

# Quaint *Paint*

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## 1. Data

Kalle Schmutz-Rotzlöff was a painter by profession.<sup>1</sup> One of the things he painted was an impressive brick bridge leading across the little stream behind his house. Hence the following sentence clearly expresses a truth:

(1) Schmutz-Rotzlöff  *painted a brick bridge.*

Mark Pitchstone was an occasional painter. One of the things he painted was a large brick bridge spanning a ravishing ravine in the Alps. Hence the following sentence clearly expresses a truth:

(2) Pitchstone  *painted a brick bridge.*

Lime Edlon was a highly talented amateur painter. One of the things he painted was a huge brick bridge spanning a gorgeous gorge in the Andes. Hence the following sentence clearly expresses a truth:

(3) Edlon  *painted a brick bridge.*

Hecky is a strange character, a mixture between an elephant and a squirrel, but with distinctly human features, including the gifts of speaking (English) and painting, and some supernatural powers. He once painted an enormous brick bridge leading halfway across a canyon near where his archenemy lives. Hence the following sentence clearly expresses a truth:

(4) Hecky  *painted a brick bridge.*

Four parallel lives, it would seem, yet there is a difference. To be sure, the bridges mentioned above are of different sizes, colours, shapes, etc. – but that is not the point. The point is that, although (1) – (4) are clearly true, the following sentence is not *clearly* true:

(5)  *Schmutz-Rotzlöff, Pitchstone, Edlon, and Hecky each painted a brick bridge.*

(5) is not true because there are four distinct ways to paint a (brick) bridge, and our protagonists were only good at one of them each, and at different ones. More precisely, there are four different senses, or readings, of the phrase *paint[ed] a brick bridge*, expressing four distinct conditions, and each of the four characters mentioned above clearly satisfies one of them without clearly satisfying any of the other ones. Whenever Schmutz-Rotzlöff painted a bridge, he stepped on it and applied green, brown, and sometimes red paint to its surface; in other words Schmutz-Rotzlöff *covered bridges with paint*. Whenever Pitchstone painted a bridge, he watched it from a convenient distance and applied paint of various colours to the surface of a canvas, which by the end of the day he had turned into a picture of the bridge (though, as we will see in a second, not always an entirely accurate one); in other words, Pitchstone *portrayed bridges*. Whenever Edlon painted a bridge, he did something similar, except that there was no bridge before his eyes, and if there was one before his mental field of vision, it did not derive from memory; in other words, there was no bridge that Edlon painted a picture of, though he *produced* quite a few *bridge-paintings*.<sup>2</sup> Whenever Hecky paints a bridge, there is no bridge around before he starts doing so, but there is one when he is finished – ready to be stepped on by himself (to cross a river, say) or by his archenemy (to fall down an abyss, because the bridge stopped halfway); in other words, Hecky *produces bridges by painting*.

Given all this, (5) is at best a stale joke, and certainly not true, literally speaking. In fact, no coordination of the form (6) is literally true, where  $x$  and  $y$  are any two of the characters mentioned above.

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<sup>1</sup> All persons mentioned in this note are fictional, unless the first occurrence of their name is immediately followed by a parenthetical date.

<sup>2</sup> ... as Goodman (1969) could have put it.

(6) *x and y each painted a brick bridge.*

If  $x = \text{Schmutz-Rotzlöff}$ , then clearly none of the other three qualifies as  $y$ , because none of them ever covered a brick bridge with paint, which is the only sense in which Schmutz-Rotzlöff painted a brick bridge. If  $x = \text{Pitchstone}$ , then  $y$  cannot be Edlon. For there was no brick bridge that Edlon portrayed, and there was no brick-bridge painting that Pitchstone produced, having (mis-)represented his motif as made of wood; in other words, Pitchstone portrayed a brick-built bridge as wooden, thus producing a wood-bridge-painting, which is clearly distinct from a brick-bridge-painting. (Both are bridge-paintings, though, and hence Pitchstone and Edlon did paint a bridge each, and they did both paint bridge-paintings, but that is not what (6) is about.) How about  $x = \text{Hecky}$ , then? Certainly none of the remaining two  $y$  candidates produced a bridge by painting, and Hecky certainly did not portray a bridge, just like he did not cover one with paint: there simply was nothing to be portrayed or covered. But did he not, in some sense, produce a brick-bridge-painting, just like  $y = \text{Edlon}$ ? No: the bridge Hecky produced by his magic painting is a solid brick affair and does not represent anything.

The fact that the instances of (6) are not (clearly) true even though (1)–(4) (clearly) are, indicates the presence of lexical ambiguity.<sup>3</sup> (1) – (4) turn out to be surface strings each corresponding to (at least) four different underlying sentences the true ones of which, (1') – (4'), involve different main verbs that all happen to be spelt the same, viz. *paint*:

- (1') *Schmutz-Rotzlöff painted<sub>1</sub> a brick bridge.*
- (2') *Pitchstone painted<sub>2</sub> a brick bridge.*
- (3') *Edlon painted<sub>3</sub> a brick bridge.*
- (4') *Hecky painted<sub>4</sub> a brick bridge.*

## 2. Analysis

The ambiguity under scrutiny is not purely accidental. There are obvious connections between the readings. In other words, the surface form *paint* is polysemous, not homonymous. It is even possible to reduce the four readings to one underlying predicate PAINTE and thereby to each other. Depending on theoretical issues that are orthogonal to the present topic, PAINTE may express a property of events or actions, a relation between events and protagonists, or a relation between individuals. For definiteness and simplicity, I will assume the latter and moreover take the predicate to be binary, relating an individual  $x$  with an individual  $y$  just in case  $x$  covers  $y$ 's (relevant) surface with paint. As a first (and for the present purposes: last) step to analysis we may then assign (1') the following logical translation:

(7)  $(\exists y) [\text{BRICKBRIDGE} (y) \ \& \ \text{PAINTE} (sr, y)]$

The predicate PAINTE obviously features in the analysis of (4') too. What Hecky did was paint a bridge in the sense that both Pitchstone and Edlon painted pictures: he produced a bridge by painting. Hence *paint<sub>4</sub>* is a verb of creation and as such susceptible to a treatment à la Dowty (1979):

(8)  $\text{CAUSE} ((\exists z) \text{PAINTE} (h, z), \text{BECOME} ((\exists y) \text{BRICKBRIDGE} (y)))$

One may wonder what precisely could satisfy the matrix of (8). Is it a portion of air? Is it some fictional gas that becomes solid once you apply paint to it? Is it some sort of intentional object that materialized at Hecky's will? I take it that all these possibilities are consistent with ordinary comic-book fiction; and we do not have to choose among them here. To be sure, under less exotic circumstances, the object  $z$  could be a piece of canvass and the result  $y$  would be a painting. One may also wonder whether, by necessity, whatever instantiates  $z$  is made a bridge itself, in which case (8') would be a more appropriate analysis:

<sup>3</sup> Other ambiguity tests would have done just as well. For instance, under slightly different (fictional) circumstances, one may wonder how many brick bridges Otto Maier painted, if he whitewashed one, portrayed another one, etc.

(8')  $(\exists z)$  CAUSE (PAINT (h, z), BECOME (BRICKBRIDGE (z)))

(8') is easily transformed into a dynamic analysis that makes the object of (4') accessible to cross-sentential anaphora. Since it is not clear how this could be achieved on the basis of (8), (8') appears to be superior. But I prefer to leave the matter open here.<sup>4</sup>

(8) and (8') respectively give rise to the compositional analyses (9) and (9') of *paint*<sub>4</sub>:

(9)  $\lambda \wp. \lambda x.$  CAUSE (( $\exists z$ ) PAINT (x, z), BECOME ( $\wp(\lambda y. y = z)$ ))

(9')  $\lambda \wp. \lambda x.$  ( $\exists z$ ) CAUSE (PAINT (x, z), BECOME ( $\wp(\lambda y. y = z)$ ))

According to (9) or (9'), *paint*<sub>4</sub> is referentially opaque in the sense that a quantifier in its object position does not take the predicate in its scope. Where there is opacity, there usually is transparency.<sup>5</sup> One may therefore expect sentences with *paint*<sub>4</sub> to be ambiguous between a *de dicto*, or unspecific, reading and a *de re*, or specific, construal. As far as I can see, such readings are unavailable, not only with *paint*<sub>4</sub> but with verbs of creation in general. This is already a puzzle, but not quite the one that I am after here.

As indicated above, there is an obvious connection between *paint*<sub>4</sub> on the one hand and *paint*<sub>2</sub> and *paint*<sub>3</sub> on the other. In *painting*<sub>2</sub> a brick bridge, Pitchstone created something by painting, viz. a portrait of that bridge; in other words, he *paint*<sub>4</sub>d a portrait of a bridge. Similarly, in *painting*<sub>3</sub> a brick bridge, Edlon created something by painting, viz. a brick-bridge-picture; in other words, he *paint*<sub>4</sub>d a brick-bridge-picture. What makes Edlon's picture a brick-bridge-picture as opposed to, say, a unicorn-picture? This is a tricky question and I will partly sidestep it by making the minimal assumption that a brick-bridge-picture has some content and that this content is suitably related to the content of the noun *brick bridge* (or, equivalently, to the content of the existentially quantified determiner phrase *a brick bridge*) by some relation of REPRESENTation.<sup>6</sup> The following alternative analyses of (3') are then straightforward:

(10)  $(\exists z)$  CAUSE (PAINT (e, z), BECOME (( $\exists y$ ) REPRESENT (y, BRICKBRIDGE)))

(10')  $(\exists z)$  [CAUSE (PAINT (e, z), BECOME (REPRESENT (z, BRICKBRIDGE)))]

(10) and (10') respectively correspond to the construals (9) and (9') of painting as an act of creation, of course. In fact, rather than assuming *paint*<sub>3</sub> to be lexically analyzed as in (11) or (11'), it does not seem entirely off the mark to locate the source of the ambiguity in the noun [*brick*] *bridge*, thereby reducing (10) and (10') to (9) and (9'), respectively – as indicated in (12) and (12'), where *paint*<sub>3</sub> *a bridge* is re-analyzed as the result of combining *paint*<sub>4</sub> with an indefinite object based on a 'representational' reading of *brick bridge*<sub>representation</sub>:

(11)  $\lambda \wp. \lambda x.$  [( $\exists z$ ) CAUSE (PAINT (x, z), BECOME (( $\exists y$ ) REPRESENT \*(y,  $\wp$ )))]

(11')  $\lambda \wp. \lambda x.$  ( $\exists z$ ) [CAUSE (PAINT (x, z), BECOME (REPRESENT \*(z,  $\wp$ )))]

(12) *paint*<sub>4</sub>'([a [*brick bridge*]<sub>representation</sub>]) by (9):

$\equiv$  [ $\lambda \wp. \lambda x.$  ( $\exists z$ ) CAUSE (PAINT (x, z), BECOME ( $\wp(\lambda y. y = z)$ ))]

( $\lambda P. (\exists z)$  [REPRESENT (z, BRICKBRIDGE) & P(y)])  $\equiv$  (11)

<sup>4</sup> See von Stechow (2001) for extensive discussion of alternative analyses of creation verbs; I believe that von Stechow (p.c., ca. 1991) once proposed something along the lines of (9'). Note that the formulations (9) and (9') rest on a quantificational treatment of opacity along the lines of Montague (1970).

<sup>5</sup> There may be lexical exceptions, like the German verb *schulden* [owe], which, though opaque, seems to lack a literal specific reading, at least in my dialect. See Zimmermann (2005: 256ff.) for pertinent discussion relating to English *owe*.

<sup>6</sup> In particular, I will leave open the question of whether this relation can be defined in terms of a propositional attitude. See Parsons (1997) and Forbes (to appear: section 4.4) for divergent views on this interesting point. – The difference between the bare noun and the determiner phrase does not matter as long as we confine ourselves to indefinite objects; cf. Partee (1987). In the following, REPRESENT relates individuals to properties, and REPRESENT\* is the corresponding type-shifted relation, which may be defined as  $\lambda \wp. \lambda y.$  REPRESENT (y,  $\lambda u. \wp(\lambda v. u = v)$ ).

$$\begin{aligned}
(12) \quad & \text{paint}_4'([a [\textit{brick bridge}]_{\text{representation}}]) && \text{by (9')}: \\
\equiv & [\lambda \wp. \lambda x. (\exists z) \text{CAUSE} (\text{PAINT} (x, z), \text{BECOME} (\wp (\lambda y. y = z)))] \\
& (\lambda P. (\exists z) [\text{REPRESENT} (z, \text{BRICKBRIDGE}) \& P(y)]) && \equiv (11')
\end{aligned}$$

Maybe the ambiguity of [*brick*] bridge can be seen as a case of regular polysemy or coercion,<sup>7</sup> in which case (12) and (12') are clearly to be preferred over the lexical analyses (11) and (11'). Whichever turns out to be correct, *paint*<sub>3</sub> will be opaque. And where there is opacity, there usually is transparency. Indeed, it seems obvious that *paint*<sub>2</sub> is precisely the *de re* variant of *paint*<sub>3</sub>: what distinguishes Edlon's brick-bridge-painting from Pitchstones painting of a brick bridge is that the latter is directed at a particular object, whereas the former concerns the mere notion of a brick bridge; and this difference appears to be parallel to the distinction between, say, a relational wish concerning a particular boat and the mere desire for 'relief from slooplessness'.<sup>8</sup>

### 3. Problem

But, I contend, appearances are deceiving: the sense in which *paint*<sub>2</sub> is relational does not quite match the sense in which the objects of belief-desire-based attitudes may be construed *de rebus*. For the latter is rather adequately captured by a standard analysis according to which some suitable way in which the *res* is given to the attitude subject is (part of) the *de dicto* content of the attitude object.<sup>9</sup> Applying this strategy to the case at hand leads to an analysis of (2') along the following (alternative) lines:

$$(13) \quad (\exists r) (\exists P) [\text{BRICKBRIDGE} (r) \& \text{GIVEN} (r, p, P) \& \\
\quad \quad \quad (\exists z) \text{CAUSE} (\text{PAINT} (p, z), \text{BECOME} ((\exists y) \text{REPRESENT} (y, P)))]$$

$$(13') \quad (\exists r) (\exists P) [\text{BRICKBRIDGE} (r) \& \text{GIVEN} (r, p, P) \& \\
\quad \quad \quad \text{CAUSE} (\text{PAINT} (p, z), \text{BECOME} ((\exists y) \text{REPRESENT} (z, P)))]$$

I trust the reader to supply the exact derivations. Whatever the details, the GIVENness of a bridge *r* to Pitchstone *qua* any property *P* implies that *r* is the only object that has *P*. Accordingly, (13) and (13') can only be true if some such identifying *P* is the content of a picture painted by Pitchstone. But when Pitchstone painted<sub>2</sub> a bridge, this was not always the case. In fact, when he portrayed the Alpine bridge, there were actually two brick bridges around, qualitatively identical (for all he could tell), and at about the same distance. He only painted one of them, to be sure, although (as far as we or he could tell) the picture would not have looked different had he chosen to portray the other one. One may object that the bridge he did *paint*<sub>2</sub> was the only one that was presented to *him* in a certain way, e.g. from a certain angle. But this angle was not the perspective from which the picture was seen and thus did not enter its representational content. So although Pitchstone painted<sub>2</sub> a brick bridge, on a standard *de re* construal there was no bridge that he painted<sub>3</sub>. Hence either *paint*<sub>2</sub> is not the *de re* version of *paint*<sub>3</sub> – which poses the additional problem why there is none; or else it is, but there is a gap in the standard account of *de re* reports. This is puzzling.<sup>10</sup>

### References

<sup>7</sup> The representational reading of *bridge* also shows up in modifications like *gingerbread bridge*; cf. Partee (to appear).  
<sup>8</sup> ... as Quine (1956: 177) aptly and famously put it.  
<sup>9</sup> Kaplan (1968). The standard analysis of *de re* reports is known to suffer from various defects, which however are independent of the point I want to make here; cf. Lewis (1979: 538ff.) and Aloni (2001: 48ff.) for discussion and amendments.  
<sup>10</sup> In preparing this note, I profited from discussions with Christian Plunze and comments by Renate Musan.

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