

about placebos and the blurry boundary between beliefs and reality, these questions become more difficult to answer.

AS A SCIENTIST I value experiments that test our beliefs and the efficacy of different treatments. At the same time, it is also clear to me that experiments, particularly those involving medical placebos, raise many important ethical questions. Indeed, the experiment involving mammary ligation that I mentioned at the beginning of this chapter raised an ethical issue: there was an outcry against performing sham operations on patients.

The idea of sacrificing the well-being and perhaps even the life of some individuals in order to learn whether a particular procedure should be used on other people at some point in the future is indeed difficult to swallow. Visualizing a person getting a placebo treatment for cancer, for example, just so that years later other people will perhaps get better treatment seems a strange and difficult trade-off to make.

At the same time, the trade-offs we make by *not* carrying out enough placebo experiments are also hard to accept. And as we have seen, they can result in hundreds or thousands of people undergoing useless (but risky) operations. In the United States very few surgical procedures are tested scientifically. For that reason, we don't really know whether many operations really offer a cure, or whether, like many of their predecessors, they are effective merely because of their placebo effect. Thus, we may find ourselves frequently submitting to procedures and operations that if more carefully studied, would be put aside. Let me share with you my own story of a procedure that, in my case, was highly touted, but in reality was nothing more than a long, painful experience.