

What does all of this analysis mean for urban operations? How do these observations, principles, and theoretic constructs apply to the soldiers, marines, and airmen who must execute their missions in the dense, chaotic terrain of a city or other built-up area? The authors' goals in this research on deception were twofold: (1) to broaden and deepen current theory and (2) to identify new possibilities for innovation and experimentation. We believe that there are several reasonable propositions that stem from this analysis, any and all of which will support U.S. deployments into the urban environment.

Deception, in all of its myriad forms, should be made a primary instrument of both force multiplication and force protection.

Deception techniques should be cultivated in our soldiery (on both the technology and training sides) with the same level of emphasis we place on basic firearms skills. In the course of our research into animal biology, we have come to believe that deception is an adaptation as valuable as armor, speed, or firepower. Deception is ubiquitous and enduring, whether in the form of masking one's presence, diverting an opponent's attention for a critical few seconds, paralyzing an adversary with uncertainty, or any of countless other effects. In the unforgiving regime of natural selection, deception's longevity and ubiquity are themselves arguments supporting their great worth. While many or most in the defense community would concur with this assertion, it has not translated into action. Deception is given short shrift in terms of the time soldiers spend learning or practicing the art of the ruse. Yet in interviews with soldiers, marines or other

servicemen, deception is deemed a life-saver and a singular source of achieving surprise against the adversary. The authors strongly believe that the United States ought to apply resources to turn clever ideas and novel technologies into deceptive shaping actions on the battlefield, at any level of war. Doing so would be of incalculable value in the urban jungle. Examining just the few lessons cited in this report—active motion camouflage, employing multiple deceptions for aggregate effect, and infiltration/subversion of enemy-held terrain—demonstrates that there are numerous new paths to be explored in both technological development as well as doctrinal improvement. Urban terrain is an environment eminently suited to deception, and this assertion is borne out fully by the historical record. For U.S. forces not to receive the training or tools to leverage the environment as well as or better than our adversaries do is a sorely missed opportunity. The first locations that a renewed commitment to deception should be made manifest are in experiments, exercises, and simulations. In current simulations, for example, there is a lamentable lack of deception capabilities built in for any element, which is dramatically at odds with the historical reality of urban operations.

Counterdeception TTPs must be improved.

The authors see this as a critical component to urban reconnaissance. Urban terrain takes a toll on situational awareness through the degradation of sensors and communications, the presence of large numbers of noncombatants and dense infrastructure, and the high-OPTEMPO characteristic of urban operations. Yet our adversaries will seek to degrade U.S. forces' situational awareness beyond the injury inflicted by the urban terrain itself. Their efforts to do so will include deception: using camouflage, decoys, deliberately confusing maneuvers (feints and demonstrations), and disinformative HUMINT and SIGINT, to name just a few methods. It is critical to note that *improvements to reconnaissance instruments do not necessarily yield improvements to counterdeception capabilities*. As discussed previously, lowering the detection threshold of a particular sensor to find hidden (camouflaged) foes may allow those same foes to simply begin generating false positives (decoys). The outcomes for U.S. forces might well be worsened as a result. Counterdeception is a skill set that is *distinct from*, though complementary to, recon-

naissance methods. Counterdeception capabilities should be diverse and robust, developed alongside reconnaissance TTPs to match the varied deceptions of a particular foe. If an adversary's use of deception can be considered an element of counterreconnaissance, then a coevolutionary perspective on counterdeception suggests that reconnaissance TTPs must be adapted in synchrony with an adversary's deceptive innovations. In practice, this means exploiting the whole range of counterdeception possibilities as explored in Chapter Four: improving and diversifying sensors, training combatants to think about the intelligence they receive in new ways, giving combatants deceptive capabilities with which they might unmask the ruses of their adversaries, and drafting operational plans (OPLANS) that render moot the subterfuges of the adversary. Moreover, as described in Chapter Five, OPLANS that prevent the development or employment of deception by the adversary are highly desirable and can be seen as striking against the enemy's capability to adapt.

It would be wise to encourage diversity and flexibility in our own units' urban training.

The authors strongly believe that good doctrine and TTPs should be flexible and allow for adaptation as the circumstances warrant. While standardization is indisputably valuable, there is also demonstrable value to deliberately embracing diversity. *Diversity is an essential component of adaptation*, and adaptation is likely to be as valuable for friendly forces as it is worrisome when seen in the adversary. Consider U.S. military exercises and experiments, where one unit portraying U.S. or allied forces (termed BLUFOR) trains against another unit portraying opposing forces (termed OPFOR). In exercises and training, it is the OPFOR that all too often adapts more quickly and more effectively than the BLUFOR. Why? The OPFOR is unconstrained relative to the BLUFOR, and thus it is free to innovate. Moreover, the innovation occurs at a more atomic level than in the BLUFOR, meaning that small groups of OPFOR are using somewhat *different* TTPs at any given time. As the success or failure of those different TTPs becomes disseminated, the lack of constraints allows rapid adoption by other units. BLUFOR's rigidity means that adaptation is slow, while the OPFOR's liberty yields more expeditious evolution. Parenthetically, while the advantageous adaptations we refer to could be in any area—mobility, situational awareness, com-

munications, weapon use—many of the observed beneficial adaptations were, not surprisingly, deceptive. That is, the OPFOR learned how to improve its concealment and its diversions, how to aggregate deceptions together for greater effect, and so on. Deception in urban operations is usually inexpensive and yet very effective. The authors believe that some consideration should be given to generating more incentives and greater resources for BLUFOR to innovate and adapt, particularly in deceptive methods. While it is clearly not without risk, it may prove immensely valuable for BLUFOR to *plan on adapting*, particularly if they are given the resources to do so. For example, a multispectral close-combat decoy (MCCD) can be used in a thousand clever ways, and only a tiny few of those ways will be apparent before the battle has been joined. The authors are impressed with the ingenuity of our servicemen and women. Providing BLUFOR with some general capabilities that might be invoked *on the fly* could well allow friendly forces to adapt as quickly as the OPFOR does. At the least, the authors believe that soldiers, marines, and other servicemen training for urban operations should be encouraged to innovate and adapt their methods and equipment. With regard to deception-type adaptations by company-size or smaller units, the authors believe that in exercises and experiments the risks and deconfliction requirements can be fully explored.

Prevent adversaries from adapting when possible, but stay abreast or ahead of adversary adaptation when prevention is infeasible.

This is probably a useful exhortation in general—we would certainly prefer that adversaries not field new weapons, effectively innovate in their tactics, and so forth—but it is especially true for deception, and even more so in urban terrain. As adversaries learn the extent of friendly ROE, the specifics of the friendly order of battle, and otherwise enrich their intelligence picture generally, they will almost certainly innovate to exploit such knowledge. Moreover, the dense and resource-rich urban environment supports innovation in general to an extent that a desert or jungle never could. As the authors have argued previously, these resources allow for a multitude of deceptive adaptations not possible in other environments. Combatants take advantage of telecommunications equipment to produce bogus communications intelligence (COMINT) and SIGINT; the civilian population, the journalistic media, and other NGOs are used to dis-

seminate false HUMINT; civilian vehicles and mannequins can be used to create decoys; and on and on. As detailed in Chapter Five, the authors believe that a systematic effort to suppress adversary adaptation could be the single most effective counterdeception technique available. An adversary who cannot effectively adapt, or is precluded from doing so, is headed for impotence and extinction and, therefore, far less likely to represent a hindrance to friendly force missions and a hazard to friendly personnel.

A better understanding of deception carries important technological implications.

History suggests that deceptions that are added as an afterthought are at best marginally useful. Deception is most effective when it is integrated into planning from the outset. As plans are drawn up for the IBCT and Objective Force, including for example the Future Combat Systems, next-generation communications equipment, multispectral close-combat decoys, or battle dress uniforms, improvements in the science of deception will figure prominently in those designs. Given the enhanced survivability of organisms that employ well-tailored deceptions, it would appear that investment in deception science is extremely worthwhile.