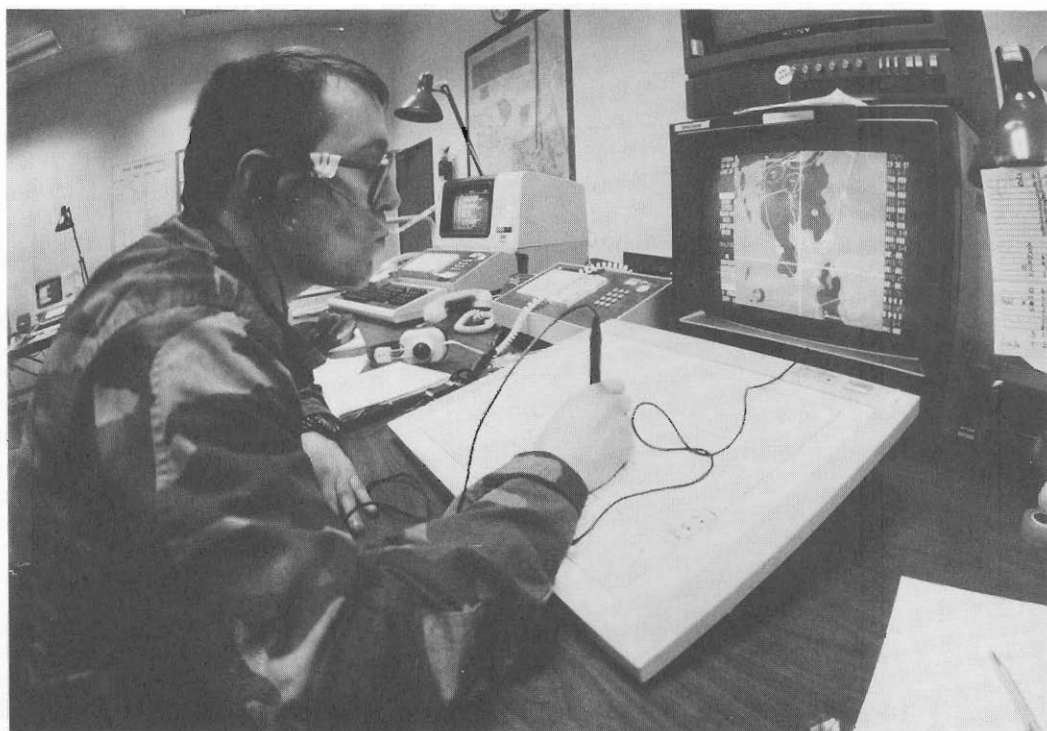




Computers

—let you “see the battlefield”

Computers bring the complexities and expenses of fighting a war down to a series of mathematical equations and models. Training with a simulation is a true test of the commander and his staff's ability to “see the battlefield” since the battle only exists in the computer. Imagine training a corps-level staff to function in today's AirLand Battle doctrine without a simulated battlefield. No training area in the continental United States could realistically support a two-sided force-on-force exercise involving a corps.

Essentially, all the factors of battle are programmed into the computer—combat, combat support, combat service support. Then, opposing commander flex their relative strengths in a test of tactics. The computer is unforgiving: move a unit too far without refueling and the vehicles stop. The reward in this type of warfare is the satisfaction of completing the mission.

So how does NBC and smoke fit into this training? Practice, practice, practice under the worst possible conditions. The chemical environment is incorporated when the

commander sets the MOPP level for his units. His decision results from a complicated set of variables—the risk of chemical casualties versus the degradation of unit performance; the protection of MOPP4 versus the risk of heat casualties.

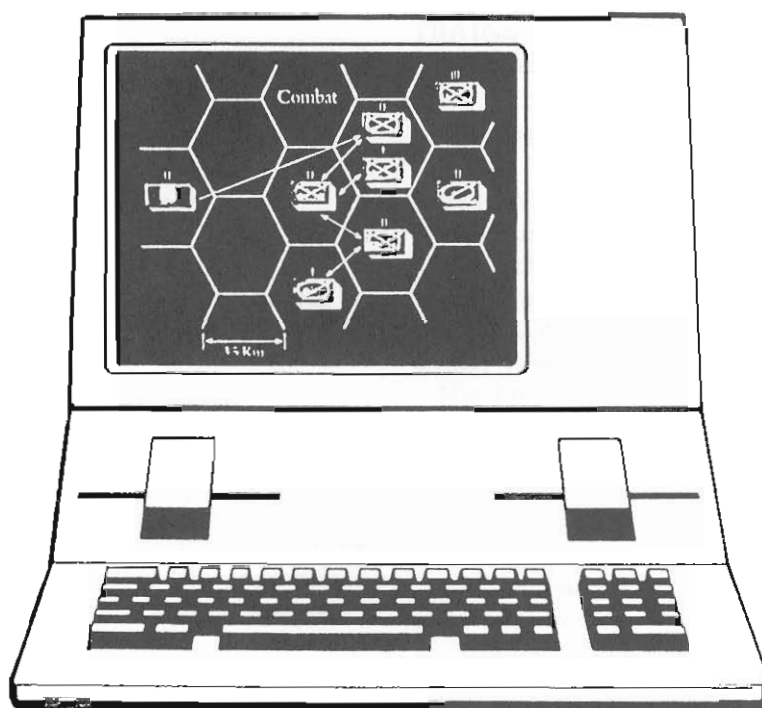
Simulation allows the commander to make this decision without endangering soldiers' lives. Chemical employment is obviously not allowed in field training, but the simulation is a fair test of the doctrine. Many people complain that chemical contamination in a simulation distracts from the

training time; however, this is a fact that commanders must deal with in planning and controlling operations. If direct contamination overwhelms the training exercise, employment of the chemicals along the flanks where only the downwind hazards may involve units is an acceptable alternative. This alternative will benefit the training time by interweaving the NBC conditions without severely hampering operations.

Chemicals are used for a purpose within the operations plan. The fire support annex is where the delivery systems are allocated. Persistent agents deny terrain, whereas non-persistent agents produce casualties. So, employing persistent agents along the axis of advance is not tactically sound. An error of this type in a simulation can be corrected without risk to soldiers.

In the nuclear environment, it is even more difficult to integrate the effects of weapons into the scenario. The mass destructive potential of this weapon can wreak havoc on a CPX if whole units are decimated. In the past, the employment of nuclear weapons marked the end of the exercise. Once again, the fire support annex lists the nuclear support packages for the operation.

The packages must be carefully designed to mix conventional and nuclear fires to achieve the objectives, and flexible enough to adapt to a fluid battle in progress. In a computer simulation, destruction by nuclear weapons is carefully modeled. Very few surprises ever arise from employment. For example, the destructive power is a set of concentric circles emanating from ground zero, producing casualties and damage. In actual battle, it may not be that cut-and-dried. Since no war has ever been fought with full-scale nuclear employment, only early testing on weapons effects is available to the



“... all the factors of battle are programmed into the computer ...”

computer programmer.

As in the chemical environment, alternatives to when and where the weapons are employed are the keys to successful integration. A CPX would virtually stop if nuclear weapons were employed on front line units. Units in the computer data base are combat ineffective for fighting, and personnel at computer terminals acting as role players would be inactive. This is a waste of training time.

But employing only a limited number of weapons on the flanks or in rear areas will not stop the war, but it would introduce some unique opportunities in working around the weapons' residual effects. In this manner, confidence is gained by commanders and staffs to continue the mission despite the weapons employment.

Smoke on the battlefield is a deciding factor between success and defeat. The tactical advantage

of movement under the concealment of a smoke haze while crossing a river may be just the edge a commander needs. In simulation, planning smoke support is under the control of the operations officer. Chemical personnel are there to advise the planners and add to the operations order. Once implemented, control of smoke assets is a commander's decision, but the drift of the smoke itself is controlled by weather factors. The practice of properly utilizing smoke is gained during the exercise.

Computer simulated battles call for logic, planning, and teamwork. They offer feedback, positive and negative, and are an excellent adjunct to training. Integration of NBC conditions and smoke environments into a computer war simulation CPX provides the commander the best training opportunity available. ■