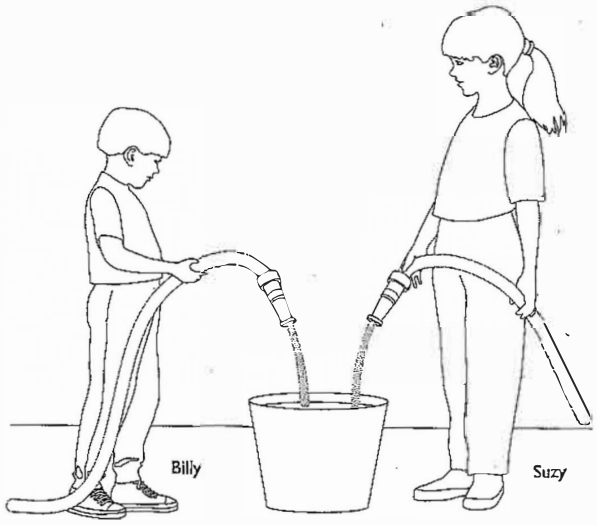
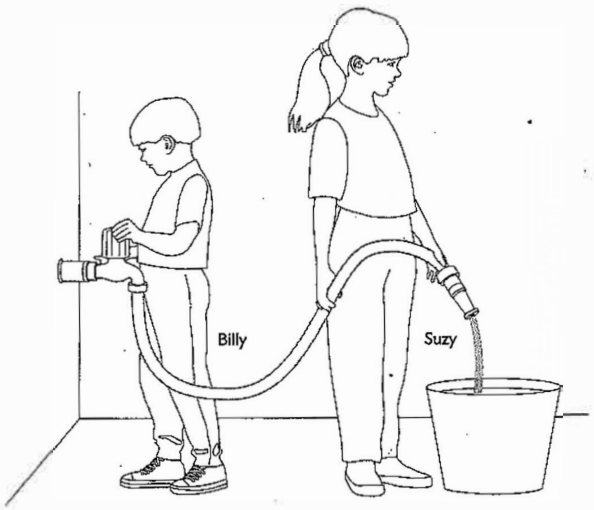
1 The Bucket Model. Adapted from cartoon by Ned Hall.



Here is a bucket: Billy fills it with 40L of water; then Suzy fills it with 60L of water. So: 40% of the water in the bucket is due to Billy, 60% to Suzy.

2 When Causes Interact. Adapted from cartoon by Ned Hall.



But suppose instead that what happened was this: Suzy brought a hose to the bucket; then Billy turned the tap on. Now how much of the water is due to Billy, and how much to Suzy?

Answer: The question no longer makes any sense.

the bucket model. I illustrate with two figures borrowed (and adapted) from Hall:

In figure 1, innate qualities (or genes) fill the bucket to height x, and personal (acquired) experiences (or environment) add an amount y. Put in these terms, it is easy to see that the categories of innate and acquired cannot be represented in this way, that a kind of logical error has been committed. We do not have to think of the neonate as a blank slate in order to appreciate the fact that many, if not all, of the traits we think of as innate depend upon the acquisition of nourishment, parental care, and socialization in order to develop. As I will show in a bit, even Locke did not harbor such a view. The true relation between innate and acquired, or between genes and environment, is more like that illustrated in figure 2.

Simple, right? But perhaps too simple. If all that was at issue in the nature-nurture debate was a comparison of the contributions of nature and nurture to individual development, then both Ridley and the commentators on epigenetics I cited are of course correct: this question is meaningless ("we can't really separate one from the other"), and the debate could indeed be said to be over. But unfortunately, the question of what the nature-nurture debate is about is not so easily settled. As Orr makes abundantly clear, to population geneticists, the debate is not about relative contributions to individual traits, but about contributions to the variation within a population. Still others think of it as being about the relative importance of the contribution of nature and nurture to differences between individuals. Furthermore, not only do different people have different questions in mind, but individual authors (e.g., Ridley) themselves tend unwittingly to vacillate between the various options.

Also, as I have tried briefly to indicate, there is more than a single source of confusion here — in fact, trying to make sense of how arguments about nature and nurture proceed quickly reveals a morass of linguistic and conceptual vegetation grown together in ways that seem to defy untangling. Indeed, it is precisely this morass that is the subject of my book. I want to explore both its conceptual underpinnings and its history. I want