1. Introduction

Calvin and Kevin, friends, and as sensible as boys of ten can be expected to be, are dropped by Kevin’s father at the entrance of Disneyland. He makes them promise to be back at the entrance by 5:30, when he will come to collect them, and gives each twenty dollars for the afternoon. The lads stick together and spend their money on exactly the same rides. By 5:20 they are back at the appointed spot, tired and hungry. Both remember exactly which rides they took and what each ride cost.

Near the place where they are waiting for Kevin’s father there is a hamburger stand. Hamburgers, a sign informs the potential costumer, can be had at $1.50 apiece. Both boys feel very much like a hamburger. But only one of them, Kevin, goes up to the stand to order one. When he wants to pay for the hamburger that the attendant hands him, he finds to his mortification that he has only 60¢ left and thus cannot pay for it. Calvin, who wants a

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1 This paper consists mostly of points and ideas that can be found in earlier work, most of it unpublished and some of it dating back to 1980, in which I have made various attempts to come to grips with the problems touched upon below. I have included some of the relevant papers and manuscripts in the bibliography. In recent years a number of papers by other authors have appeared, most notably by Nicholas Asher (1986, 1987) and Henk Zeevat (1989), which contain many of the proposals I will be making here too. As the similarities with their papers are numerous and obvious, it would be both onerous and tedious to point them out individually at every turn. My indebtedness to these authors should be evident however to anyone familiar with their work. I record it here once and for all.

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hamburger just as badly, spares himself this embarrassment. He never goes
up to the stand, for, unlike Kevin, he knows he has only 60¢ left.

There is nothing very remarkable about this story. Calvin and Kevin
behave differently, but the difference is readily explained: Calvin is aware
of something of which Kevin is, at the crucial moment, not aware. And
the thing of which he is aware keeps Calvin from doing that which gets
Kevin into trouble. Both act rationally, and their desires coincide. That,
nevertheless, there is no coincidence of action is because the boys differ in
what, at the crucial time, they are conscious of.

Indeed, Kevin’s behavior is no less rational than that of his friend. The
only point on which one might fault him is that he could have realized
he had only 60¢ left, either by checking his pocket, or—and that is the
consideration that matters here—by recalling what he paid for each of the
rides he took and doing the necessary sums. For, as we assumed, both he and
Calvin know exactly what they spent when and where, and a sensible boy
of ten can, if he puts his mind to it, surely figure from this what is left of the
amount with which he set out.

To the unbiased observer this account of the difference in their behavior
would seem to be perfectly straightforward: One of the boys has the belief
that he doesn’t have the money to pay for a hamburger, and the other
lacks such a belief. Surely a decent theory of belief should be able to make
sense of such an explanation and of the role belief plays in it. A theory
according to which the doxastic difference between Kevin and Calvin, which
is needed in the explanation of their behaviour, does not really exist is surely
too much at variance with our apparent use of the concept of belief to be
acceptable!

Theories that analyze belief as a relation between the believer and a set of
possible worlds (the set of possible worlds in which any sentence expressing
the belief is true) are unacceptable in just this way. To be precise, if we
attribute to Kevin the complex belief (call it $B_1$) that he started out with $20,
spent $x$ on his first ride, $y$ on the second and so on, and identify this belief
with the set of all possible worlds in which all this is true, then this
set of possible worlds is exactly the same as the one in which all these things
are true and in which, moreover, he has only 60¢ remaining (let us refer to
this second proposition as $B_2$). For the conjuncts that make up $B_1$ logically
entail that Kevin has only 60¢ remaining and so this last proposition is true
in just those worlds which also verify $B_1$. Thus, if Kevin does have the belief
$B_1$, he also has the belief $B_2$. For, according to the possible worlds account,
$B_2$ is the very same belief as $B_1$. But $B_2$ is (mutatis mutandis) just the belief
which, as I have told the story, kept the sagacious Calvin from going up to the