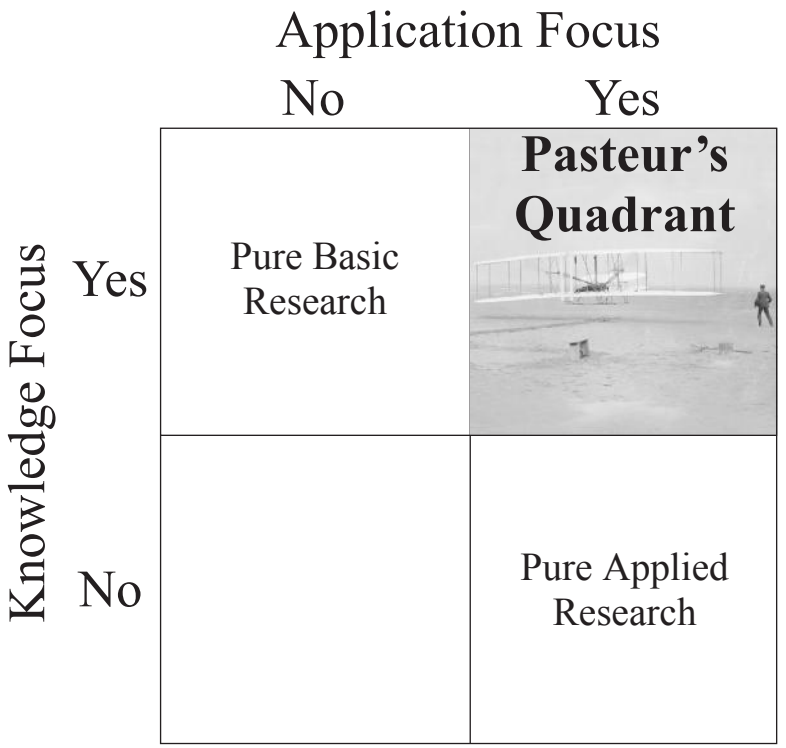

FIGURE 1.1
Pasteur's quadrant. (Stokes, D. E. 1997. *Pasteur's Quadrant. Basic Science and Technological Innovation.* Washington, D.C.: The Brookings Institute.) The work of scientists such as Pasteur and the Wright brothers is motivated both by a search for deep understanding (basic theory) and the desire to solve pressing practical problems (application).

Jakab (1990) provides a summary that is particularly relevant to the current discussion:

> They never got bogged down in theoretical matters that were not directly related to the problem at hand. Even though the sophisticated wind tunnel experiments they were about to commence did a great deal to advance the understanding of aerodynamics, the Wrights consciously focused only on those practical questions that would provide them with specific information necessary to building a successful flying machine. They left it to their successors to develop a body of theory that would explain the underlying scientific principles of aerodynamics. (p. 125)

The Wright brothers were clearly working within Pasteur's quadrant.

1.4.2 This Book and the Quadrant

Thus, our ambition for this book is to address both basic issues associated with human problem solving and decision making (in Wertheimer's [1959]