Chapter Two

OBJECTIVES OF THIS REPORT

The authors began with this question: How exactly can a better understanding of deception in nature help prescribe deception and counterdeception measures in military matters, specifically in urban operations?

In framing an answer, we sought to accomplish two principal aims:

1. Expand and elaborate upon existing deception theory.
2. Open new avenues of experimentation for deception in both exercises and simulations.

We have an opportunity to improve on existing frameworks for classifying and comparing deceptions. This enterprise is the first step toward a genuine *science* of deception, which is necessary if we are to credibly perform cost/benefit analysis of deception options. Furthermore, theory lends itself to deduction and may be taught more readily than ad hoc approaches or ingenuity. What may work in the desert against one foe will not necessarily apply against a different foe operating within a city. Rather than placing the burden upon the unstructured creativity of individuals, a well-developed theory of deception—founded on experimentation and analysis—will be more useful as the mission, the battlefield, the equipment, and the foes change. This is not to say that the inspiration of individuals should be underrated; it is instead to assert that there is much room for doctrine to improve.

We also intend to make a fundamental point about conflict (and particularly urban conflict): evolutionary principles apply, particu-

larly with regard to adversary *adaptation*, which we define as the process by which an individual or group becomes better fitted to its circumstances. Why make this point? If an evolutionary model *can* be said to apply, then a great deal of prescriptive value follows. Adaptations will most often take the form of variations on existing tactics or technologies, although some conditions will accelerate or diversify innovations. Such conditions could be plentiful resources, rapid generational turnover, programs of directed adaptation (i.e., research and development), a proclivity for diversifying, and so on. If beneficial adaptations are to become widespread, then time, supplies, and communications are required. During the intelligence preparation of the battlefield (IPB) process, some adversaries may be deemed more or less adaptive than others (each has an *adaptive index*). Courses of action (COAs) may be chosen accordingly. In fact, upon analysis it may turn out that some COAs are more or less likely to give rise to adversary adaptation. Furthermore, concepts of operation may dictate that elements required for successful adaptation (e.g., communications) must be explicitly denied to the adversary, specifically to prevent innovation. We will term this kind of activity *counteradaptation methodology*.

Consider how this model might apply to the overall goal of countering adversary deception, which may be described as consisting of three parts: preventing adversary deception operations; detecting and identifying adversary deceptions; and thwarting or defeating adversary deceptions. We will explore how this last component is directly related to our concept of counteradaptation, specifically in urban environments, which are the most dense in terms of quantity and heterogeneity of resources, population, and conduits of communication. Information can travel quickly in the medium of an urban environment (Edwards, 2001), and disseminated information is the vector of adaptation in military conflict. Preventing adversaries from successfully employing deception in urban operations—whether in the form of personal or vehicular disguise, false radio transmissions, feints and other diversionary activities, lures and invitations to ambush, or any other form of urban deception—would surely be of significant value.

The authors also see in the literature of animal and plant deception an opportunity to learn important lessons about urban operations generally and urban deception in particular. These are lessons that

may serve as experimental hypotheses to be tested; as prescriptions for technological, doctrinal, and organizational innovation; or even simply as cautionary tales to be heeded by military decisionmakers. An important caveat: the mapping between the biological and military domains varies in its precision, and we shall strive to bear this in mind as we proceed. There is probably close to 1:1 mapping between animals, plants, and humans when it comes to camouflage based upon color, texture, and shape. Thus camouflage may be considered the high water mark of the relationship (that is, a lesson learned about effective camouflage in animals may well map *directly* into efforts to improve human camouflage). But other lessons from animal and plant biology may be more provocative than prescriptive, wherein the utility of the lesson is in stimulating creativity as opposed to simply driving design improvement. In this research, we have tried to distill what has been learned about deception in biology into axioms relevant to the urban operator.