoy a period of non-existence after which their identity is once again recovered: perhaps we might refer in such cases, in Meinongian spirit, to the 'implexive existence of the pure spatial object'.) Land-parcels, political and administrative entities may also fuse and split, in such a way that new entities are produced out of parts existing earlier.[5] Certainly Wyoming in this historical sense is at any given moment coincident with some region of space of the purely geometrical sort; but as we shall argue below it is never identical with any such region of space.

3. *Performative Maps*

The Ingardenian ontology of historically existing political-administrative spatial objects is an extension of the theory of multi-dimensional continua elaborated by Brentano in the papers collected together as *Philosophical Investigations on Space, Time and the Continuum* (1988). Brentano there sketches a conception of the realm of spatial objects as a lasagna-like, many-layered edifice, with realms of heterogeneous ('secondary') spatial objects built up on the basis of a homogeneous 'primary' spatial continuum on the lowest level. But the theory can also be seen as an extension of the theory of performatives worked out by Adolf Reinach in his *A Priori Foundations of the Civil Law* in 1913 (a theory subsequently rediscovered, though with none of Reinach's ontological sophistication,

5. They are comparable, in this respect to holes and other superficial entities of the sort described in Casati and Varzi 1994.

by Anglosaxophone speech act theorists in the 1950s).

We distinguish first of all between two classes of speech acts, giving rise to two sorts of products or consequences, which we shall call *abstract* and *concrete,* respectively. Commandings, thankings, forgivings, warnings and threatenings are performative uses of language which yield *concrete* consequences – above all actions, attitudes and feelings on the part of real people, entities which are fully a part of the real, historical, world of causal change. Promisings, legislatings, contractings, plightings, baptisings, ennoblings on the other hand, are performative uses of language which give rise to *abstract* consequences, to entities *sui generis* which are not (or not directly) subject to causal influences. Examples of such abstract consequences are: claims, obligations, laws, rights (including property-rights), troths, knighthoods, names, etc.[6]

Having drawn this distinction in the realm of linguistic acts, we can now point to the existence of a parallel distinction in the realm of what we might call *performative uses of maps*. That is, we can distinguish between

1. concrete consequences of uses of maps, for example actions (above all actions of way-finding, acts of war, etc.) and feelings (of being threatened, overawed, offended, etc.: see Monmoyer 1991, ch. 7);
2. abstract consequences of uses of maps, for example the creation of state-, county- and property-boundaries, as also of such entities as the International Date Line, the Mason-Dixon line, and so on.

Abstract consequences are distinguished by the fact that they are entities of such a sort that they can exist *only* as the fruits or products of corresponding performative acts. They are distinguished further by the fact that, like claims, obligations and other legal entities, they fall midway between Platonic objects, which lie outside the realm of time and change, and real objects of the causal flux. (See Twar-

6. Certainly such abstract consequences may give rise in their turn to concrete consequences. The terms 'abstract' and 'concrete' may from this point of view be misleading.

dowski 1979.) In this respect they are comparable to the natural kinds of biology as also to linguistic kinds (such as *adverb* or *phoneme)* and to the other entities treated of by Husserl (1973) under the heading 'bound ideality'.

The feature of dependence upon specific acts of human fiat seems to be characteristic of political and administrative spatial objects in general, though some manifest this feature to a higher degree than others. Thus there are maximally conventional objects of this sort whose boundaries are exact geometrical figures, normally straight lines (though part of the Delaware-Pennsylvania border is an arc of a circle). Straight borders are associated especially with colonialism: they are borders drawn by governments in (Washington, Ottawa, London, or Mexico) before they know how things look on the ground. Such borders can be quite stable and peaceful (this applies also to the colonially drawn borders in the sub-Sahara region), in contrast to the carefully drawn boundaries of Europe based on the idea of a "self-determination of nations", or to the boundaries insisted upon by Irish nationalists, for whom 'Ireland cannot shift her frontiers. The Almighty traced them beyond the cunning of man to modify.' (Bowman 1982, p. 11) – God made Ireland, we might say, but all the rest is the work of man.

Even those island nations which seem to be blessed with maximally natural borders are abstract consequences in our sense, however, which is to say that they are products of human convention or fiat. This is because their apparent naturalness disappears when we take into account the status of all nations as historical products. Certainly any given political or administrative entity may at any given time be loosely identified with some given portion of land (either a two-dimensional surface or a three-dimensional slab of a certain thickness). That this identification is at best loose, however, i.e. that we do not have before us here a case of *identity,* is shown by the fact that the surface or slab in question typically existed long before the corresponding political or administrative entity came into being. The political or administrative entity is marked further by the fact that it may change in shape or location, may in other words become similarly loosely identified with a different slab or surface in the course of time, yet in such a way as to remain itself one and identical.

At least in many of the cases standardly put forward as natural political unities the appearance of naturalness is diminished still further in view of the fact that we are dealing not with some one single land-mass, but rather with more complex products of human demarcation. Ireland, even the unitary Ireland conceived in the minds of Irish Republicans, is still in Meinong's terminology an 'object of higher order': it is a super-unitary entity built up on the basis of constituent parts such as Inishkea, Inishmore, Gorumna Island, and so on. Other even more conspicuous examples of higher order geographical objects are: the Holy Roman Empire, the European Union, the United States of America and so on. Each of the latter is a super-unitary spatial whole made up of smaller and relatively more unitary parts. On the other side we can distinguish sub-unitary spatial objects: spatial *parts* which can be distinguished within larger (and more or less 'natural') unitary wholes: the non-coastal states and nations of South America and of continental Europe are sub-unitary in this sense (and Catalonia and Cornwall might be regarded as sub-sub-unitary spatial objects along the same lines).[7] Denmark, the Helvetian Confederation, the Commonwealth of Independent States are examples of spatial objects which manifest both super- and sub-unitary features, which is to say they are at one and the same time the products of unification of scattered parts some or all of which are at the same time the products of carving out of smaller parts within a larger spatial whole.

That sub-unitary spatial objects such as Catalonia or the Czech Republic are fiat or created objects is shown further by the fact that, even where the exterior boundaries of such objects coincide in large degree with rivers or other natural topographical features, these boundaries are still not *identical* with the given features; rather, the boundaries in question will standardly be identified with some non-natural surrogate. The boundary will run, for example, along the middle of a river. All legal and political boundaries must, it seems, be infinitely thin; they must take up no space, since otherwise

7. A unitary spatial whole is analogous, if one will, to a single organism; the super-unitary whole to a family of organisms; the sub-unitary whole to undetached limbs or organs within a single organism. For more on these distinctions and their applications to geography see Smith 1995.

disputes would constantly arise in relation to the no-mans-land which the boundaries themselves would then occupy. This 'middle' will in the first place be geometrically defined; should the river change its course, however, then it may have to be determined by negotiation or by some other non-trivial means where its 'middle' now lies.[8]

A final reason for conceiving political and administrative boundaries as created entities (rather then as entities picked out or discovered within the pre-existing totality of all relevant geometrically determined possibilities) turns on the fact that there are political and administrative boundaries which coincide (occupy an identical spatial location) throughout their total length. The name 'Vienna' refers on the one hand to a certain Austrian city, on the other hand it refers to one of the constituent states (*Bundesländer)* of the Austrian Republic. As it happens the boundaries of the city and of the state of Vienna coincide exactly, and both serve as boundaries in the same direction. But they are for all that not identical, as is seen in the fact that the two might in principle diverge (as is currently true, for example, in relation to the otherwise analogous case of the city and state of Salzburg).

4. *Conclusion: Impossible and Incomplete Spatial Objects*

We shall conclude, briefly, with a discussion of a spatial analogue of what Meinong referred to as 'impossible' and 'incomplete objects'. Nothing can be red and green all over. And so, also, we might conclude, with our eyes on a map of troop-movements on the Indo-Chinese border, nothing can be both Indian and Chinese all over. The fundamental principles of international law seem after all to dictate, for each given state, exclusive jurisdiction over its national territory and the permanent population living there together with a duty of non-intervention in the area of exclusive jurisdiction of all other states. A moment's reflection reveals, however, that parts of the earth's surface can indeed be both Indian and Chinese (or British and Argentine) all over: something like this applies even under

8. See Prescott 1978.

present political conditions to international waters and to Antarctica, and outcomes of this sort were earlier the standard product of one favoured method for resolving border-disputes à la Austria-Hungary, namely through interdynastic marriage and fusion of territories.

As to incomplete spatial objects, which is to say spatial objects lacking crisp exterior boundaries, here a range of examples present themselves, beginning with spatial objects depicted on weather maps ('an area of high pressure over the Atlantic') and ending with territorial regions ('the Khanate of the Golden Horde (*circa* 1350)', 'the Seljuk Kingdom of Iconium (*circa* 1140)') on the fringes of areas of settled political power. Objects of these sorts might be said to constitute a third category of spatial object, in addition to the fiat and bona fide spatial objects distinguished above. They are found most conspicuously in the extra-human world (of deserts, clouds, gulf-streams, of flocks of birds and shoals of fish), but they are to be found depicted also in language- and dialect-atlases, as also in maps of religious observance and political behavior. Objects of this sort are clearly not the fiat products of some deliberate drawing of conventional borders, but nor are they the products of any tracking of underlying autonomous contours in nature. As they are depicted on maps we might think of them rather as the products of sampling (of temperature, air-pressure, rainfall, etc.), to the results of which certain standard algorithms are applied to generate bounded regions, regions which will however often overlap (and which may be represented, pictorially, by means of cross-hatching). Historical reflection will tell us, now, that objects of this third sort must in fact precede the tidily demarcated fiat spatial objects (nations, states, empires) with which we have grown familiar in the course of time. As the historian Owen Lattimore expresses it (1962, p. 471):

> Frontiers are of social, not geographic origin. Only after the concept of a frontier exists can it be attached by the community that has conceived it to a geographical configuration. The consciousness of belonging to a group, a group that includes certain people and excludes others, must precede the conscious claim for that group of the right to live or move about within a particular territory.

The metaphysical treatment of boundaries and frontiers is still, unfortunately, in its early stages. One of its tasks will be to do justice

to these 'frontiers of social origin' and to the processes by which, not singly but in more or less harmonious consort, they become attached to specific regions of space.

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