

## A NEW RIDDLE OF EXISTENCE

Graeme Forbes  
Tulane University

### 1 The riddle.

The Eiffel Tower is a structure in wrought iron weighing 7,000 tonnes. It is composed of 18,000 precision-manufactured pieces fastened together by 2,500,000 rivets. Its foundations, opposite the Palais de Chaillot, were completed on June 30 1887, erection began on July 1 and 250 men working eight hours a day in winter and thirteen hours in summer took 21 months to assemble it. On March 31 1889 Gustave Eiffel climbed its 1710 steps to the top, an ascent of 300.65 meters (in 1957, 20.1 meters of construction were added).<sup>1</sup>

There is a series of thought experiments which involve imagining possible circumstances in which The Eiffel Tower does not exist, circumstances which satisfy increasingly demanding constraints. The first experiment of the series is simply to imagine possible circumstances in which The Eiffel Tower does not exist and no further constraints are to be satisfied. Successive thought experiments involve adding constraints on what the situation lacking The Eiffel Tower has to be like, and the experiments become progressively more difficult to perform. For example, suppose we are asked to imagine possible circumstances in which The Eiffel Tower does not exist, but Paris still contains a famous landmark tower. Then we can imagine some tower made of different material, with a quite different design, conceived and constructed by someone other than Gustave Eiffel. Surely such a tower would not be The Eiffel Tower? But as we successively restrict the respects in which an alternative course of events lacking The Eiffel Tower may depart from the actual course of events, it becomes controversial whether the imagined course of events really does omit The Eiffel Tower. For example, if we are asked to imagine an Eiffel Tower-less course of events in which Eiffel erects a tower composed of the same 18,000 precision-

manufactured pieces held together by the same 2,500,000 rivets, it is not clear how to proceed. Perhaps we should imagine those pieces put together in a different way, at a different time, in a different part of Paris? There is a borderline area here where it could reasonably be disputed whether or not The Eiffel Tower would exist under the given conditions.

This process has a limit: eventually we pass through the borderline area and arrive at thought experiments which ask for the impossible. *Prima facie*, the following is an example of this: you are invited to imagine possible circumstances in which The Eiffel Tower does not exist but in which exactly the same events occur up to and including 30 June 1887, and on July 1 the same 250 men assemble the same 18,000 precision-manufactured pieces in precisely the same way as they actually did, using precisely the same 2,500,000 rivets in precisely the same positions, under the direction of Gustave Eiffel. You are also to imagine that during the construction period and thereafter, there is to be no further difference between the actual course of events and the imagined possible course of events. Yet The Eiffel Tower is not to exist.

Why does it seem impossible that any course of events satisfying all but the last of these conditions should also satisfy the last one? Elsewhere I have claimed that the impossibility lies in the *bareness* or *ungroundedness* of the non-identity between the actual tower and the tower which is constructed in the purportedly possible course of events: a tower which differs in no respect, whether intrinsic or relational, from the actual tower, *is* the actual tower.<sup>2</sup> The moral of the example, then, appears to be that if ordinary objects *x* and *y* in different possible courses of events are numerically distinct, there must be some respect in which these courses of events differ *over and above* one's containing *x* where the other contains *y*. I emphasize that I speak here only of *ordinary* objects. It is crucial to the example that it concerns things which are made out of, or grow out of, other things (nothing I say below is applicable to 'atomic' objects). For objects such as these, then, my claim is that numerical difference across worlds must be *grounded* in some further difference between the two possible courses of events, a difference which provides the ontological grounds of the difference between the objects which come into existence in the two courses of events.