

Deconstructing the Physical World: Relationship to Russellian Monism¹

A1 Introduction

The purpose of this appendix is to show how the conceptual framework – call this CF1 – proposed in the main text relates to Russellian Monism (RM) and can accrue RM’s benefits, while avoiding the combination problem that challenges many forms of RM. For efficiency it will be assumed that readers are familiar with the main text and with CF1.

According to the Stanford Encyclopedia of Philosophy (1):

“Russellian monism can be seen as combining three core theses:

A: *structuralism about physics*, which states roughly that physics, at least current physics, describes the world only in terms of its spatiotemporal structure and dynamics;

B: *realism about quiddities*, which states that there are *quiddities*, that is, properties that underlie the structure and dynamics physics describes; and

C: *quidditism about consciousness*, which states that quiddities are relevant to consciousness.”²

Without detailing each of these theses, which are well described at (1), the following bridging proposals can be used to relate RM to CF1.

1. Note that *all* contents of $W[r]$ – as defined under CF1 – can be considered to be what RM calls *quiddities*.³
2. Recall that under CF1 *all* contents of a $W[i]$ – defined in the main text as being the contents of any given person’s phenomenal world – are considered to be qualia⁴
 - (a) where these are related to each other by how they are situated in phenomenal space⁵; and
 - (b) where states, and changes of state, among the contents of a person’s $W[i]$ will, through the operation of their RBC, *map* states and changes of state among contents of $W[r]$.⁶
3. Recall that under CF1 *all* contents of a $W[z]$ – defined in the main text as a collective world, as held to be such among members of a given language using group – are considered to be common features
 - (a) where these are related to each other by how they are situated in rule sets; and
 - (b) where these common features and rule sets can be considered, for any member of a language using group, to constitute that person’s overall conscious and unconscious knowledge of the language they have learned as it relates to their identifying, naming, describing, conceptualising, communicating about, measuring and manipulating contents of what their language using group calls ‘the physical world’⁷

With this, note that CF1 also proposes a structural relationship between contents of $W[r]$, $W[i]$ and $W[z]$. This is shown in Figure A1.⁸

¹ This is Appendix A to the article Hammer, B.C. (2023) *Deconstructing the Physical World* herein referred to as the *main text*. Before reading this appendix, please read the latest version of that article, which is at: https://www.researchgate.net/publication/369624068_Deconstructing_the_Physical_World and at <https://philpapers.org/rec/HAMDTP>

² Where the lettering A, B and C has been added to the quote to allow later reference to each of these theses.

³ See §1 and §6.1 of the main text, noting that the contents of $W[r]$ are not even given a name in the main text, being referred to simply as ‘things’ or ‘thing[r]s’ (§1 main text) or as ‘physical things at the ontological level’ (§7 pp.22). In any case, it turns out that the way contents of $W[r]$ are described in CF1 is entirely consistent with how quiddities are described in RM. Another term used by some Russellians is ‘inscrutables’ (1, 2) where for the purposes of this appendix the terms quiddities and inscrutables can be considered to mean the same thing.

⁴ See §5(ii) of the main text.

⁵ See §7 pp.23 of the main text for how CF1 defines phenomenal space.

⁶ See §1 and §6.2 of the main text.

⁷ See §2 and §6.3 of the main text.

⁸ Fig. A1 simply duplicates Fig. 3 from §6 of the main text except by explicitly labelling as quiddities the contents of $W[r]$.

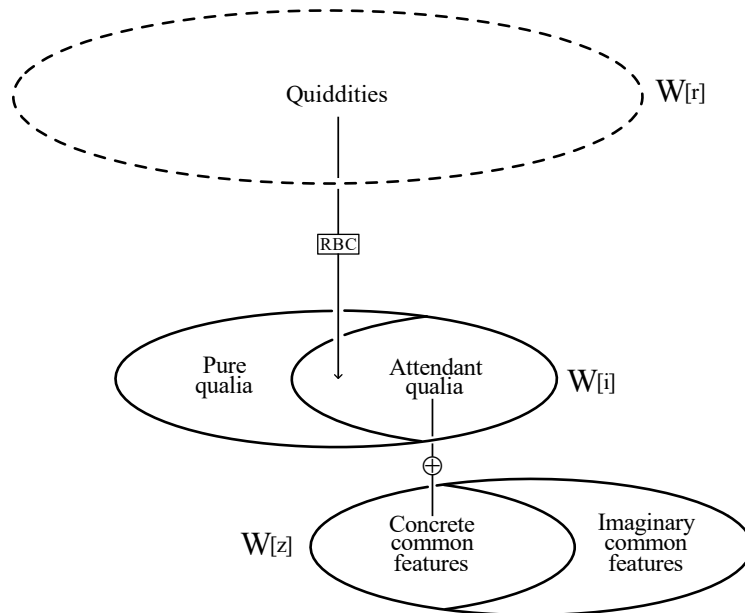


Figure A1

Figure A1 describes the proposed structural relationship between $W[r]$, $W[i]$ and $W[z]$ for any given, normal person. It shows some of the contents of $W[r]$ ⁹ – here called quiddities – being ‘mapped’ into the contents of a person’s $W[i]$ through operation of their $D[r]$ as it applies an RBC to incoming sensory input $[r]$.¹⁰ These latter contents are shown as qualia, which are the contents of a person’s direct and private perceptual experience of their phenomenal world, which is their $W[i]$. These qualia are cast either as pure qualia or attendant qualia where – as described in Figure 2 and §5(ii) of the main text – for any given person attendant qualia will be cojoined to concrete common features to form a meta-intersection between the contents of a person’s $W[i]$ and what they hold to be $W[z]$. What they hold to be $W[z]$ is shown as containing common features, where these are cast either as imaginary common features or as concrete common features and where – as described in Figure 2 and §5(ii) of the main text – for any given person concrete common features will be cojoined to attendant qualia to form a meta-intersection between what that person holds to be $W[z]$ and to be their $W[i]$.

With respect to the three theses quoted above, reference to points 1 to 3 shows it can reasonably be claimed that CF1 adheres to:

- B: through proposing that the physical world be conceived of as having a $W[r]$ ‘level’ – i.e. an observer independent, ontological level – whose contents fit RM’s description of quiddities;
- C: through proposing that the contents (i.e. qualia) that make up what a person perceives as their phenomenal world, $W[i]$, will – through the operation of their $D[r]$ and RBC – map states and changes of state among contents (i.e. quiddities) of the noumenal world, $W[r]$; and
- A: through proposing that *all* of the knowledge that we can conceive of in forms we can communicate to each other *only* be knowledge of:
 - concrete common features and imaginary common features (hypothetical, proven or fictional); and
 - the rule sets (hypothetical, sound or unsound) within which we collectively seek to agree to situate those common features;
 - where, in its most advanced form, the subset of these common features and rule sets which is currently agreed by the science language group to be the contents of their $W[z]$ can be considered to form our current best communicable *descriptions* – i.e. our best communicable *conceptualisations*¹¹ – of the contents of $W[r]$ and of how those contents evolve;
 - *but*, where these current best descriptions/conceptualisations of the contents of $W[r]$, and of how they evolve, are *incomplete*, and may or may not remain incomplete.¹²

⁹ Where the dashed line is to indicate that the set of contents of $W[r]$ may be boundless and where, at the least, the overall contents of $W[r]$ can be expected to be far greater than the subset of contents of $W[r]$ that may be mapped at any given time into the contents of any given person’s $W[i]$.

¹⁰ In accord with the arrangements described in §1 of the main text.

¹¹ Where it is taken as clear that any communicable conceptualisation of any physical system is equivalent to a description of that system.

¹² Although the claim made in this bullet point (claim 1) is not precisely a claim that current physics only describes the physical world in terms of its ‘spatiotemporal structure and dynamics’ (claim 2), it can be used in the same way to develop a kind of RM. Indeed, Daniel Stoljar has demonstrated that a general form of claim 1 can beneficially be substituted for claim 2. Specifically, Stoljar makes what is essentially the same substitution in his description of a kind of RM he calls RM4 (2) – as per §A2 below – and in his description and defence of what he calls Nagelian Monism, which he equates with RM4 (4).

Notably, the final bullet point above underlines the current incompleteness of our science. We know our science is incomplete – regardless of whether this is due to its describing the world ‘only in terms of its spatiotemporal structure and dynamics’ – because we know the science language group currently is unable to find and agree upon a single, unified set of common features and rule sets – i.e. a single unified theory – able to describe all of the kinds of physical behaviour that is currently observable.¹³ For example, we currently cannot describe/conceptualise gravitational systems and quantum mechanical systems in terms of a single unified theory.¹⁴

A2 CF1 escapes the conceivability argument and does not face the combination problem

Having established that CF1 can be seen broadly to adhere to the three core theses that underpin RM, it can next be spelled out how CF1 can accrue the advantages of RM.

A procedure lending itself to this task has been described by Daniel Stoljar (3), where Stoljar defines materialism – which he takes to be equivalent to physicalism (5) – as follows:

M1. Materialism is true at a possible world w if and only if for every property G instantiated at w , there is some physical property (or some complex of physical properties) F instantiated at w such that F (metaphysically) necessitates G .

He then cites the *conceivability argument* as one means of criticising materialism. The example he uses to illustrate this argument is to say that it is *conceivable* that there could be two people who are identical in every physical respect, but who subjectively experience the taste of physically identical coffee differently. If it is granted that this situation is conceivable, then M1 is false.

Stoljar then formulates a series of four versions of RM, where the fourth of these, which he calls RM4, refers to what he calls *current theory materialism* (CT-materialism), where the physical world is held to be described by CT-materialism. In this case he posits that M1 becomes:

M1.a CT-materialism is true at a possible world w just in case for every property G instantiated at w , there is some current theory property (or some complex of current theory properties) F instantiated at w such that F (metaphysically) necessitates G .

Note that here what is material is defined as all of those physical things and processes able to be described by current scientific theory. This means that the contents of the physical world, as defined by CT-materialism, can be considered equivalent to what CF1 defines as the contents of the science language group’s *current* $W[z]$, as distinct from any ideal, endpoint $W[z]$ ¹⁵.

Stoljar then supports RM4 by claiming that:

RM4.a CT-materialism is false, and false for reasons quite distinct from those involved in the conceivability argument.

He claims RM4.a is sound because our current scientific theories are *incomplete*, where he uses this term in just the same sense that it is used in CF1 to claim that the contents – i.e. communicable descriptions and conceptualisations – of the science language group’s current $W[z]$ are incomplete.¹⁶

Stoljar then makes a second claim for RM4 which is that:

RM4.b While CT-materialism is false for the reason mentioned in RM4.a, there is a substitute thesis which is not false for that reason, and which preserves the spirit and structure of CT materialism.

¹³ This incompleteness is described at length in §5(iii) of the main text in its proposals as to the relationship between contents of a $W[z]$ and of $W[r]$.

¹⁴ Nor can we adequately describe dark matter which, in terms of CF1, can currently be considered a hypothetical imaginary common feature, as such a thing is defined in §5(iii) of the main text.

¹⁵ Where such an ideal, endpoint $W[z]$ is described in §5(iii) of the main text, and see below.

¹⁶ See §A1 above, and the discussion at §5(iii) of the main text on the proposed relationship between contents of a $W[z]$ and of $W[r]$.

He then proposes a substitute thesis he calls CT-materialism+, which:

“...is exactly like CT-materialism but with this difference: where CT-materialism says that the physical properties are those expressed by predicates of the current theory, CT-materialism+ says that the physical properties are *either* those expressed by such predicates or those expressed by the final theory, the theory that exists, as Lewis put it, in the way that yet-to-be-written poems do.” (3)

Here CT-materialism+ can be considered equivalent to what, under CF1, is described as an extrapolation to contents of an ideal $W[z]$, where such an ideal $W[z]$, as described in §5(iii)(j) and (k) of the main text, is:

- j) a single, species-wide $W[z]$ whose contents are universally agreed to be either proven ICFs, fictional ICFs or CCFs, and with the number of hypothetical ICFs approaching zero;
- k) where this agreement on contents is sustained through agreement on a single, well defined, universally applicable rule set/explanation comprised of logically consistent, mutually reinforcing higher and lower order rule sets/explanations; and
- l) where, into the future, no new observations are encountered that raise doubts about the universal agreement referred to at (k).

For current purposes call this ideal, final version of $W[z]$, $W[z]^+$.

Stoljar then goes on to claim that:

RM4.c While CT materialism is false for the reason mentioned in RM4.a, it is also false for another reason, viz., the conceivability argument; by contrast, the substitute thesis mentioned in RM4.b does not face this argument.

As I read him, Stoljar supports the claim made in RM4.c. by arguing that what is missing in CT-materialism, but which may one day be added to it in making it CT-materialism+, is something that cannot currently be conceived of, and that if this is so, then what it is for two people to be physically identical may also be something that currently cannot be conceived of. This is since two people could be physically identical within the limited terms of CT-materialism, while at the same time being physically different under the wider terms of CT-materialism+. Here then, if it is not currently possible for us fully to conceive of what it is for two people to be physically identical then we must also currently be unable fully to conceive of there being two physically identical people who could have different taste experiences of physically identical coffee.

If this reading of Stoljar’s argument for RM4 is correct his argument rests on there being an extant, but as yet inconceivable difference between CT-materialism and CT-materialism+.

CF1 parallels this in that it claims there is an extant, but as yet inconceivable difference between the science language group’s current $W[z]$ and $W[z]^+$, where this is to say that the contents of that current $W[z]$ can only be used to provide an incomplete description/conceptualisation of the contents of $W[r]$.

This means that under CF1 any communicable description/conceptualisation of what it is for two people[r] to be physically identical at the ontological level of their being contents of $W[r]$ – where this must be a description/conceptualisation formed using the current contents of the science language group’s $W[z]$ – may be incomplete in ways that we currently are unable to describe/conceive of.

This allows CF1 to escape the conceivability argument by exactly the same means that Stoljar claims RM4 can escape the conceivability argument (3).

To spell this out, if the current contents of the science language group’s $W[z]$ are insufficiently complete for us to describe/conceptualise what it is for two people[r] to be physically identical – i.e. identical at the ontological level of $W[r]$ – then this undermines our ability to describe/conceive of two identical people[r] being able to experience two identical coffee[r]s as tasting different.¹⁷

¹⁷ Noting that under CF1, this will be a difference between what each of those people directly experience as a coffee-taste[i] as part of the contents of their respective $W[i]$ s.

Meanwhile, unlike RMs that differentiate between some materialism and a materialism+ by ‘adding’ quiddities to the materialism to get that materialism+, neither RM4 nor CF1 actually do that.

All RM4 and CF1 really say is that there are still things about the physical world that we do not know, and that among these there may be things that are crucial to knowing whether or not two physically identical people are bound to experience a physically identical coffee as having an identical taste.

Specifically, all CF1 says is that the descriptions/conceptualisations of the contents of $W[r]$ that we can make and use by using the currently the agreed contents of the science language group’s $W[z]$ may be insufficient for us to know whether or not $W[z]^+$ will, in the end, strictly require that two identical people[r] are bound to experience a physically identical coffee[r] as having an identical coffee-taste[i].

Now because RM4 does not admit to quiddities, or seek to add them to CT-materialism to get CT-materialism+, it does not face the combination problem.

Similarly, while CF1 does admit to quiddities as contents of $W[r]$, it does not require that these quiddities be in some way ‘added’ to $W[z]$ as part of getting to $W[z]^+$, so it doesn’t face the combination problem either.

Indeed, any attempt to ‘combine’ the contents of $W[r]$ with those of any language using group’s $W[z]$ by somehow ‘adding’ the contents of both together would, under CF1, be regarded as a recidivism back towards trying to impose as absolute the imperfect presumptions of the three world praxis, where those include that no differentiation need be drawn between the contents of a $W[z]$ and those of $W[r]$.¹⁸

A3 CF1 not only escapes the conceivability argument, it rules it out

By the reasoning provided above, both RM4 and CF1 can escape the conceivability argument as long as CT- materialism falls short of becoming CT-materialism+ and $W[z]$ falls short of becoming $W[z]^+$.

Specifically, it can be argued for RM4 that *until* CT-materialism gets close enough to CT-materialism+ to allow scientists definitively to answer the question of whether or not two physically identical people are strictly bound to experience physically identical coffee as having an identical taste, RM4 will be able to escape the conceivability argument.

For RM4 then, the answer to this question will remain open until a time arises – if it ever does – when CT-materialism gets close enough to CT-materialism+ to allow that answer to be determined.

Likewise, for CF1 it can be argued that until the science language group’s $W[z]$ gets close enough to $W[z]^+$ to allow scientists definitively to answer the question of whether or not two physically identical people are – or are not – strictly bound to experience a physically identical coffee as having an identical taste, CF1 will be able to escape the conceivability argument.

But differently to RM4, CF1 can actually already be applied to strongly predict an answer to this question where, under CF1, the question can be cast for the general case as follows:

1. Will it be the case – or not – that once our description of the contents of $W[r]$, as we communicate and conceive of these as contents of our $W[z]$, sufficiently approaches completeness, that it will turn out that our description of two physically identical people[r] placed in two physically identical environment[r]s will strictly require that they have identical phenomenal experiences?

In other words: Will our eventually attained and most advanced communicable understanding – i.e. our most advanced theory – of the physical world turn out to be such that it will strictly require that two physically identical people[r] placed in two physically identical environment[r]s are bound to directly experience identical contents in their respective $W[i]$ s?

CF1 strongly predicts that, yes, it will be the case that two such identical people[r] must have identical phenomenal experiences.

¹⁸ In particular see S3 and then S5(iii) in the main text for why, under CF1, such attempts at ‘combination’ would be considered a recidivism.

This is because under CF1, for two people to be ‘physically identical’ they must be physically identical at the noumenal/ontological level of their presence and dynamics as contents of W[r].

This will require that their noumenal bodies – i.e. their B[r]s, which will include their brain[r]s and their overall nervous system[r]s – are identical, and that these contents of W[r] will process information in an identical way. More specifically, it will require that all of the contents of Figure 1 from the main text are identical for each of the two people, and that all of the information processing taking place via changes of state in the contents of W[r] is identical for them.¹⁹

Most importantly, with this it will require that the two people[r]’s D[r]s, and the RBCs that those D[r]s are implementing, are identical, where this in turn will require that when those identical D[r]s and RBCs are fed identical sensory inputs, they will be strictly bound to give an identical mapping of contents of W[r] into identical contents within each person’s respective W[i].²⁰

In other words, if CF1 is sound, it predicts that both people will be strictly bound to have identical phenomenal experiences, and in so doing renders it inconceivable that those people could – in the circumstances described above – have anything other than identical phenomenal experiences.

So for such people, if CF1 is sound, physically identical coffee must taste exactly the same, and there is no way to conceive of how one such person could experience it as tasting any differently to how it would taste to the other.²¹

A4 CF1 defeats the ‘structure and dynamics objection’

Stoljar recognises that RM4 – which he subsequently refers to as Nagelian Monism – is threatened by what he calls the ‘structure and dynamics objection’ (SDO) (3,4), where the SDO can be considered to rest on the following three propositions, as expressed by David Chalmers (6):

“First, physical descriptions of the world characterize the world in terms of structure and dynamics. Second, from truths about structure and dynamics, one can deduce only further truths about structure and dynamics. Third, truths about consciousness are not truths about structure and dynamics.”

Where Chalmers has later defined what he means by ‘structure and dynamics’ as follows (7):

“In formal terms, a structural-dynamic description is one that is equivalent to a Ramsey sentence whose O-terms include at most spatiotemporal expressions, nomic expressions, and mathematical and logical expressions.”

CF1 defeats the SDO in the following way: First, by showing how to describe what we mean by ‘the physical world’ in terms able to accommodate within a single, unified conceptual framework a description of:

- how individual phenomenal experiences of the physical world can arise;
- how scientific descriptions of the physical world can arise; and
- what needs ontologically to exist to underpin both of these occurrences.

Then, by applying this description actually to begin to establish truths about consciousness, as demonstrated in the preceding section in the form of CF1’s strong prediction that physically identical people in physically identical circumstances are strictly bound to have identical phenomenal experiences.²²

¹⁹ Noting that under CF1 information processing can *only* take place as changes of state in contents of W[r], and cannot take place in a W[i] or W[z], though such information processing may be *mapped* by reference to changes in the contents of a W[i] and/or *described* through reference to the contents of a W[z]. The reasoning underlying this is given in §6 of the main text.

²⁰ For background to this assertion see in particular §1 and §6 of the main text.

²¹ In relation to these assertions it is fair to ask: How does the first person perspective, and indeed the ‘consciousness’, that people experience as integral to their having phenomenal experience, fit in with these ideas? The answer is that the line of reasoning applied above can be extended to say that if *all* of the noumenal-level information processing architecture[r], the environment[r], and the other physical circumstance[r]s needed to generate a given first person, conscious phenomenal experience for one person are identical to those of another person, then both those people will be strictly bound have the same first person, conscious phenomenal experience and it becomes inconceivable that they won’t. This result flows directly from the proposal made in CF1 (see §6 main text) that all content and its evolution in any person’s W[i], and all content and its evolution in any person’s W[z], will supervene upon content and its evolution in W[r], where in the case under discussion *all* of the relevant contents of W[r] are being held to be identical. (Importantly, and in exactly the same way, this result can also be applied to the notion of ‘zombies’ – as defined at (9) – to show that, if CF1 is sound, zombies too become inconceivable.)

²² And see §8 of the main text for a discussion of ways that science might, within the aegis of CF1, move towards describing how consciousness and experiences of subjective states are generated.

Does CF1 constitute a purely structural-dynamic description – as defined by Chalmers (6,7) – of ‘the physical world’, or does it go beyond that? It doesn’t seem to.²³ All it seems to do is imply that

- future theories, such as CF1, that describe what we mean when we communicate about, and make theories about, ‘the physical world’; in combination with
- future theories describing what kinds of information processing systems can be designed, and what kinds of ways information can be processed

actually *will* be able to establish truths about consciousness, and about the contents of phenomenal and subjective experiences and of how these can arise.²⁴

So if CF1 is sound, or at least in the ball park, it strongly suggests Chalmers’s third proposition – that truths about consciousness are not truths about structure and dynamics – is false.

In turn, this would allow that Stoljar’s RM4/Nagelian Monism could be a sound philosophical framework out of which more ‘fleshed out’ approaches, such as CF1, may be developed as midwives to eventual emergence of scientific theories able to explain phenomenal and conscious experience.

At the same time, if CF1 is sound it would also suggest that any Nagelian scientific revolution needed to get from Stoljar’s CT-materialism to CT-materialism+ might not be quite as dramatic as that foreshadowed by Nagel himself (8),²⁵ and more likely might be achieved through advances in theory and design of information processing systems than by uncovering new physics.

A position similar to Stoljar’s has been developed by Barbera Montero (2,10). Montero calls this Russellian Physicalism, and shows how it can accrue the key advantages of Russellian Monism while also providing for the possibility that future science may be able to explain phenomenal and conscious experience in purely physicalist terms.

Bearing Stoljar’s and Montero’s work in mind, CF1 may be considered a form of Nagelian Monism, and also a Russellian Physicalism, whilst remaining a supervenience physicalism, as proposed in §6 of the main text.

²³ Where this is to say that the description provided by CF1 of what we mean when we refer to ‘the physical world’ doesn’t seem to go beyond the use of spatiotemporal expressions, nomic expressions, and mathematical and logical expressions.

²⁴ Note here that casting CF1 as a theory able to describe what we mean when we communicate about, and make theories about, what we call ‘the physical world’ – where CF1 is expressed in language and is communicable – implies that CF1 should itself be considered part of the contents of a W[z]. Indeed, given that the main text has had some readership, and has been subject to group discussion on the website <https://www.academia.edu/>, CF1 can be considered already to have been agreed among some members of the English language group to form part of the contents of their W[z] wherein, to be specific, CF1 can be taken to be a *hypothetical* higher order rule set defining, and describing the relationships among, a suite of *hypothetical* ICFs – where, for example, yours or my W[i] can be considered a hypothetical ICF – consistent with the overall concept of rule sets and ICFs proposed in §5(iii) of the main text.

²⁵ As Stoljar notes (4), Nagel writes (8): “The difference between the mental and the physical is far greater than the difference between the electrical and the mechanical. We need entirely new intellectual tools, and it is precisely by reflection on what appears impossible—like the generation of mind out of the recombination of matter—that we will be forced to create such tools. It may be that the eventual result of such exploration will be a new unity that is not reductionist. We and all other creatures with minds seem to be composed of the same materials as everything else in the universe. So any fundamental discoveries we make about how it is that we have mind and what they actually are, will reveal something fundamental about the constituents of the universe as a whole.”

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