

Space and Place

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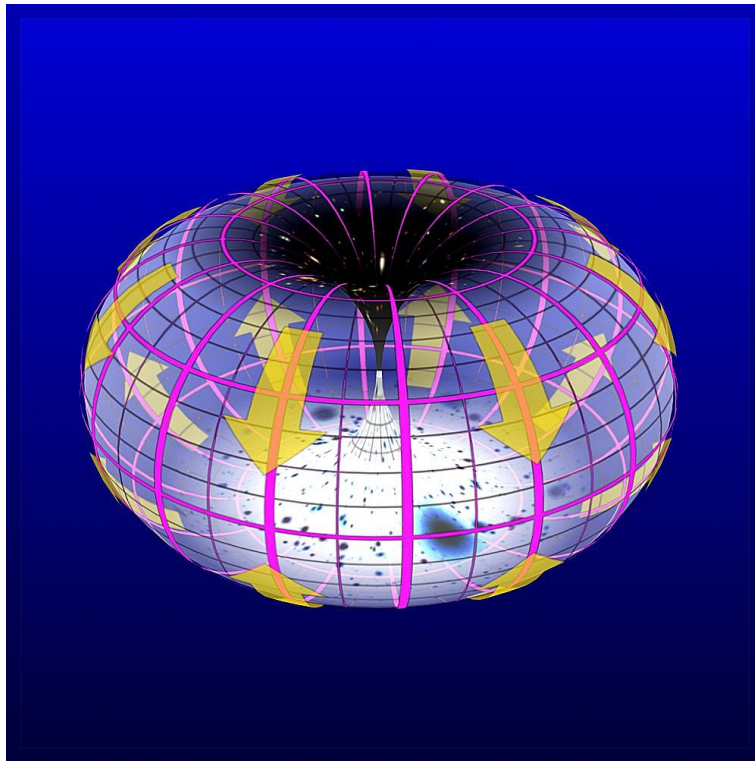


Figure 1: The Cosmic Rubber Sheet Torus (Wikimedia, 2012)

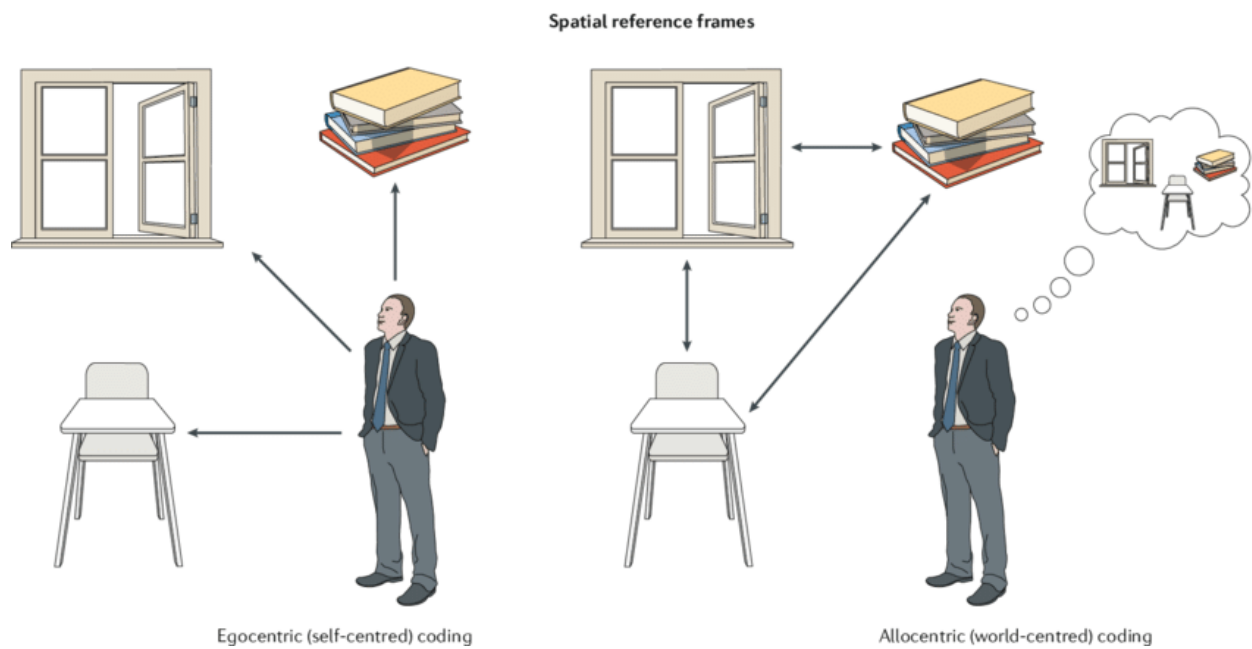


Figure 2: (Coughlin et al., 2018)

What is the nature of space? According to the mainstream Anglo-European philosophical and scientific tradition running back to Newton and Leibniz, space is either (i) an absolute container, a mind-independently real substance, i.e., a thing in itself, or else (ii) either a property of or relation between individual mind-independent substances or things in themselves. The relativistic view proposed by Einstein adopts the thesis that space is relational, but further specifies that the mind-independent substances are themselves *observers*, or at least *observational frames of reference*, together with *their means of experimental measurement*. But if space were either an absolute container, a mind-independently real substance or thing in itself, or else either a property of or relation between individual mind-independent substances or things in themselves, then our knowledge of it—say, in geometry—would have to be empirical or a posteriori. This is as true of the Einsteinian relational theory of space, as it is of the Leibnizian relational theory of space.

According to Kant, however, there is a *third alternative* about the nature of space, which preserves the fact that our knowledge of space in geometry is non-empirical or a priori, and also says (iii) that space is *neither* a mind-independently real substance or thing in itself *nor* either a property of or relation between individual mind-independent substances or things in themselves, but instead a mind-dependent or transcendently ideal holistic structure that's immanent in all outer appearances or phenomena, i.e., a form of appearances or phenomena (the transcendental ideality of space). In turn, the transcendental-ideality-of-space thesis divides into two distinct possibilities: (iiia) space is *nothing but* a non-empirical or a priori form of our sensibility (strong transcendental idealism), so that when we come into and go out of existence, then space comes into and goes out of existence along with us, or (iiib) space necessarily conforms to the form of our non-empirical or a priori representation of space, but *isn't* nothing but a form of our sensibility, and therefore it *doesn't* come into or go out of existence along with us when come into or go out of existence, and is *manifestly real* in the sense that it exists relatively independent of us as a non-empirical or a priori structure that's not subject to our contingent adventures or existential vicissitudes (weak transcendental idealism).

Kant's view, unfortunately, is systematically ambiguous as between (iiia) and (iiib) (Kant, 1781/1787/1997: pp. 110-111, Bxvi-xviii; pp. 157-158, 166-167, A23/B37-38, A38-41/B55-58). My own broadly Kantian view, however, is that (i), (ii), *and* (iiia) are all false, and that (iiib) is true: that is, space is weakly but not strongly transcendently ideal. If that's correct, then a broadly Kantian explanation of the nature of space would run as follows.

1. Space is either (i) a thing in itself, or (ii) a property of or relation between things in themselves, or (iii) transcendently ideal.

2. If space is transcendently ideal then it's either (iiia) strongly transcendently ideal or (iiib) weakly transcendently ideal.

3. If space were either a thing in themselves or a property of or relation between things in themselves, then a priori mathematical knowledge would be impossible.

4. But a priori knowledge of space is actual, via geometry.

5. Therefore, space is either strongly or weakly transcendently ideal.

6. But if space were strongly transcendently ideal, then it could neither pre-exist the emergence of human animals nor exist after the non-existence of human animals, which is absurd.

7. Therefore, space is weakly transcendently ideal.

What about space in the physical sense? In *Science for Humans*, I've proposed the following speculation about physical space:

The cosmos as a whole is an *infinite*—according to the Continuum Hypothesis, not only non-denumerably and transfinitely infinite, with the cardinality of the real numbers, but also only-denumerably infinite, with the cardinality of the natural numbers, and no other kind of infinity in between—and *unbounded* rubber-sheet spatial continuum, which we can imagine as a sort of *cosmic rubber inner tube*, or *torus*, being *infinitely holistically inflated in all directions, according to its global dynamic activating and guiding intrinsic form or structure, time*, [as per Figure 1, above].

To be sure, the torus is a closed, finite, spatial shape, in the sense that if you travelled in a straight line from any given point, you'd eventually return to the same point. And of course, since the Big Bang Singularity is the beginning of the cosmos, then it's temporally finite in that sense. But a torus can also be forever expanded, in the sense that the distance between any two points on its surface can be forever getting longer, thereby revealing more and more of the fine-grained structure of the mathematical continuum. Hence the cosmic rubber sheet torus is also an open and spatioemporally infinite structure. (Hanna, 2024: pp. 137-138)

Granting all that for the purposes of argument, then how does weakly transcendently ideal geometric or physical space as a whole relate *to us*? We exist as essentially embodied minded animals *in* space, but our particular embeddedness in the holistic structure of space is *place*. We *exist* in space, but *live*, and *move*, and have *our first-personal being* in place. Moreover, by virtue of weak transcendental idealism, the specific

character of space necessarily conforms to the specific character of the place in which we live, and move, and have our first-personal being. For example, place is *three-dimensional* and *orientable*, with built-in directionality (up-down, back-front, inside-outside, the compass points, etc.) and handedness (right-sidedness or left-sidedness, etc) , and the holistic structure of space necessarily conforms to these requirements of place. Thus space as a whole is *topologically shaped* by place. In turn, there are two distinct conceptions and kinds of place.

First, there is *egocentrically-centered place*, together with what I'll call *low level, pre-reflectively conscious cognitive maps* that provide on-the-ground directions for self-location and navigation: in occupying place A, this is where *I'm embedded in actual space*, and if, starting out at place A, I want to get to place B, then I go straight this way for a certain distance, then turn right, then turn left, etc., until I occupy place B.

Egocentrically-centered place, in turn, is inherently bound up with our self-locating immanent reflexivity, as Michelle Maiese and I argued in *Embodied Minds in Action*:

Immanent reflexivity or the immediate sense of self.... Immanent reflexivity or the immediate sense of self is the first-order, direct, non-conceptual, non-propositional self-awareness of an essentially embodied mind, whether rational or non-rational, and it is manifest fundamentally via conscious desire-based emotions. Immanent reflexivity is not the same as *self-consciousness* ... which requires the animal's possession of a concept of itself, together with the ability to make judgments about itself and form beliefs about itself. Nor is immanent reflexivity the same as *self-reflection*, which requires, in addition to self-consciousness ..., an ability of the animal to think about its own life as a whole. Immanent reflexivity is inherently less structured than either selfconsciousness... or self-reflection, both of which are meta-representational states, and yet it is also presupposed by both. This in turn is because immanent reflexivity is intrinsically connected with the single egocentricallycentered standpoint that constitutes our essentially embodied occupation of actual space and time. This standpoint determines our representations of oriented directions in space (right, left, up, down, backwards, forwards, etc.) and thermodynamically irreversible directions in time (past, present, future), both for ourselves and also for objects co-embedded with us in in that space and time. In a word, immanent reflexivity belongs essentially to pre-reflective consciousness ... or sensorimotor subjectivity; and sensorimotor subjectivity ... is originally consciously given in primitive bodily awareness. (Hanna and Maiese, 2009: p. 68)

Spatiality: orientability and balanceability in proprioception. To the extent that consciousness ... is necessarily and completely neurobiologically embodied—essentially embodied—it also seems to be necessarily spatialized. In having subjective experiences, my experience necessarily occurs *here*, wherever that might happen to be. But I need not be able to know

where I am. I could be asleep in my bed in Colorado or in Massachusetts, but falsely think that I am running frantically (and also, very frustratingly, as if through clear molasses) to catch a train somewhere in England, as I dreamt last night, in fact. Or I could be the man, famously described by Russell, who dreamt he was making a speech in Parliament, then awoke, and *was* making a speech in Parliament. Or I could be actually awake and just confused or mistaken about my actual whereabouts—something quite easy for those of us not naturally gifted with the powers of a Global Positioning System. But this does not entail that I am not subjectively experiencing myself as *uniquely located*, or *uniquely positioned*. As we noted already, the spatiotemporal uniquely locatory proposition *I am here now*, and thus also the spatial unique locatory proposition *I am here*, are necessary truths precisely because they have their foundation in the nature of essentially embodied consciousness, as expressed in primitive bodily awareness, via its body schema.

Moreover, this necessary spatiality of essentially embodied experience carries with it an intrinsic topology and dynamics. Essentially embodied consciousness ... is also necessarily *orientable* and *balanceable* via its proprioceptive capacities. To the extent that I am aware of myself as *here*, I am also aware of myself as facing left, facing right, right-side up, recumbent, upside-down, or tipped sideways. I feel the difference between my right side and my left side, between the upper and lower bounds of my body, and between my front and my back. And furthermore, I always place myself, as relatively balanced or poised, in some orientation or another.

The commonplace subjective experiences of disorientation or of loss of balance are not counterexamples to these claims. For me to feel dizzy or lost is not for me to be aware of myself *non-orientably*, as if I were somehow taking a walk along the surface of a Möbius strip, or *without any sense of balance whatsoever*, as if I were somehow no longer a prisoner of gravity. The subjective experiences of disorientation and unbalance are merely limiting cases—or, as the Scholastics might say, “privations”—of the intrinsic neurophenomenological structures of orientation and balance in proprioception, and not their denials. (Hanna and Maiese, 2009: pp. 82-83)

Second, there is *allocentric place*, together with *high level, self-consciously conscious cognitive maps* by means of which my location or movement in actual space is represented as occurring at specific coordinates in a formal grid that’s imposed on the landscape, with directions relative to compass points: in the formal grid, I’m located at place A, and if, starting out from place A, I want to get to place B, then I head directly north for a certain distance, then turn east, then turn west, etc., until I arrive at place B.

It seems to me that rational human animals share with many non-rational non-human animals and also non-rational human animals like infants, a capacity for creating and using low level, pre-reflectively conscious cognitive maps. But non-rational non-human animals and non-rational human animals lack a capacity for possessing or using

concepts. So egocentric place and its low level, pre-reflectively conscious cognitive maps, are *essentially non-conceptual*. By sharp contrast, high level, self-consciously conscious cognitive maps are able to be created and used *only* by rational animals, especially including rational human animals, hence allocentric place and self-consciously conscious maps are inherently *conceptual*. The distinction between egocentric place and pre-reflectively conscious low level cognitive maps, on the one hand, and allocentric place and self-consciously conscious high level cognitive maps on the other, therefore precisely parallels the categorical distinction between essentially non-conceptual content and conceptual content (see, e.g., Hanna, 2015: ch. 2, 2016, and 2021).

As it happens, I'm highly sensitive to egocentric place and quite adept at using low level, pre-reflectively conscious cognitive maps, but far less sensitive to allocentric place, and indeed fairly incompetent at using high level, self-consciously conscious cognitive maps, as my wife will readily attest. I can quite competently get myself from point *A* to point *B* on the ground, whether by foot, bicycle, or automobile, without getting lost; but I also consistently cannot tell at any given time or location, which direction is north, south, east, or west, or accurately visually imagine the spatial relationship between objects in my local space and distant objects.

Now, Gaston Bachelard's *The Poetics of Space* (Bachelard, 1958/1969), a nowadays-neglected, minor philosophical classic of the mid-20th century, is a brilliant phenomenological-aesthetic investigation of egocentric place, focusing on the house and its interior, and related shapes. But in my terminology, Bachelard's book would be more accurately, if less poetically (and also not in French), called *The Poetics of Egocentric Place*. Moreover, in my experience, egocentric place is *mobile*, in the sense that if one moves to a different place, even a very different place, thousands of miles away, and then surrounds oneself with a few familiar items or pieces of furniture, related to one's body in the same orientation as the starting place from which one has moved, then one can almost instantly very comfortably inhabit that place and feel right at home. So egocentric place is *a mobile home*, and, like a turtle, one can carry it around like a protective cognitive, affective, and practical shell wherever one goes. This is the principal reason why, when I travel and arrive somewhere, I always carry with me some familiar things and then immediately unpack them and situate them in the new place in a way that preserves their original spatial relationships to my body, thereby *inhabiting* that new place. Of course, this means that, on the one hand, I don't "travel light" and am always lugging around a bulky suitcase, much to my wife's and others' amusement. But then, on the other hand, no matter where I am, I rarely if ever feel disoriented or homeless.¹

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