

Modal Realism Spatialized: A fragment of the Spatialist Manifesto

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Abstract

This (fragment of) manifesto of the *spatialist* has at least four goals to achieve: (i) to specify the position of spatialist among modal metaphysicians, (ii) to appeal its merit and necessity to accept, (iii) to depict a blue-print of this whole project of *spatialism* revolution, and ultimately, (iv) to welcome rather than defeat non-spatialists to join our party. In practice, you can read this leaflet in the following manner; this Manifesto summarizes a brief history of modal philosophy up to concrete modal realism. Then I will show several unsolved problems of concretism and introduce spatialism as a way to overcome such difficulties. ^{1 2}

1 Abstractionists and Concretists

Possible worlds exist. Most modal metaphysicians agree that there are worlds other than our actual one. We have two contemporary schema to conclude the existence of possible worlds: *utility* and Quinean ontological commitment. Firstly, the idea of possible worlds offers a powerful but handy analysis tool for *modality*, which plays crucial roles in many areas of philosophy (and more). ³ Secondly, analysis using possible worlds commits the existence of possible worlds, following Quine's famous argument [6].

¹This is a mere fragment of the whole project of spatialism. This fragment presents a brief history of modal philosophy up to concrete modal realism, a categorized list of issues of concrete modal realism, and the spatial recipe to overcome all of them.

²A contributed talk at CCPEA 2018, Taiwan.

³Possible world analysis offers working explanations to not only metaphysics, but also linguistics, epistemology [?], ethics, and even computer programs.

As what possible worlds exist? We agree on the quantitative issue on possible worlds. We disagree, however, on the *qualitative* issue. In other words, we are asking and disputing *as what* possible worlds exist: what are these things called possible worlds? What are their metaphysical labels, status or categorizations?

There are two major streams: *abstractionism* and *concretism*.⁴

A popular view: abstractionism. Let us begin with the modest and popular view called *abstractionism*. As its name tells, an abstractionist takes possible worlds as *abstract* entities.

To define what is abstract, we employ the standard (negative) criteria [?]: what is abstract is what is *not* concrete. What is concrete is what is located in space. Hence, for abstractionists, possible worlds are *not* located in space.

*Many variants of abstractionism exist.*⁵ Some say that possible worlds are maximal consistent sets of sentences (propositions). Some say that possible worlds are reconstructions of our actual world. But in general, they all agree that possible worlds exist (as we already agreed) and their metaphysical status is *abstract*. According to abstractionists, possible worlds exist as abstracta.

Abstractionists may have played a very important (and even central) role in the early stage of possible world renaissance. Compared to another extreme one, many seem to relatively easily compromise (it is a whole mystery to me) this theory which assigns abstract nature to possible worlds.

An unpopular view: concretism. There is the most advanced party at this moment: the *concretist*. The (almost sole) advocator is David Lewis. Concretism of David Lewis [?] [?] is summarized in the following clauses.

1. Possible worlds exist as *concreta*.

⁴Note on this non-standard notation. Many philosophers on modality have called abstractionists position as *modal actualism* or *ersatz modal realism* while concretists as (*genuine*) *modal realism* [?]. This wording highlights the claim that the only world exists as concrete is this actual world while other merely possible ones are not hence abstract. However, I adopt my wording (not original of mine; see Menzel's entry [?]) of concretism/abstractionism since the widespread one confuses us. Firstly, *realism* is a loaded terminology and it provides unnecessary twists into our enterprise. Recall that modal realists, most prominently David Lewis, are all *nominalists* in a sense to reduce the concept of modality (abstract) into mere concrete entities called possible worlds. Similarly, the name actualism steps into another new category: being actual/actuality. We rather concentrate on concrete/abstract distinction on metaphysical status of possible worlds.

⁵A comprehensive list is (ironically) found in Lewis [?].

2. A (possible) world is a *maximal sum of spatio-temporally* (hence, according to Lewis, causally) *related individuals*.
3. No individual exists on more than one world.
4. Actuality is *indexical*; what is actual depends on where (in which world) you are.

Lewis argues that these possible worlds should be *concrete* rather than abstract. What is his strategy? Lewis' argument is based on *metaphysical economy*. The opponents argue that Lewis' ontological list contains *too many* entities; Lewis' list of concrete entities involves even Wittgenstein's unborn daughters and a dragon breathing fire. Lewis responds that it is wrong to count how many concretes (concrete individuals) there are. Rather, Lewis insists that we should count *how many categories or kinds* we employ to make the list. Imposing many extra concretes does not matter much according to Lewis' standard.⁶ For Lewis, to prepare a extra category (of abstracta on top of concreta) costs further more.

2 Concretists and Spatialists

Spatialists save concretists. Concretism is, fairly speaking, infamous and unpopular in the modal industry. Concretism camp is a minority of modal philosophers' community. As a result, concretists have faced almost countless objections, which will be partially introduced and discussed in the later sections.

Spatialists have come to rescue concretism. Spatialism is an update of concretism to overcome these objections. What spatialists do to response these attacks is not to moderate or weaken concretist theory. The problem of concretism is not being too extreme. The problem is being not extreme enough. Hence, spatialists ask concretism to be more hardcore. This update is done by spatializing theories of possible worlds.

Spatialists respect Lewis as the original concretist. Spatialists never undermine Lewis' contribution toward the entire concretism project; he has encouraged, attracted, and enticed some supporters and many more disputers. As a matter of fact, spatialists take over the general approach, direction, and strategy of David Lewis to settle their own view. However, spatialists

⁶It somehow makes sense once we consider a set theoretical argument saying that infinity plus infinity makes still infinity.

do not idolize David Lewis. It could be more or less a historical coincidence that Lewis seems to be the only metaphysician who declares concretism approaches. Spatialists (and Concretists) have no reason to be adhered to the Lewisian variant among other possible forms of concretism.

Spatialism (for modality) contains two axioms.

- The first axiom of spatialism: *locusism*. Any possible world exist somewhere (in some space). Any possible world has its *location* on a inter-world space.
- The second axiom of spatialism: *dimensionalism*. Any possible world (and any inter-world) has uts dimensional structure.

What relation does spatialism stand to concretism? At a first glance, spatialism seems to be the most advanced party on concretism. In other words, spatialism is the most hardcore (further more than the original) variant of concretism modal metaphysics. This observation is correct and intended but a few more extra words are required. Note that concretism is an immediate consequence of spatialism (namely, locusism, promising worlds to exist in space). We, including Lewis and their opponents, assume concrete as things placed or located in space(time) and abstract as things otherwise. A concrete object occupies a certain space. We follow this classical terminology. Therefore, spatialism covers Lewisian concretism as a mere special variant which satisfies a particular philosophical taste of a philosopher David Lewis. In particular, spatialists understand Lewis as who puts a certain class of spatial conditions over what property of space/locus on which Lewisian multiverses spread. Namely, each world is (spatiotemporally) connected and disconnected (i.e. separated) from each other.

What about between spatialism and physicalism? It is worth mentioning the position of spatialists to *physicalism* (materialism) [5]. What is the difference or relation between spatialists and physicalists? Physicalists (of a certain kind) insist that only things actually and really exist should be described in terms of contemporary physics. For physicalists, there is no space out of bound of contemporary physics. Contemporary physics has not reached the conclusive picture of what space is. Still, physicists do not need a dimension where ghosts move around but motorcycles cannot and refuse such an unnecessary and redundant component of space. Such a naturalistic

view surely fits well to spatialism. Physicalist can and should adopt spatialism framework to impose her own view. However, notice that spatialism says that physicalism is a restricted variant of spatialism. Spatialism per se does not warrant this particular view which can be gained through putting further extra spatial conditions over locus and worlds.

Spatialism is a thin metaphysics. Also, more generally speaking, spatialists' space itself does not have any condition yet. In other words, spatialism is a very *thin* metaphysics. Spatialism itself does not commit to any condition described in spatial terms. Since Newton, many have been familiar with the practice of imagining space they are living in as real (number). But such strong (and mathematically well-behaving characteristics, like metric) properties of real numbers and other are not presupposed at this grand program of spatialism. Thanks to this *thin* nature, spatialists' framework leaves plenty of space open to *customize*.

3 Pre-Spatialists and Anti-Concretists Literature

3.1 Pre-Spatialists Literature.

This manifesto is the first manifesto of spatialism (as far as I searched via google and other search engine) as a wholesome philosophical/metaphysical thesis. Nevertheless, throughout history of philosophy, there have appeared several thinkers who partially or wholly took along with spatialism.

Locusism. The idea of locusism can be dated back as far as Aristotle. In his Physics [1], Aristotle settled a clear distinction between physical objects and space or locus where objects sit. Newtonian view of absolute space is a modern instance on that Aristotelean locusism. We can find some overlap between these Aristotelean-Newtonian lines and cognitive linguistic approaches. Lakoff help us to open their locus the way to non-physical entities under the title of conceptual metaphor. Lakoff almost concluded the superior of spatial concepts over others namely of time. His argument comes from our biological fact: we have percepters for space (i.e. eyes) but not for time. So time is constructed by borrowing metaphor of space! Lakoff, although, hesitated to completely reduce other concepts such as of time into spatial concepts due to some linguistic expression which seems to be that spatial concepts borrow temporal concepts (e.g. The distance is 5 minutes walk.). Gardenfoner's work [?] [?] on conceptual space also

adhere locusism idea with contemporary contexts. Observe several works on conceptual space for more detailed formalization.

Dimensionalism. Kant's transcendental aesthetics equips two fundamental functions of our mind: spatial intuition and temporal intuition. Except his heavy commitment toward space-time distinction, Kant unconsciously initiated dimensionalism of spatialism. His fundamental theory can be paraphrased in the following spatial way of speaking. He prepares other particular selected dimensions to correspond their mental structures (somehow connected but not directly from things-in-themselves) and prepare some projections. A more direct and contemporary sauce of dimensionalism is Yagisawa. In his monologue, Yagisawa argues his modal dimensionalism, according to which worlds are indices of modal dimension(s). Modal dimensions are not superior nor minor to any other kinds of metaphysical dimensions such as spatial dimensions and temporal dimension which our common sense employs.

3.2 Anti-Spatialists Literature.

There are many objections toward concretism. As mentioned above, our task as spatialists is to ally and rescue concretism by modifying in spatial manner (i.e. spatializing it).

Discussions on concrete modal realism have been executed in a piece-by-piece manner so far. Lewis all began the discussion. Many who believe to be sane themselves (I suspect) provide counterarguments toward Lewis not in a whole but as a small piece. They never tried to take down Lewisian concretism metaphysics as a whole. Instead, each objection pinpoints each particular point among varied points through the whole argument. They do not use the large axes to chop Lewis down at once. Rather, they try to pinpoint and reveal a tiny (but effective, hopefully) weak point.

What are the problems of this current practice? I can point out at least two negative aspects of this way of doing philosophy. The first negative point is its *inefficiency*. Messing with a bulk of fragmented discussions is likely to lose our attention to our whole discussion. We modal philosophers care

⁷This piece-meal manner seems to go well with general preference of methodology of modern academic philosophy. Instead of casting a broad picture, philosophers nowadays value concrete and particular issue. This preference is celebrated by David Lewis. So the current mode may be due to his influence. He famously said that there is no single knock-down argument in philosophy.

about our shared question: in our case, the metaphysical profile of possible worlds. Some of us care about particular questions *per se*. We do not say that it is useless and worthless doing such tiny parts. However, we need to make clear where these tiny parts are located in the whole discussions. The importance of these small segments/fragments should be evaluated by its importance and impact on our entire enterprise.

The second negative point might sound selfish; the current piece-meal stream of discussions is unfair to concretism-spatialism party. At least, concretists should not take this direction to win. We do not have enough number of philosophers on our side. There are too many objections to take care if considered individually.

3.3 Three layers on anti-concretism arguments

Considering this unwanted situation, spatialists need to pave the road. We categorize the many counter-arguments into more handy number: three. I settled three layers of anti-concretism criticism: system, disappointment, and conversion [4].

System. The first layer attacks Lewis' theory as if it were a certain system. Imagine a formal system of logic, for instance. Most people expect a system of a certain logic (or simply a logic hereafter) to have the following two desired properties: soundness and completeness. The former promises the system to be sound – nothing insane (such as contradiction) happens. The most common but problematic crazy things in a system are contradictions. The latter secure that there is no hole in a system. Formally speaking, any sentence ϕ syntactically accepted is determined whether ϕ is true or ϕ is false. That says, metaphorically speaking, the system should fulfill any explanatory gap.

Disappointment. The second layer claims disappointments toward Lewis: Lewisian concretism does not provide what Lewis himself promised as a prize. Lewis advertises his crazy theory for its inviting you to *philosopher's paradise*, with theoretical benefits. If we do not get the prize, what is the point of following Lewis?

Conversion. The final layer addresses issues of convincing others. Even if we overlooked the former layers, Lewis' strategy would not work to convince non-Lewisians into his camp. Anti-Lewisians still keep their incredulous stares.

4 Position of Spatialists in Relation to the Various Existing Opposition Parties

Before dealing with and tackling each objection in turn, spatialists have their general method or strategy to anti-spatialism philosophers. The strategy is to *embrace*; instead of defeating their enemies completely, spatialists *welcome* philosophers with any metaphysical preference. Spatialists appeal and confirm that you can do whatever you want under our spatial regime. Spatialists only ask them to swallow the fact that there are some spatial structure among possible worlds. Note, again, that this spatial structure does not have to satisfy any spatial conditions. For instance, spatialists have a quick recipe for making space suitable for abstractionists. Abstractionists' picture, in any variant, is depicted under spatialists' framework by using *dimensions*. Just assign some dimensions for abstract notions. We spatialists prepare them as spatial (hence concrete) and let them use the space for their desired abstracta: non-spatiotemporal (in a narrow sense) dimensions.

Limited showcases I do believe that spatialists solution covers any objection toward concretism. Here are some samples to demonstrate how spatialism solves and overcome the issues of concretism.

4.1 System objection: epistemic case.

Epistemic objection. One of the most common objections toward Lewisian concretism is called *epistemic* objection [?] [7]. Epistemic objection questions how we know what is going on at distinct possible worlds. We seem to have modal knowledge (knowledge on modal notions: I know that it is possible that my flight to Taiwan is delay.). Following Lewis' reduction, such knowledge is about concrete individuals (my flight at another possible world). But when we know about something concrete, we should have sensible access to the concrete target. Recall that you cannot do inter-world travel within Lewisian framework since each possible world is spatiotemporal and (hence) causally disconnected. A paradox pops up: Do we know something we do not (or cannot) know?

Spatialists see other possible worlds. Lewis prepared his own response [?] which changes what modal knowledge request. But spatialists have a less ad-hoc solution. Spatialists offer dimensions for modality, which individuals cannot go across spatiotemporally but can do modally. For example, fetch

3+1 dimensions and superficially label them ST (space-time for a narrow sense). Then, spatialists add an extra dimensions labelled M (modal) and put a certain metaphysical and epistemic constraint if needed. By doing it, when we have a modal knowlege, we know it by accessing through modal dimensions.

4.2 Disappointment objection: reduction case.

Failed reduction objection. One of the most crucial benefit of Lewisian concretism is full reduction. While other ersatz modal abstractionists fail to reduce modality into non-modal notions (cf. for linguistic ersatz, possible world is a maximal consistent set of senteces. But the very notion of “consistent” is already modal paraphrase it “possible to occur at the same time”. So modality, which is supposed to be reduced, appears in the explanation.), Lewisian often appeal that his theory is the only one which completely reduce modality into modal-free talk.

Some claims that Lewis also fails full reduction [?]. Due to Lewis’ own metaphysical constraints (namely, a possible world is connected to itself and disconnected to any other), Lewis needs to settle several conditions over what can be possible wolrds and what cannot.

A common counterexample is known as island universe [2]. It seems quite possible to imagine that a single (spatio-temporally connected) possible world goes separated into two (spatio-temporally) distinct parts. Lewis cannot allow such alternation because a single possible world should be spatiotemporally connected. But then, does not Lewis import some “possible” form of possible worlds? This objection criticizes that Lewis also relies on unreduced modality in his nominalistic project.

Spatialists reduce completely. Spatialists help concretism by freeing them from Lewisian chain. Spatialism is a very thin metaphysics; we do not have to follow a particular spatial condition over worlds (such as spatio-temporally connected). We can embrace both Lewisian connected worlds and island separated worlds under the spatialism set-up.

More crucially, thanks to *locusism*, any world, individual and object has its own location, or address where the very thing is, in the vast space of inter-world. Now there is no worry of contaminating any modal notion in our spatialists’ explanation. Everything can be written as *where* it is.

4.3 Conversion objection: begging the question case.

Begging the question objection. Lewis' style of argument is problematic to convince anti-Lewisians. Lewis at most explains what happens once one accepts Lewis' metaphysics. But whether accept Lewisian theory or not is exactly what we are discussing (A common fallacy known as begging the question! [3]). So they may still hold their original view no matter how attractive Lewisian paradise looks.

Spatialists embrace. Spatialists' takes a different strategy to convince. It says that spatialism framework can do whatever non-spatialism can (and want to) while there are what non-spatialism theories cannot but spatialism can. We already observed that Lewisian theory (one of non-spatial theory) can be embedded into spatial understanding but not vice versa. Similar things hold to abstractionists parties.

Spatialists should select their way with respect to its expected future. Spatialists should aim at the future of this movement. We should make the spatialism revolution as a sustainable program such that embraces many philosophers with different (meta)metaphysical tastes and motivations.

References

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The *Spatialists* disdain to conceal their views and aims. They openly declare that their ends can be attained only by the forcible overthrow of all existing *spatial* conditions. Let the ruling classes tremble at a *Spatialistic* revolution. The *concretists* have nothing to lose but their chains. They have *worlds* to win.

WORKING *PHILOSOPHERS* OF ALL *INTERESTS*,
SPATIALIZE!