

separate concerns about technology in general and, in particular, about technological breakouts that could have a major political or military impact. One such scenario involves a technological breakthrough in the development of a capability based on a toxic agent with properties which cannot be achieved with currently known or stockpiled chemical warfare agents.

In this context, concerns about toxins can be described in the following way. A country not constrained by international convention could develop a toxin with a toxicity several hundred times greater than current chemical weapons but having the necessary stability for field dissemination, and no significant delay in onset of effect. Another possibility might be that a toxin could be developed which is as toxic as presently stockpiled nerve agents, but is not stopped by filters in currently used protective equipment. Some characteristics of new agents that would offer significant advantages over existing toxic agents include:

- (1) novel sites of toxic action;
- (2) rapid and specific effects;
- (3) penetration of protective filters and equipment; and,
- (4) militarily effective physical incapacitation.

Despite the important scientific and technical advances in the synthesis of peptides, some cautions should be noted. First, it is now technologically possible to produce relatively large quantities