

Dewey and Anti-Representationalism

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Introduction

A comment in a letter by John Dewey to Charles Strong, quoted by Louis Menand in *The Metaphysical Club*, has become well known.¹ Dewey wrote in 1905 that "the chief service of pragmatism, as regards epistemology" will be "to give the *coup de grace* to *representationalism*" (Menand 2001, 361). The passage is quoted with approval by Huw Price (2009), drawing on Menand, and in Macarthur and Price (2007) it is used to support a statement of what pragmatism itself should be taken to *be*, a view in which opposition to representationalism is central: PRAGMATISM = LINGUISTIC PRIORITY without REPRESENTATIONALISM.² Whether or not they would agree with the "=", quite a few others would agree that "representationalism" is a philosophical error, and Dewey helps us get past it – Rorty is a further example (1982).

I set out instead from a viewpoint that sees representation as often over-valued and misunderstood, in philosophical contexts, but probably not as something to get *over*. Representationalist ideas are hard to deploy well, but not entirely on the wrong track. I am also an admirer of Dewey, and in general I think of Dewey's views as embodying much progress. But I am not sure this applies to Dewey's thinking about representation. Perhaps this is not a topic he handled as well as others? My aim in this chapter is to

¹ Many thanks to Steven Fesmire, Jessie McCormack, and Jane Sheldon for help with this paper.

² In work written after these papers, Price has moved more towards rehabilitation of representation, as opposed to rejection of it (2013). The "one cheer" for representationalism in Price's 2009 paper is now at least one and a half.

explore Dewey's place in these debates, both to work out what he thought and to see where his thinking leads – where it might have gone wrong, and where it might challenge my own cautious and qualified representationalism. The chapter focuses mostly (not entirely) on Dewey's later work, from the 1920s onwards.

Representation and Representationalism

Was Dewey an anti-representationalist, in the relevant sense? Was the "representationalism" of his letter to Strong the same sort of representationalism that Price, Rorty, and other philosophers now have in mind? If not quite the same (and surely it won't be), is it recognizably close?

The concept of representation is broad in ways that make this hard to answer. On one side, the idea of representation is used in a family of long-running but controversial projects that attempt to describe the goal of thought, and the nature of meaning and truth, in terms of mirroring, copying, correspondence, and the like. But it's also possible to talk about representation in ways that seem harmless and unavoidable. Both in Dewey's day and now, "representation" can be used in a low-key manner to talk about all sorts of symbols and communicative devices, without commitment to any particular theory of how they work. Many objects of everyday public use, such as maps and blueprints, are representations. Almost everyone will accept that these things are real, even if they have an unusual story about how they work. Dewey himself made much of the importance of objects of this kind in social life.

Where communication exists, things in acquiring meaning, thereby acquire representatives, surrogates, signs and implicates, which are infinitely more amenable to management, more permanent and more accommodating, than events in their first estate. (1925/1929, LW 1:132)

Evidently there are things normally called *representations*, and whatever it is they do, or are supposed to do, can naturally be called *representation*. To say this is not to offer much defense of representationalism as a philosophical doctrine. All representations represent (or are supposed to represent) but that is consistent with there being just about any degree of disunity in how they work and how they are used. Representations are all "stand-ins," perhaps, but there are so many ways of being such a thing. The idea of there

being *any* definite role that representations have, any special representational relation of philosophical interest, might be wrong, for all that's on the table so far.

Alternatively, one might say that there *is* something distinctive that representations all do or try to do, but philosophers have offered such bad theories of this phenomenon that there is reason to talk quite differently about the whole business. Standard theories, based on representation as *reproduction of the form* of an object, or copying, might be seen as bad enough and central enough to the philosophical tradition to justify saying that one is an anti-representationalist even while offering a new theory of how these things, representations, work.

Yet another response is that what is wrong with "representationalist" ideas in philosophy is not the idea that representations exist and represent, or even the idea that "copying" is real in some cases; the problem is the fact that representation is given a role in entirely the wrong places. Everyday objects like street maps might be representations, but philosophers and psychologists tend to describe mental states, and other things that work nothing like public representational tools, in the same terms. A range of theories of perception, for example, hold that our contact with objects in the world is always mediated by more direct contact with representations of them.³

We might wonder where Dewey is in his much-quoted letter. Is he only rejecting some theories of perception? In fact, what Dewey says in the letter, and elsewhere, is quite close to anti-representationalism of a form recognizable now. The question is made complicated by some terminological issues; "representation" was not, in the period I'm discussing, Dewey's usual way of marking out a target for criticism. But Dewey's treatment does show continuities with recent criticisms of representationalism. In the next section I'll work through some arguments from Dewey. Before then, I'll ask: what might be a reasonable statement of the ongoing controversy? What sorts of things might representations be, and what role might they be given, such that this *might* be a philosophical mistake, but might not be – so representation might instead be an important and poorly understood phenomenon that we could handle better in the future?

³ Note that some versions of "representative realism" may not see the representatives as representations (Lyons 2017).

A person can have a representationalist view of thought, perception, language, scientific theories, or other things. I'll talk of these as different "epistemic media." It is useful to also have a generic term for a sentence, thought, theory, or other entity within some particular epistemic medium, a term that does not prejudge the question of representationalism for that medium. I'll use the term "epistemic device" for that role. Then:

Representationalism about an epistemic medium is the claim that there is a relation R between epistemic devices in that medium and a subject-matter that these devices are used to deal with,

(1) That is an achievable goal in the production of those epistemic devices, in a given context of interpretation, and is hence a standard of assessment for the devices themselves,

(2) That involves

(2a) Veridicality, in the sense of satisfaction by the subject-matter of a condition specified by the epistemic device, and/or

(2b) Copying, picturing, or some other preservation of structure, between device and subject-matter,

(3) And that has a causal relation to success (theoretical or practical) in the use of these epistemic devices, where this link to success is part of why relation R provides a goal and standard of assessment, as in (1) above.

If there is some relation R with that role, then representationalism is true for the medium in question. In this set-up, "representation" is a success-term; you try to represent what is going on, and you might succeed or fail. If you fail you might *misrepresent*, or perhaps not even manage that. There is such a thing as a *putative* representation, and only some of these succeed. One could also set things up so the target of analysis is the "putative" side. I do it in the way above because it leads to a simpler handling of the relation between conditions (1) and (3).

I'll next say more about what is going on in clause (2). I think that in attempts to say what is distinctive about representation, when understood in more contentious forms,

there have been two themes that can either be taken together as a package, or separated out. One is the idea of shared form – mirroring, mapping, and so on. The other is the idea that when there is representation, there is satisfaction of a condition specified by the representation – satisfaction of a truth-condition, or what I will call here, more generally, a veridicality-condition.⁴ Perhaps the idea of representation does not involve picturing, mapping, or shared form in *any* sense at all; all that is required is (as Aristotle put it) saying of what is, that it is. Then the hard work is done, philosophically, in giving an account of what it is for something to *have* a veridicality condition.⁵

One possibility is that an explanation of what's going on in (2a) goes *via* (2b). By having a certain form (along with other features), a representation specifies a condition that the world is supposed to satisfy (Wittgenstein 1922). But one might also think this is a complete mistake, and there is a different route, for the epistemic devices in question, to the existence of a veridicality condition – a convention, for example.

If you shear (2a) away entirely from (2b), then condition (3) becomes harder to meet. It is harder for the relation in question to have a link to success of the required kind. Shared form between an epistemic device and some part of the world beyond it is a resource that can be exploited, when one has to deal with that part of the world and has that epistemic device available. Recent debates about truth have included a controversy over whether a view that features (2a) with none of (2b) preserves a suitably strong link between truth and success (Horwich 1998). I don't take sides on this matter, though I note that the road to (3) is easier with (2b). I also accept, as implied in the summary above, that you might have a view featuring (2b) without (2a). Those views are rare now, but perhaps some early modern theories of "ideas," such as Locke's view, would qualify.⁶

⁴ In this discussion I set aside imperative contents (commands, etc.) and assume that satisfaction involves an indicative "direction of fit."

⁵ I don't know if he was the first, but Ramsey (1927) was early in seeing that things could be set up this way – a way in which the philosophical work goes not so much into *truth* but into the *having of truth-conditions*. Once you have explained that, explaining truth is easy.

⁶ I am not sure how some representational views of perception relate to the schema above, as it's not always clear that the sensory states are "produced" in the relevant way (see also note 3). For Locke, see Uzgalis (2007). Beliefs, in contrast, do fit the schema.

The word "copy" is often used to express what is problematic in this area – we'll see this below with Dewey. What is it for an epistemic device to copy something? There are two ways of unpacking the idea, ways that – again – may converge but may not. One way is with the idea of replication of form. Another is through the idea of satisfaction: a representation copies the world if it specifies a condition that is in fact satisfied. Again, one might approach the second sense of copying via the first: for some epistemic devices, having a particular form *is* (or is a part of) specifying how the world has to be for the device to be veridical. But this might not be how things are set up. Take a piece of simple declarative language: "the cat is on the mat." One might reasonably say that there is no need to put "shared form" on the table here, no need for it to be anywhere in the story, no matter how attenuated. What matters is that through the conventions of the language, and the form of words used, a condition is specified. If the world is that way, then there is satisfaction of the veridicality condition. There is no picturing, but there is *telling it like it is*. In a sense, there is copying – not via similarity across representation and world, but via specification of a condition, on the representation side, and satisfaction of that condition, on the world's side.

These uncertainties around the idea of "copying" are relevant because Dewey often chose "copy" as his target, as a term that picked out the bad options in this area. The term "correspondence," on the other hand, he often saw as salvageable. "Correspondence" is salvageable because of its helpful ordinary uses – two people might correspond by mail, each responding to the other.⁷ "Copying" he saw as pointing more unambiguously in bad directions. Copying is the mere replication of form, passive and inert.

⁷ Many years later: "my own view takes correspondence in the operational sense it bears in all cases except the unique epistemological case of an alleged relation between a "subject" and an "object"; the meaning, namely, of *answering*, as a key answers to conditions imposed by a lock, or as two correspondents "answer" each other; or, in general, as a reply is an adequate answer to a question or a criticism-; as, in short, a solution answers the requirements of a *problem*" (1941, LW 14:179). See also LW 1:216.

William James (1904) expressed similar attitudes – "correspondence" might be useable in a general account; copying is more problematic, though it may be present in a few cases.

Once the two senses of "copy" are pulled apart, is Dewey only opposed to copying in a sense that includes replication of form? Might he be OK with the other sense (satisfaction of a veridicality condition), when it is made clear? No, I think. I am not sure about this, as the question is tied up with Dewey's views about meaning in *Logic* (1938) and related discussions of language, and I don't understand well enough how those views work. But Dewey is often clear enough in saying that representing things *as they are* is not the business of thought and knowledge. He does oppose such a view, at least sometimes. At other times he seems to say that it's good to represent *some* things or facts as they are, but not the sorts of things supposed in traditional philosophy – I'll discuss all this in the next section.

I realize that my (1)-(3) summary is complicated and set up differently from Dewey's discussions. But this whole area is so vexed that some imposition of order is needed, especially because representationalism about thought can be a very different beast from representationalism about language, and so on. Let's now sort through some strands in Dewey that bear on what he was against, why he was against it, and whether he was right to be.

Strands in Dewey's Treatment

This section discusses three overlapping strands in Dewey's discussions of these issues. As noted above, Dewey often does not treat "representation" as his target, and sees "copy" and to a lesser extent "correspondence" as guiltier parties. (In *The Quest for Certainty*, for example, the word "represent" is only used in the innocent senses discussed above, and "representation" does not occur.) This makes it hard to work out whether and why he might be anti-representationalist in the sense of his contemporary allies. I'll note some the most important of these uncertainties as I go, but won't keep repeating this point every time the issue arises. The first two parts of this section concern broad features of Dewey's view that do bear on representationalism, but in some ways are background to a more focused critique that is discussed in the third subsection.

(i) Representation is a Solution to a Non-Problem Born of Dualism

For Dewey, a family of traditional epistemological concepts are motivated by attempts to solve a non-existent problem, a spurious mystery that has resulted from a breach, gulf, or divide wrongly asserted between mind and nature. Once such a gap is in place, something special seems needed to bridge it. But establishing this divide is *such* an error, and so pervasive, that attempts to give accounts of mind-world relations in familiar philosophical terms are misconceived, and tend to have a non-naturalistic character.

This is a central theme in *Experience and Nature* (1925/1929). Here is a passage from chapter 7, initially about life, but extended from there.

[A]ll schemes of psycho-physical parallelism, traditional theories of truth as correspondence, etc., are really elaborations of the same sort of assumptions as those made by Spencer: assumptions which first make a division where none exists, and then resort to an artifice to restore the connection which has been wilfully destroyed. (1925/1929, LW 1:216)

Here he talks about correspondence, which I take to be a close cousin of representation in this context, and it shows Dewey's view of the false "breach" that has been established.⁸ A better picture, for Dewey, will be one that does not require this kind of bridge between mind and world.

To this I reply: concepts like correspondence have indeed been used in misconceived projects, but that does not furnish much of an argument against them. The fact that a concept has been used in failed projects does not mean it can't have a role in better ones. We have to see how the other projects turn out.

(ii) Representation is Wrongly Seen as Ubiquitous

For Dewey, knowing is one mode of interaction with the world among others that are more basic: "things are objects to be treated, used, acted upon and with, enjoyed and

⁸ "Representation" itself does not appear often in *Experience and Nature*. It is used once to refer to a view Dewey wants to reject (1925, LW 1:119-120) and once to talk about coins – "as money they are substitutes, representations, and surrogates, which embody relationships" (1925/1929, LW 1:137).

endured, even more than things to be known" (1929 edition, LW 1:28).⁹ This quote, along with others like it, is not about representation *per se*, but about knowledge and "cognition." The error in this area he sometimes calls "intellectualism." But the point being made applies especially to views that put weight on the idea of representation itself. In many traditional views, for example, all our contact with objects is mediated by sensory representations of them. We are continually involved in tenuous and questionable inference from the representations to everyday objects. Dewey thinks that once non-epistemic interaction with objects is recognized in its own right, those views are shown to be misguided. We are not inferring when we eat food, put on clothes, and so on. We are interacting with objects in non-epistemic ways.

A link between my first and second strands is seen in the letter to Charles Strong with which I opened, in a passage leading up to his *coup de grâce* comment.

I believe in the transcendent reference of knowledge, but it is a reference not beyond experience, but beyond the Experience qua knowing. Things are experienced by us practically & aesthetically as well as cognitively. Cognition, to my mind, is a harmonious adjusting of the non-cognitional (but nonetheless empirical) things to one another: it is this fact which gives the check on arbitrary subjectivism. Knowledge refers to or corresponds with non-cognitional things, but never copies nor means to copy.¹⁰

Dewey thinks that once we have a better view of what the relations that figure in knowledge are *between*, we will see that representation (copying) is not a good candidate for the crucial relation.

As the letter goes on, Dewey says he is OK with "correspondence" in an everyday sense.

I correspond now with you. I have to adjust my ideas & my 'things'—paper, ink, envelope, address &c— || to you—but no copying or resembling is required or involved.

⁹ See also the 1925 edition of *EN*: "*being and having things in ways other than knowing them, in ways never identical with knowing them, exist, and are preconditions of reflection and knowledge*" (LW 1:377).

¹⁰ The letter is 1905.004.28 (12501): John Dewey to Charles Augustus Strong. In the original Dewey struck-through some added letters in the word "non-cognitional," as follows: "non-cognitiveional"

For Dewey at this stage, knowledge is not a matter of relations that obtain solely between ideas or beliefs. What would now be called a "coherence" view of knowledge is denied. Knowledge involves reference to something outside cognition itself, but this need not be (and is not) reference to something outside of experience, because there is the non-epistemic side of experience. Once the right relata are in place in the epistemological picture, Dewey thinks there is no temptation to appeal to the idea of copying.

Here I have dipped back into an earlier stage in Dewey's work, 1905, rather than the naturalistic period that is the main topic of this paper, and where I feel I understand him better. In any case, Dewey is right that traditional philosophy has been overly intellectualist in its treatment of experience. But misuse of the idea of representation in some traditional views of our dealings with the world does not yet tell strongly against the importance of representation in other philosophical projects.

(iii) Representation is Part of a Bad View of the Function of Thought and Theory

Once we see cognition and knowledge as part of a larger pattern of involvement with the objects we encounter, our *goal* in the cognitive side of life becomes clear and, for Dewey, it is not representation – not copying – but something else. *The Quest for Certainty* (1929) has a lot of material on this theme, though as I noted above, the word "representation" does not appear – the target is copying, conformity, and so on. Here are three passages:

The business of thought is *not* to conform to or reproduce the characters already possessed by objects but to judge them as potentialities of what they become through an indicated operation. (LW 4:110)

Knowledge which is merely a reduplication in ideas of what exists already in the world may afford us the satisfaction of a photograph, but that is all. To form ideas whose worth is to be judged by what exists independently of them is not a function that (even if the test could be applied, which seems impossible) goes on within nature or makes any difference there. (LW 4:110)

Any instrument which is to operate effectively in existence must take account of what exists, from a fountain pen to a self-binding reaper, a locomotive or an airplane. But "taking account of," paying heed to, is something quite different from literal conformity to what is already in being. It is an adaptation of what

previously existed to accomplishment of a purpose. (LW 4:165)

There is a false dichotomy here, one that I think Dewey sometimes skirted, sometimes fell into. You can represent things as they are ("reproduce the characters already possessed") *in order to* change them: first one, then the other, with the first being a means to the second. An especially clear illustration is a military or agonistic one. Recall the saying: *know your enemy*. You want to first know them as they really are, but as a means to harming or destroying them.

The first quote above falls into this. There can be immediate and more eventual "business." One kind of business can be instrumental to other kinds. In the second quote, "merely" provides a hedge, as it may mean: this is *all* that's done. But if so, Dewey's example of a photograph is not very apt, as photographs can be instrumentally useful, and often need to be accurate if they are to be useful (consider an aerial photo of enemy forces).

In the third quote, Dewey wants to contrast "taking account of" something with "conformity to what is already in being." "Taking account," he says, is a way of dealing with what previously exists, in order to accomplish a purpose. Yes, but "literal conformity" can be a good *route to* the adaptation or transformation of things to achieve such a purpose.

The possibility that Dewey seems to neglect is the possibility of an instrumental role for representation of a kind that involves copying or conformity. Maybe the "business" of some thought *is* to "conform to or reproduce the characters already possessed by objects," and *then* to make changes. Is this possible? If not, why not? Might there be *some* of this? Dewey is rather wholesale in his rejections, especially in *The Quest for Certainty*.

Here is yet another example, in a 1915 letter discussed by Fesmire (2015, 106). Dewey says in the letter: "Philosophical errors come from taking propositional knowledge as referring to the world or 'corresponding' to it or 'representing' or 'presenting' it in some other way than as being direction for the performance of acts." That also seems an overstatement. You can represent now, and direct change later. No?

This I think is the main problem with Dewey's claims in this area. One can also press further. It sometimes seems that Dewey himself can't really avoid endorsing the view I describe above, once he starts getting into details. In this passage in *The Quest for Certainty*, he is talking about experiment and science:

Among these operations [of experimentation] should be included, of course, those which give a *permanent register of what is observed* and the instrumentalities of exact measurement by means of which changes are correlated with one another (1929, LW 4:70, italics added).¹¹

See also, from *Logic*:

Just as a complex undertaking in any field demands prepared *materials* as well as prepared instrumentalities, so propositions which describe conjunctions of existential materials – ultimately reducible to space-time connections – are required in effective inquiry. (1938, LW 12:139)

In both these cases, Dewey might reply that this is not "representation" in a bad sense, but only in a mild sense he generally endorses. Perhaps, but how can we tell? Why isn't this a recognition of an important role for representation of things *as they are*, rather than "direction for the performance of acts"? (That phrase "direction for the performance of acts" is from the 1915 letter quoted above.) It might be only very specific things, for Dewey, that we want to record and register (events observed, in the *Quest for Certainty* quote; conjunctions, in the quote from *Logic*) but this is still registration of what there is.¹²

Dewey does not seem to be keeping consistent track of what he wants to deny. There may, however, be a reason he can't simply accept the view I outlined above, the

¹¹ Thanks to Lauren Alpert for bringing this quote and its importance to my attention.

¹² Another example is seen in Dewey's account of what language does for us, and how this takes us beyond what other animals can do: "Organic biological activities end in overt actions, whose consequences are irretrievable. When an activity and its consequences can be rehearsed by representation in symbolic terms, there is no such final commitment. If the representation of the final consequence is of unwelcome quality, overt activity may be foregone, or the way of acting be replanned in such a way as to avoid the undesired outcome" (1938, LW 12:57).

one in which copying has an instrumental role.¹³ Here is a quote from *Human Nature and Conduct* (1922).

Perception of things as they are is but a stage in the process of making them different. They have already begun to be different in being known, for by that fact they enter into a different context, a context of foresight and judgment of better and worse. (MW 14:206)

Applying this idea back to the *Quest for Certainty* quote above, perhaps when we seek to record things, to make a "permanent register of what is observed," our making of that register already achieves some transformation of the things recorded. If so, this would block a view in which copying and conformity have an instrumental role. Even if we try to copy the way things are or were, when we do this, we transform them. If Dewey was genuinely and generally committed to something like this, it would be a significant move back towards idealism. Perhaps he did intend such a move, but if so, one would expect to find, in the later work, a clearer and more forthright statement of the argument. I have only found partial versions and hints, like the one above. Perhaps there is a detailed statement of an argument like this that I do not know of. I have never been sure what to make of that quote from *Human Nature and Conduct*.

I move on now to a close look at a particular discussion in Dewey's later work that bears on all these issues, and does not fall into the false dichotomy that I've criticized in this section.

Maps and Operations

In the context of the critical line of argument I began just above, ordinary cartographic maps are an important case. They are instruments for guiding behavior *and* they are representations that can be assessed for accuracy – a truth-like property. They also lend themselves to analogies with belief and knowledge. Frank Ramsey said in 1929 that he saw beliefs as *maps by which we steer*, a comparison since echoed by Armstrong (1973) and others.

¹³ This issue is discussed in detail in Godfrey-Smith (2016).

Dewey's *Logic* includes a discussion of maps that bears on these issues. Dewey writes there about maps because he wants to use them to help with a more difficult case, mathematical knowledge. But these pages include a fairly detailed grappling with the relation between accuracy and usefulness in maps.

Dewey first says that if you want to understand a map's relation to its territory, the right approach is with the idea of an *isomorphism*. We need to think not just about relations between map and terrain, but relations between different parts of the map, and relations between different parts of the terrain.

That the isomorphism in question is one of relations is evident in the fact that it does not exist between a point marked on the map and an element of the country mapped, town, river, mountain, but between the relations sustained by the former and the relations sustained by the latter. Relations of up-down in the map are isomorphic with relations of north-south in the country, and those of right-left with those of east-west of the country. Similarly, relations of distance and direction of the map are isomorphic with those of the country, not literal copies of actual existences. (1938, LW 12:397)

Something like this is probably the right approach, at this stage in the story. The view Dewey is sketching could be expressed more exactly by saying that a cartographic map is accurate when there is a *structure-preserving mapping*, in the mathematical sense, between elements of the map and elements of the terrain. I'll make this more precise in a footnote (and won't use the words "mapping" or "map" in their mathematical senses below). Dewey's own examples above are clear enough for us to move on to the next stage.¹⁴ He says:

¹⁴ A structure-preserving mapping, in this sense, is a function (an input-output rule) between a domain (a set of elements of a cartographic map, for example) and a codomain (elements of a territory) such that for each element of the domain the mapping assigns one element of the codomain, and vice versa, and for each relation r between elements in the domain, the mapping assigns a relation r^* between elements in the codomain, such that two elements of the domain are related by r if and only if their corresponding elements in the codomain are related by r^* . That is, if the mapping assigns x_1 to y_1 and x_2 to y_2 , and assigns relation r_1 to r^*_1 , then $r_1(x_1, x_2)$ if and only if $r^*_1(y_1, y_2)$.

This is roughly what a lot of philosophical discussions mean by "isomorphism." The requirement that an isomorphism exist may be strong or weak, as a consequence of what is required for relations themselves to exist. A problem with this concept, applied to cartographic

[t]he isomorphic relation which subsists between the relations of the map and those of the country, or between *patterns* of relation, should be interpreted in a functional and operational sense.² (1938, LW 12:398)

What does this mean? "Functional" opposed to what? The footnote he appends to that sentence does not help:

[Footnote 2]. In other words, the issue concerns the *meaning* of isomorphic patterns, not their existence or importance.

He makes clear what he means, and does so at some length.

The relations of the map are similar (in the technical sense of that word) to those of the country because both are *instituted by one and the same set of operations*.

...

[This] is readily seen by noting the fact that both are products of execution of certain operations that may be summed up in the word *surveying*. The elements of the country are certainly existentially connected with one another. But as far as knowledge is concerned, as far as any propositions about these connections can be made, they are wholly indeterminate until the country is surveyed. When, and as far as, the country is surveyed, a map is brought into being. Then, of course, there is a common pattern of relations in the map and in the country as mapped. Any errors that result in the *map* from inadequacy in the operations of surveying will also be found in propositions about the relations of the *country*. The doctrine of structural (in the sense of nonoperational) similarity of the

maps, is that it does not naturally accommodate the fact that any cartographic map is selective and partial; many elements in the territory and many relations between them will not be represented in any useable cartographic map. In response, one might see the map as isomorphic to some sort of abstraction from the territory, but it probably makes more sense instead to use a "morphism" concept that allows the structure on one side to be richer than the structure on the other (monomorphism? – this takes the discussion into more serious mathematics), and also to allow some role for approximation.

Many cartographic maps also use representational tools that are not naturally understood in terms of discrete elements figuring in a structure-preserving mapping, such as continuous gradations of color shading. Representational devices that do not involve structure-preservation can also be freely added to maps – arbitrary icons, labels, and the like – along with the more pictorial elements. See Camp (in press) for discussion of the distinctive representational strategies seen in cartographic maps.

relations of the map and those of the country is the product of taking maps that have in fact been perfected through performance of regulated operations of surveying in isolation from the operations by which the map was constructed. It illustrates the fallacy that always occurs when propositions are interpreted without reference to the means by which they are grounded.

Given the map as a pattern of relations, the "relation" of the... pattern to that of the country mapped is functional. It is constituted through the intermediation of the *further* operations it directs – whose consequences, moreover, provide the means by which the validity of the map is tested. The map is instrumental to such operations as traveling, laying out routes for journeys, following movements of goods and persons. (1938, LW 12:398-399)¹⁵

I am not sure how to read some of this. I think Dewey means that it is an *error* to say that there is an isomorphism between map and territory, with respect to the relations between elements present on each side, unless you think of the relations present in the territory as *dependent on acts of surveying*. In the last part of the passage Dewey adds another idea that I find more obscure. There is a relation between map and country, he says, with "relation" given scare-quotes, that is dependent on ("constituted through") a role for the "further" (additional or subsequent) operations that the map use involves.

Dewey may mean this: any relevant "similarity" between map and territory is dependent on the acts of surveying, and what makes the map a map *of* a particular place – this now being a reference-like feature of the map, as opposed to an accuracy-like feature – is the way it is used in subsequent operations such as traveling. Alternatively, he might mean that the accuracy of the map is also dependent on the map's subsequent use.

If he means the latter, it would have consequences for representationalism, as I described that project earlier. As I set it out, a central representationalist claim is that behavioral success can (often) be causally explained in terms of the use of accurate or veridical representations. If Dewey thinks, as he might, that the *fact that the map is accurate* is constitutively dependent on the fact that it was used in particular successful ways, by travelers and the like, then accuracy is not a cause of successful use in the way representationalism requires. I am not sure that Dewey means to say this; he might mean only that the accuracy-like features of the map are dependent on the upstream processes of surveying – certainly he does say that – and I am not sure what this claim would imply

¹⁵ The ellipsis here is a repeated "the" in the original.

for representationalist explanations of success in term of accuracy. Then, at least, the features that make the map an accurate map of a given terrain would be in place prior to and independently of any episodes of successful use of the map by travelers. One reason I suspect that Dewey *does* mean his discussion to tell against representationalism of the sort I have in mind is something he says shortly after:

When the directive function of the map is left out of consideration it must be said that no map is "true," not only because of the special "distortions" mentioned but because in any case a map represents a spherical upon a plane surface. On the functional interpretation, any map in any system is "true" (that is, valid) if its operational use produces the consequences that are intended to be served by the map. (1938, LW 12:399)

The "truth" (or, better, *accuracy*) of a map is constitutively dependent on the fact of its successful use. Accuracy is not a pre-existing feature (a relation to the terrain) that can give rise to successful use.

If this is what Dewey means, I think it is probably wrong about maps. In accurate cartographic maps, there is a relation between map and territory, which need not be isomorphism (not every bit of territory is mapped, etc.), but is something akin to it, that involves a preservation of structure across the two domains. As Dewey said, north-south as a relation between elements of the territory may correspond to up-down, and so on (see note 14). You have to know how to *read* the map for it to be useful. You have to know the interpretation rule to be applied, the one that gets you from elements of the map to elements of a territory (and also tells you which elements of the map are to be interpreted at all). You also need to know which bits of territory to use the map as a guide to. (This might be folded into the first reading rule, though it need not be.) But once the navigation task has been identified, some fairly generic reading-rules can be applied to a great range of maps, and those maps will help you get around, in a non-accidental way, only if there is a relationship between map and territory of the right sort, a relation that exists prior to any navigational use of this particular map.

I am not sure how much of this Dewey was meaning to deny. This passage from the long quote above seems important: "The elements of the country are... existentially connected with one another. But as far as knowledge is concerned, as far as any propositions about these connections can be made, they are *wholly indeterminate* until the

country is surveyed" (emphasis added). I take this to say that independently of acts of surveying, there *are no* determinate relations between elements of the terrain of a sort that are relevant to "knowledge." I think this means that the fact that you can know what a piece of countryside is like, by looking at a map, is itself dependent on acts of surveying. In response, it's true that maps don't spring into existence without surveying or something similar (passive map-making by high-tech means, such as Google Earth, might press on this a little). But the fact that you can learn about a piece of countryside by looking at a map, and by making use of an isomorphism (or similar relation) between the two does not depend on *there having been* a surveyor. Dewey seems to say that without a surveyor, there is an indeterminacy in the relations between aspects of the landscape. I think that is also wrong. He seems to think, wrongly, that a particular set of actions brings into being *both* the relations in the map and the relations in the terrain: "The relations of the map are similar... to those of the country because both are *instituted by one and the same set of operations*." This means that the map would not have the relations it has between its parts were it not for surveying – a point that seems OK, give or take the passive cases – but also, the country would not have the relations it has between *its* parts were it not for surveying. There I say no.

An idea Dewey may be heading towards can be better captured by talking about *selectivity*. Among all the relations between parts of the country, only some are mapped. (That is: only some are mapped *at all*; not just: only some are mapped in a particular way. See note 14.) As I said, I am not sure what Dewey means to say at some points through here. What might be helpful is to next outline more explicitly what I think Dewey *should* have said about maps.

What he might have said instead is something like this: there are rules of map-making and rules of map-reading, in the service of navigation. The rules are different, but complementary. The first set of rules are linked to surveying, and related methods. These rules or procedures give rise to objects of a certain kind, objects which are *made to be read*. For any map-making rule there is a map-reading rule that is complementary to it (or a range of such rules). Map-making and map-reading rules come in complementary, interlocking pairs. Here is an example of such a pair:

Map-Makers: if Stowe is north of Waitsfield, put the "Stowe" mark higher on the page than the "Waitsfield" mark.

Map-Readers: if the "Stowe" mark is higher on the page than the "Waitsfield" mark, infer that Stowe is north of Waitsfield.

That is an easy case, one that uses Dewey's own example (north-south and above-below). Of course, this rule is not usually restricted to Stowe and Waitsfield; it is applied to all places in the territory – all of Vermont, as it might be. Many other pairs of rules are possible. *North-of* might map to *left-of*, or something weirder, by means of an unusual projection. The map-making rule can be very odd indeed, and all will go well as long as the map-reading rule takes it into account. In a context in which complementary rules of map-making and map-reading are in place, maps will be produced that have particular kinds of structure-preserving relationships to the territories being mapped, and map-users will be able to exploit those relations in projects of navigation. Maps will then be produced with relations to their terrain that fit the schema introduced earlier for representationalism about an epistemic medium. Specifically, when co-adapted rules of making and interpretation are in place, we have:

A relation R between maps and territories,

(M1) That is an achievable goal in the production of maps, in a given context of interpretation, and a standard of assessment for maps themselves,

(M2) That involves

(M2a) Veridicality, in the sense of satisfaction by the territory of a condition specified by the map, and

(M2b) Preservation of structure between map and territory,

(M3) And that has a causal relation to success (theoretical or practical) in the use of maps, where this link to success is part of why relation R provides a goal and standard of assessment, as in (M1) above.

I don't know whether Dewey's talk of "operations" is compatible with this. It would be fine with me if his treatment was a gesture in the right direction, even if wrong in many

details or incomplete. I think, though, that Dewey was instead trying to *head off* a view like the one above – a view that may not have existed in worked-out form in the 1930s, but whose outlines he saw, and that he wanted to deny. This I infer from his saying things against "The doctrine of structural (in the sense of nonoperational) similarity of the relations of the map and those of the country." He wanted to steer us *away* from anything like that.¹⁶

I am still not sure that Dewey was wrong, or entirely wrong, to do this. I'll finish this section by taking my positive discussion of maps a little further, putting some additional pressure on the representationalist view of maps and related devices, in a way Dewey might have endorsed.

In my general representationalist schema early in the paper, and also in the version applied to maps just above, I set things up so that *R*, the representation relation, is put in place (or not) by a producer, and is either present or absent in the epistemic device itself. But there are two sides to sign use: production and interpretation. Perhaps most obviously in linguistic cases, producing a representation with particular properties requires a language community of the right sort to be in place. A producer *per se* cannot determine such things. In my schema, I accommodated this by talking about *R* as an achievable goal of device producers "in a given context of interpretation." But it might be objected that this underestimates the importance of interpretation rules. One argument along these lines is as follows.

In the representationalist schema above, *R* is a property of epistemic devices themselves and a standard of assessment for them (this map is accurate; that one is not). But *any* object of sufficient complexity can be used as a map of any given piece of terrain, if the right interpretation rule is applied to it. Imagine a large abstract pointillist painting, with no two dots of exactly the same color. Such an image can be used as a map of Vermont, or of any other part of the US, down to a certain level of grain. We first pair up points on the painting with points on the terrain – we do so arbitrarily, without any preservation of neighbor relations in the territory. Then the relations between the unique colors of dots on the painting can be used to recapture spatial relations on the terrain,

¹⁶ I'd be interested to learn who he was thinking of when Dewey talked of this alternative, the "doctrine" of structural similarity between the relations in the map and in the country.

when interpreted with a suitable rule. *If* the color of this point on the painting is C_1 and the color of this (perhaps distant) one is C_2 , *then* Stowe is 19 miles north-north-east of Waitsfield. After the painting has been used as a map of Vermont, it could then be used to navigate Nevada, with the aid of a different rule. A map we call "accurate" could be replaced with a great many other objects, and we could do as well, if we had the right interpretation rule in place. So the idea that the *map* gets credit for accuracy, where that is a success-linked property, and the idea that the producer puts that feature in place, now both seem wrong. A better view of the situation seems to be one in which *map plus rule* get the credit. In its shifting credit away from a pre-existing relation of similarity between map and terrain, and towards the rule of interpretation, this might be seen as a Deweyan objection.

I think there may well be some truth in this line of criticism, though I don't think it is yet a major threat to representationalism. In reply, we can note first that in any case of successful navigation through use of a map, there will be a complete story that includes (among other things), (i) the production of the map, (ii) the intrinsic properties of the map (its array of marks), and (iii) the interpretation rule applied by the navigator. Once the map and interpretation rule are in place, successful navigation can result, regardless of where the map came from; the producer plays no role once the map exists. Further, we can concede that if the navigator was given any of a large range of other ordinary objects instead of the map, together with a suitable interpretation rule, he or she could do just as well. It's not the map *as opposed to other objects* (including other maps) that suffices to get the navigator home. The proximate cause of success is map plus interpretation rule. You could pick many other objects (with enough complexity) instead, and in each case there will be some rule that allows you to navigate the terrain with it.

However, "there will be some rule..." is a very weak claim. Most such rules – rules that turn ordinary objects into useable maps of a given terrain – are very complicated, and could only be used (if they can be *used* in a practical way at all) with very few maps, and can only be used in restricted ways. We see this in the example with the abstract painting above. The rule I gave for inferring the relations between Stowe and Waitsfield is a tiny fragment of what would be needed to get very far through Vermont – we'd need a long list of these conditionals, a list that could also only be used with this

particular painting. We could use these rules to extract particular bits of information about distances and directions, but could not use the painting to visually determine shortcuts, and the like. In effect, a list of conditionals of this kind can turn a painting into a "lookup table" from which information can be extracted, and a cartographic map is more than that. Ordinary cartographic maps are worth making and paying money for because they enable people to navigate using rules that are simple, applicable to many maps, easily specified in advance, and allow more than the piecemeal extraction of facts. If we are restricted to rules of that kind, only a specific kind of producer can generate a map with the right intrinsic properties to enable successful navigation. This producer must make use of a survey, or something similar.

This puts the producer, and co-adapted rules of map-making and interpretation, back into the picture. And once we confine ourselves to practically useable interpretation rules that are not tailored, like an elaborate piece of encryption, to one specific case, there is much more constraint on which objects might be used as a map of a particular territory. Unusual projections are still possible, and the world really is, in a sense, full of very unobvious maps – things would be navigationally useful if we knew how to use them. But the notion of *accuracy* as a property of some ordinary cartographic maps, and a property that has links to successful navigation, has not yet collapsed.

Still, once we walk through all the steps in a full account of successful navigation of this kind, noting the roles of producer, map, and interpreter, there is uncertainty in my mind about whether some everyday habits of description of these practices, and representationalist philosophical commentaries, tend to misallocate credit in ways that are relevant here.¹⁷

¹⁷ My approach in this section has been influenced by the recent development of "sender-receiver" models of sign use. These originate in Lewis (1969), and were revived and updated especially by Skyrms (2010). See also Millikan (1984), Shea (2014), and Godfrey-Smith (2017).

My discussion of what Dewey should have said about maps draws specifically on Blackburn (2013), who discusses mapping in connection with arguments against representationalism in recent pragmatism. I (1996) and Kitcher (2002) also put pressure on pragmatism's anti-correspondence tendencies using cartographic maps, but both those discussions did not make use of a good account of how maps work, one based on sender-receiver or maker-reader complementarity. And none of us picked up Dewey's 1938 discussion, with its mix of good

In the last couple of sections I've described what look to me like errors in some of Dewey's treatments of these topics. These errors undermine some of his arguments against representationalist positions. But as the discussion in the paragraphs immediately above indicates, I don't think this debate is over. Dewey's falling into false dichotomies was a mistake, but there are many gaps in the story I've sketched, and the history of this area is one in which the nature and role of representation continually appears more straightforward than it really is. This has been a problem both for advocates of representationalism, and critics such as Dewey.

Looking Ahead

Dewey came across a philosophical landscape littered with unsuccessful representationalist views, sometimes facile in their treatment of what representation involves, and often seeing it in the most unlikely places.¹⁸ Part of his response was to treat representation-like things in a functionalist way, attending to their context of use. This is tied to his insistence that much of our interaction with objects is not epistemic at all. Dewey went too far, I think, in his rejections of representationalist views, especially in his rejection of the idea that part of what we want to do, even in practical and transformative projects, is understand and represent things as they are, perhaps as a preliminary to changing them.

Dewey's emphasis on sign use, on "operations," was certainly a good move. More recent views in this area are based explicitly around the pairs of behaviors on each "side" of a sign or representation – behaviors of production and display, on one side, and behaviors of interpretation and application, on the other. In frameworks of this kind, the

and less good moves; for this I am indebted to Fesmire (2015). Fesmire's book includes a detailed discussion of Dewey's account of maps, and he also applies the concept of mapping as a broader metaphilosophical tool.

¹⁸ Hylton (1990) includes a discussion of the ontologies of early analytic philosophers, and others around that time, that furnishes good examples, though some of the views are so strange that it is hard to work out how they related to the idea of representation: "Moore's metaphysics has a number of consequences which may, at first sight, strike the reader as counter-intuitive. Perhaps the most extreme of these is his claim that ordinary things, which exist in space and time, are to be identified with propositions" (Hylton 1990, 138).

status of features like content, veridicality, and correspondence – considered as features of the mediating devices themselves – raises associated with unresolved questions. Formal notions of similarity seem applicable to some cases, including maps and possibly some internal states of organisms (Shea 2014), but plenty of cases are not like this, and I allowed that a genuine representationalism could avoid the notion of preservation of structure completely. Such a road makes it harder to hang onto the link between accuracy and success that is especially useful in making a representationalist view into something substantive, making veridicality more than just an honorific label.

A point that Rorty made here is useful:

The great fallacy of the tradition, the pragmatists tell us, is to think that the metaphors of vision, correspondence, mapping, picturing and representation which apply to small routine assertions will apply to large and debatable ones. (1980, 724).

I disagree with some of this passage, but agree with its main point. I think it's not really true that the pragmatists, especially Dewey, tended to concede that "metaphors of vision," etc., do apply to the small, routine cases.¹⁹ Further, a representationalist treatment need not suppose that these concepts always do apply. Rorty seems to think that making sense of picturing is *the* road to representationalism, and thinks that this does work for mundane cases. ("When we rap out routine undeliberated reports like "This is water", "That's red", "That's ugly", "That's immoral", our short categorical sentences can easily be thought of as pictures, or as symbols which fit together to make a map.")²⁰ Instead, there may be ways for signs to acquire veridicality conditions that do not involve picturing. But Rorty is right that even *if* some simple cases, some epistemic media, can be

¹⁹ James perhaps conceded something a bit like this, in his discussion of our idea of a clock in Chapter 6 of *Pragmatism*. Dewey, as discussed above, argued that notions of mapping do apply to some important cases (mathematics) but only after critical reinterpretation.

²⁰ A bit more of the Rorty passage: "Given a language and a view of what the world is like, one can, to be sure, pair off bits of the language with bits of what one takes the world to be in such a way that the sentences one believes true have internal structures isomorphic to relations between things in the world. When we rap out routine undeliberated reports like "This is water", "That's red", "That's ugly", "That's immoral", our short categorical sentences can easily be thought of as pictures, or as symbols which fit together to make a map" (Rorty 1980, 721-22).

handled in representationalist terms, that does not amount to a wholesale vindication of representationalism, one that helps us make sense of large-scale scientific, political, or philosophical theories and debates.

I think there is no way round the fact that Dewey mishandled some of these questions, especially in his introduction of false dichotomies. The literature contains both excesses of representationalism, seeing representation as philosophical panacea, and excesses in denials. The landscape here is only slowly coming into view. A future account of these matters might be one that recognizes many different kinds of *involvement* of epistemic devices with the parts of the world they are directed on, where some of this involvement has a representational character. This character may be found to various degrees: a non-trivial notion of mapping or structure-preservation may be more or less salient; veridicality may play more or less of the role representationalism envisages. Illusions of explanation may come from describing cases with only a tenuously representational character as if they were more paradigmatically representational. And as Rorty presses, it may be that the most important areas are those where a representationalist view is most difficult to sustain.

Works Cited

Citations of John Dewey's works are to the thirty-seven-volume critical edition published by Southern Illinois University Press under the editorship of Jo Ann Boydston. In-text citations give the original publication date, series abbreviation, followed by volume number and page number. For example: (1934, LW 10:12) is page 12 of *Art as Experience*, which is published as volume 10 of *The Later Works*.

Series abbreviations for *The Collected Works*

EW *The Early Works* (1882–98)

MW *The Middle Works* (1899–1924)

LW *The Later Works* (1925–53)

Citations of Dewey's correspondence are to *The Correspondence of John Dewey, 1871-2007*, published by the IntelLex Corporation under the editorship of Larry Hickman. Citations give the date, reference number for the letter, and author followed by recipient. For example: 1973.02.13 (22053): Herbert W. Schneider to H. S. Thayer.

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