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Does Artistic Value Pose a Special Problem for Time Travel Theories?

James W. McAllister

Michael Dummett and Storrs McCall have claimed that time travel scenarios in which an artist copies an artwork from a reproduction of it that has been sent from the future introduce a causal loop of a new kind: one involving artistic value. They have suggested that this poses a hitherto unacknowledged challenge to time travel theories. I argue that their conclusion depends on some unstated essentialist assumptions about metaphysics of art and the status of representations. By relaxing these assumptions, I show that Dummett and McCall's scenarios contain no causal loop involving artistic value, and thus pose no new problem for time travel theories.

1. Causal Loops in Time Travel

In this article, I consider a recent suggestion that scenarios in which an artist creates an artwork by copying a reproduction of it that has been sent from the future pose a new challenge to time travel theories. According to this suggestion, the challenge arises from the fact that there is no explanation for the origin of the artwork's artistic value within the scenario. If this were so, then this challenge to time travel theories would come on top of well-known problems posed by scenarios in which concrete objects or items of information are sent back in time. By appealing to relationist theories of art and a projectivist account of artistic value, I argue that artistic value does not go back in time and thus that the proposed scenarios pose no new difficulty for time travel theories.

Let us begin by reviewing some conceptual problems of time travel. In a simple backwards time travel scenario, an item is sent from time t_4 to an earlier time t_1 . As many writers have noted, this scenario seems to open the way to paradoxes. These paradoxes fall into two main groups. Consistency paradoxes involve attempts to change history, such as by killing one's own younger self, which lead to causal inconsistencies. Consistency paradoxes will not be at issue here. Bootstrap paradoxes, by contrast, involve self-reinforcing causal loops, such as one in which a causes b , b causes c , and c causes a .¹ In a bootstrap paradox, while it is easy to explain every individual link of the causal chain, the existence of the causal loop as a whole seems inexplicable.

Writers on time travel have hitherto discussed causal loops of two main kinds in bootstrap paradoxes. The first is the object loop, in which the item sent back in time is a concrete object. In a simple example, a billiard ball sent back in time from t_4 to t_1 endures until t_4 , thereby completing a causal loop. The challenge is then to clarify the cause of the

1 Richard Hanley, 'No End in Sight: Causal Loops in Philosophy, Physics and Fiction', *Synthese* 141 (2004), 123–152.

billiard ball's existence: it seems that the history of the universe contains no event that brings the billiard ball into being.

The second kind is the information loop, in which the item sent back is a quantity of information. David Deutsch offered the 'unproved theorem' scenario as an example:

A time traveler goes into the past and reveals the proof of an important theorem to the mathematician who had later been recognized as the first to prove it. The mathematician goes on to publish the proof, which is then read by the time traveler before setting out. Who thought of the proof? No one, since each of the two participants obtained that valuable information from the other.²

In this scenario, because the information travels round the loop, it is difficult to explain the coming into being of the proof.

The two examples above illustrate also a further distinction, that between closed and open causal loops. In a closed causal loop, *a*, *b*, and *c* are the sole causes of one another. The loop involving the enduring billiard ball is of this kind. In an open causal loop, by contrast, some external causes that are not part of the loop also have an influence. Deutsch's unproved theorem scenario is of the latter kind. Completing the loop in this scenario requires not only sending the information back in time, but also an outside causal influence that ensures that the mathematician goes on to publish the proof for the time traveller to read. Most writers regard closed causal loops as more problematic than open loops, since they are causally isolated from the rest of the universe.

To these time travel scenarios, Michael Dummett and Storrs McCall have added a variant in which reproductions of artworks are sent back in time. They have presented their scenario as one in which artistic value travels round a causal loop in the same way information does in Deutsch's scenario, and have raised the question how the artworks' artistic value could be explained. McCall has characterized this as an 'insoluble problem'.³

I interpret Dummett and McCall as conjecturing a causal loop of a new kind in time travel scenarios, additional to the previously recognized object and information loops: I dub this 'value loop'. In what follows, drawing on current understandings of artistic value in aesthetics and philosophy of art, I analyse Dummett and McCall's scenario anew to show that no value loop occurs: artistic value does not behave in the way concrete objects and information behave in the previously recognized time travel scenarios. I thus conclude that Dummett and McCall's scenario poses no problem for time travel theories beyond the problems that were previously acknowledged.

2 David Deutsch, 'Quantum Mechanics near Closed Timelike Lines', *Physical Review D* 44 (1991), 3197–3217, at 3201.

3 Storrs McCall, 'An Insoluble Problem', *Analysis* 70 (2010), 647–648.

2. The Value Loop Conjecture

Dummett's scenario has a contemporary 'fifth-rate' artist receive a visit from an art critic of a following era, who tells him that he will come to be regarded as 'by far the greatest artist of the twentieth century':

When the artist proudly produces his paintings for inspection, the critic's face falls, and he says, in an embarrassed manner, that the artist cannot yet have struck the inspired vein in which he painted his (subsequently) celebrated masterpieces, and produces a portfolio of reproductions that he has brought with him.⁴

Once the critic has returned to his own time, the artist spends the rest of his career creating the artworks that will win him fame from the reproductions that the critic has brought.

Whereas Dummett's wording is not completely univocal, his emphasis on the artist's progression from fifth rate to the greatest artist of his time suggests that he saw the problem as that of explaining the origin of the artistic value of the artworks, on which an artist's reputation rests.

Schematically, the artist creates an artwork at time t_2 . At t_3 , this artwork is found to have artistic value. At t_4 , using time travel, the art critic takes a reproduction of this artwork back to time t_1 , prior to the moment at which the artist creates the artwork. The artist, having seen the reproduction at t_1 , copies it at t_2 to create the artwork.

Storrs McCall, citing Dummett, re-proposed the scenario in sharper terms. McCall emphasized even more than Dummett did the problem of pinpointing the instant and agent of the artistic creativity that gave rise to the artwork. Holding that 'the aesthetic value of a work of art . . . lies in the artistic creativity that produces it', McCall posed the following problem: 'What is incomprehensible is . . . who or what creates the works that future generations value? Where is the artistic creativity to be found?'.⁵ McCall assumed that the act of artistic creativity could not have taken place either at t_1 , since all that happened then was that a reproduction of an artwork appeared in the world, or at t_2 , since all that happened then was that the artist copied the reproduction. Yet by t_3 the world was richer by an amount of artistic value.

McCall suggested that accounting for what I have dubbed a value loop such as this was even more difficult than accounting for the object and information loops that previous time travel scenarios had highlighted: 'Unlike the traditional "paradoxes of time travel", this problem has no solution.'⁶ It is not immediately clear why McCall thought that it would be more difficult to account for a value loop than for an object or information loop, but it seems reasonable to assume that value loops, if they occurred, would pose an additional conceptual problem that time travel theories would have to solve.

4 Michael Dummett, 'Causal Loops', in Raymond Flood and Michael Lockwood (eds), *The Nature of Time* (Oxford: Blackwell, 1986), 135–169, at 155.

5 McCall, 'An Insoluble Problem', 647, 648.

6 *Ibid.*, 648.

Some works of science fiction have explored the scenario that Dummett and McCall described. For example, in *Back to the Future*, a 1985 film by Robert Zemeckis and Bob Gale, Marty McFly travels back thirty years to 1955.⁷ He guides a band through a rendition of a song, 'Johnny B. Goode', giving the band members and the audience their first encounter with rock music. The bandleader calls Chuck Berry, the musician, by telephone. He says, 'You know that new sound you been looking for? Well, listen to this!', and holds the handset up. In 1958, Berry would write and release 'Johnny B. Goode', which would become one of the most valued modern musical compositions.

Some film critics balked at the implication that an African-American music pioneer learned the sound of rock music from a white teenager, citing the real-life tendency of white musicians to appropriate black popular music elements.⁸ The film seems to forestall that criticism, however. Introducing the song, McFly indicates that it was created long before the 1980s from where he had travelled: 'this is an oldie . . . where I come from.' That elicits McCall's puzzle: where does the artistic value in this scenario originate?

Whereas Dummett and McCall's scenario has attracted comment from various quarters, its novelty has not always come to the fore. Reviewing recent time travel debates, for example, Chris Smeenk and Christian Wüthrich told the story of the 'unpainted painting', reminiscent of Deutsch's 'unproved theorem'. Whereas it seems to draw on Dummett and McCall's scenario, the most important element is lacking:

One day, an older version of myself knocks on my door, presenting a wonderful painting to me. I keep the tableau until I have saved enough money to be able to afford a time machine. I then use the time machine to travel back in time to revisit my younger self, taking the painting along. I ring the doorbell of my earlier apartment, and deliver the painting to my younger self. Who has painted the picture? It seems as if nobody did since there is no cause of the painting.⁹

Smeenk and Wüthrich described here nothing more than an object loop: sending the concrete object consisting of the painted canvas back in time and letting it endure to complete the causal loop is no different from sending back a billiard ball. They did not discuss the origin of the artistic value that the painting might possess.

Similarly, Kristie Miller objected to McCall's characterising his time travel scenario as 'incomprehensible', arguing that it was no more inexplicable than any other causal loop. Miller's response, however, took no account of artistic value or other aspects peculiar to artworks: 'On the face of it, there is a perfectly good explanation of [the scenario], since we can provide a full causal history of original and copy. . . . Had original been different, copy would have been different. Had copy been different, then original would have been

7 *Back to the Future* (Film), Dir. Robert Zemeckis (USA: Universal Pictures, 1985); Craig Bourne and Emily Caddick Bourne, *Time in Fiction* (Oxford: OUP, 2016), 129–135.

8 Marc Priewe, 'The Power of Conformity: Music, Sound, and Vision in *Back to the Future*', *European Journal of American Studies* 12 (2017), <<http://journals.openedition.org/ejas/12409>> accessed 22 October 2019.

9 Chris Smeenk and Christian Wüthrich, 'Time Travel and Time Machines', in Craig Callender (ed.), *The Oxford Handbook of Philosophy of Time* (Oxford: OUP, 2011), 577–630, at 581.

different.¹⁰ This is to interpret McCall's scenario as containing nothing more than an information loop.

Other discussions have done more justice to the role of value in McCall's scenario. Craig Bourne and Emily Caddick Bourne proposed four possible responses.¹¹ Their response 4 sought to assuage feelings of puzzlement at McCall's scenario by denying that any element of it undermined the judgement that the paintings had aesthetic value. This response hinged partly on the fact that the artist copied reproductions of his own work, rather than the work of someone else, which would normally lead us to deny creativity to the result. Their response 2 added the option of saying that the paintings' aesthetic value required no creativity. These two responses amount to conceding that, in my terms, McCall's scenario contains a value loop.

Bourne and Caddick Bourne's other two responses queried McCall's stipulation that the paintings had aesthetic value and his claim that the scenario did not involve changing the past. Whereas denying these conditions would rule out that a value loop takes place in McCall's scenario, these responses have two limitations: they are not strictly speaking an answer to McCall's original puzzle, and they leave open the possibility of value loops in general. In the next section I take a different line, arguing that no value loops occur.

3. How Artistic Value Originates

If Dummett and McCall's problem seems insoluble, as McCall claimed, this is because they tacitly made two interrelated essentialist assumptions in metaphysics of art. First, they assumed that, if an artwork consists of a certain artefact, the act of manufacturing the artefact is identical to the act of creating the artwork. Second, they assumed that, at the moment the artefact of which the artwork consists comes into being, it already possesses the artistic value that makes it a valued artwork. We can solve the problem if we relax these two assumptions and allow that an artefact can acquire both the status of an artwork and artistic value at times later than the artefact's moment of manufacture.

Support for relaxing the first assumption comes from relational theories of art, such as the institutional theory of George Dickie and others.¹² Whereas some approaches have attempted to demarcate art from non-art by appeal to intrinsic properties of artworks, such as their formal and aesthetic properties, relational theories have suggested that artworks are artefacts that stand in certain relations to other objects, and especially in historical, social, and institutional relations to what Dickie called the 'artworld'. As Dickie put it,

10 Kristie Miller, 'Is some Backwards Time Travel Inexplicable?', *American Philosophical Quarterly* 54 (2017), 131–140, at 133.

11 Craig Bourne and Emily Caddick Bourne, 'The Art of Time Travel: An "Insoluble" Problem Solved', *Manuscripto* 39 (2016), no. 4, 305–313; Storrs McCall, 'Note on "The Art of Time Travel: An Insoluble Problem Solved"', *Manuscripto* 40 (2017), no. 1, 279–280; Emily Caddick Bourne and Craig Bourne, 'The Art of Time Travel: A Bigger Picture', *Manuscripto* 40 (2017), no. 1, 281–287.

12 George Dickie, *Art and the Aesthetic: An Institutional Analysis* (Ithaca, NY: Cornell University Press, 1974); Stephen Davies, *Definitions of Art* (Ithaca, NY: Cornell University Press, 1991).

an artwork is an artefact that ‘has had conferred upon it the status of candidate for appreciation by some person or persons acting on behalf of a certain social institution (the artworld).’¹³ This means roughly that an artefact comes to acquire the status of artwork by being treated as such.

Support for relaxing the second assumption comes from projectivism about value: the thesis that value is not found in the world, but is instead projected into objects by observers as a reflection of their responses, such as judgements and emotions, to objects. J. L. Mackie has advanced projectivism about moral value and John McDowell projectivism about aesthetic value.¹⁴ It is easy to extend this stance to artistic value. This view opens the possibility that an artefact may come to acquire artistic value by virtue of the changing responses of observers to it.

If we adopt a relational theory of art and projectivism about artistic value, then we can endorse the following principles. The manufacture of the artefact of which an artwork consists is not identical with the coming into existence of the artwork, since the latter depends on the artefact’s coming to be treated as an artwork. Similarly, it need not be the case that an artefact possesses artistic value when it is first manufactured, since it acquires artistic value as a consequence of projection of value into it by observers.

These twin approaches offer, among other things, a natural way of regarding readymade art. Readymade objects lack the status of artworks and artistic value when they are manufactured, but can acquire this status and this value later: a bottle rack becomes Marcel Duchamp’s *Egouttoir* (1914), for example.¹⁵

From the vantage point of a relational theory of art and projectivism about artistic value, we can reinterpret the sequence of events in McCall’s scenario as follows. We retrace the ordinary chronological sequence of times from t_1 to t_4 . First, a physical object enters the world at t_1 ; this object is new to the world, in the sense that it has no causal precursors at times prior to t_1 . Whereas we will later come to call this object ‘reproduction of the artwork’, it cannot be said that this object at t_1 either is an artwork or has artistic value: it is merely a physical object. The artist copies this object at t_2 to manufacture an artefact. There is no need to assume that even this artefact either is an artwork or has artistic value at the moment of its manufacture at t_2 . The artefact manufactured by the artist acquires both the status of artwork and artistic value at t_3 through various aesthetic and institutional processes. By t_4 , the world is richer by a valued artwork. The art critic opts to make a reproduction of this artwork and send it back in time to t_1 .

The suggestion that the reproduction of the artwork lacks the latter’s artistic value is supported by Arthur C. Danto’s argument from indiscernible counterparts: there may be two objects that are indiscernible from one another such that one has artistic value while

13 Dickie, *Art and the Aesthetic*, 34.

14 J. L. Mackie, *Ethics: Inventing Right and Wrong* (Harmondsworth: Penguin, 1977); John McDowell, ‘Aesthetic Value, Objectivity, and the Fabric of the World’, in Eva Schaper (ed.), *Pleasure, Preference and Value: Studies in Philosophical Aesthetics* (Cambridge: Cambridge University Press, 1983), 1–16.

15 Martha Buskirk, *The Contingent Object of Contemporary Art* (Cambridge, MA: MIT Press, 2003), 64.

the other does not.¹⁶ A reproduction may therefore replicate the physical properties of an original and its beauty, thus offering observers the same perceptual experience, but lack the original's artistic value.

There are thus two acts of human creation in McCall's story. The first corresponds to the artist's making of the artefact at t_2 by copying the object that came into the world at t_1 . The second act of creation corresponds to the investing of that artefact with the status of artwork and with artistic value, which occurs at t_3 by dint of the efforts of the artist, observers of the artefact, and other members of the artworld.

Let us consider how this interpretation applies to events in *Back to the Future*. McFly, the time traveller, creates in 1955 a new physical object, consisting of a one-off sequence of sounds with the duration of two to three minutes. This entity in 1955 is not an artwork, nor does it have artistic value: if no one had responded to it, it would have had no relation to the artworld and no value would have been projected into it. Chuck Berry copies this physical object to produce artefacts in 1958 in the form of a written score and a sound recording, titled 'Johnny B. Goode'. There is no need to assume that even these artefacts have the status of artworks or artistic value at the instant of their manufacture: they acquire this status and value in the period to follow through various aesthetic and institutional processes. By 1985, the world is richer by a valued musical composition. McFly takes a representation of this artwork stored in his memory back to 1955, and then produces what is at that time merely a new physical object.

On reflection, McCall's questions, 'What is incomprehensible is ... who or what creates the works that future generations value? Where is the artistic creativity to be found?', are ambiguous. The artist created the 'works' in the sense of artefacts at t_2 . These artefacts acquired both the status of artwork and artistic value, in virtue of which future generations come to value them, in a creative effort by the artist and others at t_3 .

4. From Artwork to Reproduction and Back

Dummett and McCall's scenario does not require any concrete object to travel round a causal loop: the artist might as well destroy the reproductions as soon as he has created the artworks. However, the scenario involves an information loop, in which information is transferred from the artworks to the reproductions and vice versa. Dummett sees in that a further puzzle:

The existence of the reproduction is to be explained, in the usual way, by reference to the existence of the originals; and the existence of the originals can likewise be explained by reference to that of the reproductions from which they were copied: but there is no reason whatever for their joint existence—no reason why there should be any paintings and reproductions like that.¹⁷

16 Arthur C. Danto, *The Transfiguration of the Commonplace: A Philosophy of Art* (Cambridge, MA: Harvard University Press, 1981), 33–39.

17 Dummett, 'Causal Loops', 155.

Dummett's wording suggests that this is a closed causal loop: one in which all causal factors are the sole causes of one another, with no role for any external causes that are not part of the loop. Miller too thinks that it is possible to construct a closed loop involving artistic value: 'Since, plausibly, the existence and properties of copy, artist, and time traveler at their various locations in the loop are in part caused by events outside the loop, it is plausible that [McCall's scenario] is an open loop. But let us set that aside, since we can surely come up with a similar example in which the loop is closed.'¹⁸

In fact, the causal loop in Dummett and McCall's scenario is necessarily open, like that in Deutsch's unproved theorem scenario. Both the act of going from artwork to reproduction and, even more pertinently, that of going from reproduction to artwork are not purely mechanical processes: they depend on external factors involving effort and expertise that are not contained within the causal loop.

First, going from artwork to reproduction. Dummett assumed that the object that comes into the world at t_1 has intrinsically the status of a reproduction of something. However, on intentional accounts of representation, such as that of Nelson Goodman, an object attains the status of a representation of something not wholly on the strength of structural similarity, but partly also in virtue of the intention of users to regard the object as a representation of something.¹⁹ This intention amounts to a causal factor external to the causal loop.

Second, going from reproduction to artwork. The artist's copying the reproduction to produce the artwork requires two creative acts: the first to create the artefact that will become the artwork, and the second to attribute the status of artwork to that artefact.

The influence of these external acts reduces the degree of mystery of the causal loop. On further reflection, Dummett and McCall's scenario is no more puzzling than one in which a flower is sent back from time t_4 to t_1 , an artist paints a portrait of it at t_2 , and an observer at t_4 arranges for a flower like the one in the painting to be sent back to t_1 .

In conclusion, if we adopt a relational theory of art and projectivism about artistic value, we can see that there is a disanalogy between concrete objects and artistic value in time travel scenarios. A billiard ball that is sent back in time and endures may describe a causal loop, leading to a puzzle when we realise that the history of the universe contains no event that brought the billiard ball into existence. By contrast, artistic value describes no causal loop, irrespective of any item that we send back in time. Instead, an artefact acquires artistic value as a result of effort by the artist and others. In any time travel scenario involving artistic value, as a consequence, the history of the universe contains a set of human acts that bring that value into the world. Whereas time travel scenarios may contain object and information loops, therefore, they do not contain value loops.

18 Miller, 'Is some Backwards Time Travel Inexplicable?', 134.

19 Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols*, 2nd edn (Indianapolis, IN: Hackett, 1976).

Clearly, relational theories of art, projectivism about artistic value, and intentional accounts of representation will stand or fall primarily according to the outcome of debates in aesthetics and philosophy of art. We might, however, judge that these theories gain some minor additional support from the fact that they enable a solution of Dummett and McCall's problem, whereas this remains insoluble on alternative, essentialist views of art and of representation. This exercise further illustrates the benefit of considering insights from philosophy of art when problems in other areas of philosophy involve aspects of art.²⁰

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