

Military Tests New Weapons

Future Wars to Be Electronic, Automated?

By CHARLES FOLEY
Washington Post Service

MONTEREY, Calif. — Driving down the coastal highway from Carmel and Big Sur, you come upon the United States Army's most tightly guarded experimental station — a laboratory and test site for new weapons.

On one side, steep cliffs fall to the Pacific. On the other rise the hills of the Hunter Liggett Military Reservation where, behind a barrage of warning signs and wire, the planning of tomorrow's wars continues.

The men who run this Combat Development Command outpost are today preparing to ring up the curtain on a five-year plan for a global surveillance system, a concept which they claim modestly will "revolutionize ground warfare as we know it."

The Army's chief of staff, General William C. Westmoreland, predicted, on a visit to this 250,000-acre field laboratory, that the new program will exert as profound an influence on land combat as the tank.

Sen. Barry Goldwater, R-Ariz., thought it could be "one of the greatest steps forward since gunpowder."

Others, to whom the grand design has been revealed only in recent days, are less euphoric. But already at least \$3.6 million have been secretly expended on the system. It employs an awesome array of sensing devices, laser beams, night-seeing automata and computers to create an electro-magnetic environment in which, say the CDC, "nothing hostile can survive."

The experts — keen young colonels and their civilian scientist teams — call it the electronic or automated battlefield. It is to usher in a new philosophy of war, in which the human factor is discounted — no General Pattons, no Lieutenant Calleys. Westmoreland, again, is quoted: "I see combat areas under 24-hour surveillance, battlefields on which we can destroy anything we locate through instant communications and almost instantaneous application of firepower."

A primitive form of electronic battlefield has been tried out in Vietnam, with gratifying results. Now there is talk here of a fully fledged "hardware system" ready for export to any part of the world for use in counter-insurgency operations, and DCS headquarters (the "brain bin") is turning its attention towards Europe.

If an electronic screen can be spread from the North Sea to the Alps, it may at last be feasible to release many of the 300,000 U.S. troops who have been standing idle there for 26 years. With other such withdrawals from garrisons overseas, the end of the military draft would at last come into sight.

Meanwhile, a slice of the electronic battlefield is on exhibit at this experimental center (Motto: Missions Unlimited). It reminds one of a giant pinball machine, no less lethal because one cannot see the "pins."

Invisible sensors detect the opponent by sound, vision and even smell. "Thermal images" react to his body heat as he crawls by at night. "Button bombs" signal his nailed boots. Night-vision scopes magnify the starlight reflected from his vehicles a thousandfold. "People sniffers" scent tell-tale chemicals in his body wastes.

These and a hundred other devices with code names like "Grasshopper," "Dual Blade," "Igloo White," and "Dufflebag," send back streams of distinctive beeps to control headquarters (HQ). "Bleep" data is amplified by radar pictures from ground and air observers and information assembled in advance.

But electronic gadgetry is only the front line of the CDC vision, according to Brig. Gen. Elmer Ochs. All the facts and figures are fed into a computer, which at once shows the enemy force's size, speed and direction. It also lists his probable intentions and presents a choice of military options for defenders. (The logical alternative of allowing the computer to select the winning move has yet to win acceptance from the generals.)

Gen. Ochs talks earnestly of "Marrying the man to the machine," a match-making effort now being followed up on proving grounds from West Germany to Panama. Men, in tiny spread-out patrols, are wired up like automata with sensors, rectal thermometers, and easy-to-read dials on the hip. Robots rise stiffly from paddy-made coffins, are "zapped" by low-yield nuclear fire and sink back. Reports are taped and computerized for analysis by mathematicians, behavioral scientists and engineers. Some skeptics have been converted by pep-talks from a Vietnam veteran, Gen. Ellis Williamson, who first used the system to extricate his division after being trapped in the battle of Khe Sanh. He likes to tell the tale as "one of the best stories of the war."

The approaches to the U.S. base were seeded with sensors, which accurately predicted enemy movements. Two enemy divisions were "saturated" with artillery and aircraft fire and smashed. Later, at Firebase Crook, near the Cambodian border, 412 enemy troops were "eliminated" in three successive nights with the loss of one U.S. soldier. "It was a carnage," the general says. "I had to bring up two bulldozers to move the dead."

A last enemy effort to neutralize the firebase by planting mines was broken when his rs fed into a handy computer the location of every mine found. It showed a pattern of seven high-sensivity mine areas. Seeded with sensors, these areas "bleeped" the news of minelayers at work, allowing them to be disposed of. A new range of weapons, specifically devised for "third world" conditions, is now being used in conjunction with these devices. Many take the form of "antipersonnel" devices, like the 750-pound "Mother Bomb" which opens in the air to cover a paddyfield with a variety of bomblets armed with different time fuses. Much ingenuity has gone into disguising the sensors. After the Vietcong began to spot them, they were camouflaged as animal droppings. Then, when the enemy

began to baffle the "people-sniffers" with buckets of urine placed at strategic points, new chemicals were introduced.

Acousidid, a sensor which picks up human speech, depends on being dropped into a jungle tree. International Playtex Corp. makes form-fitting bras, were called into solve the problem of a "self-destruct" parachute.

Business, big and small, has been in on the plan from its initiation. Long before Congress was aware of what was going on, organizations like the Military Affairs Committee of the California Chamber of Commerce were confidentially briefed on the Army's need. Now contracts are being awarded to factories and laboratories all over the country, among them General Motors, IBM, RCA, Hughes Aircraft, Sperry Rand, General Electric and Honeywell.

With procurement costs expected to run into \$240 million or more, the electronic battlefield will claim most of the Army's priorities in the seventies.

Competing branches of the services have sunk their differences to promote it, and some pain is expressed over the candor of Product Engineering, a trade magazine, which remarked that the nation's legislators had been "again trapped into financing a multi-billion dollar military development program while learning almost nothing about its over-all size, cost or future defense implications."

At CDC headquarters, the "brain bin" boys sift through foreign intelligence reports at a "threat analysis center" to

decide where next the Army may have to fight. Theorists juggle with possible realignments. A grand new sophisticated mix of sensors and computerized weapons known as stano-master is about to be unveiled.

Questions are at last being asked. May not these breathless new advances encourage U.S. involvement in new guerrilla wars? If so, can the gimmicks really distinguish between soldiers and women and children, between Army bases and peaceful hamlets?

In Central Europe, can heavily-populated areas be safely sown, and which side of the Iron Curtain will be "planted?" How, and for how long, can they be controlled? And when, inevitably, the Russians retaliate with a Stano-Master of their own, will not the chances of trouble escalate?

At Missions Unlimited, such factors are outside the equation. The object is to save American lives without impairing American defensive capacity. New field manuals will be written on the basis of this electronic honeymoon, reducing the traditional chain of command. General officers are entering the era of the professional manager, staff officers doubling as data processors.

"Up to now," they say, "we've had fire-power pouring out of our ears, but haven't known where to apply it. Three front-line soldiers out of four have been used to pin down the enemy so that the fourth can hit him. Now, through the battlefield, we can 'find and fix.' And no-one is going to be hollering to bring our sensors home."

Susan Makes Recovery

UKIAH, Calif. (AP) — Four years ago Susan Bartolomei was kidnaped, shot five times in the head and left on the side of the road, paralyzed and speechless.

Now at 21, Susan still is unable to speak and has only limited movement. But she has graduated from Ukiah High School—her last grades straight "A's"—and is looking for ways to help others with severe handicaps.

Sitting in a wheelchair, Susan wore the school's colors—a blue and gold cap and gown—for graduation ceremonies June 11 held in the living room of her parents' small white house.

The fact that Susan was able to reach out an arm to grasp a diploma from the school principal "is a miracle," her doctor says.

It was a balmy summer night in 1967 when Susan and her boyfriend, Timothy Luce, 17, were driving home from an auto junkyard where they picked up spare parts for Tim's jalopy.

When the car broke down, they accepted a ride from two youths on a violent crime spree that started in the Pacific Northwest.

Tim was shot and killed, Susan was raped, beaten and shot. She was in a coma for months.

Three bullets shredded the muscular control center of her brain and doctors had to remove her vocal cords to keep her from choking to death.

That winter Susan testified with hand signals and eye lash movements at the trial for the two men. Both were convicted of murder, one sentenced to die in the gas chamber, the other to life in prison.

"If she ever got discouraged since then, she never showed it," her mother said in an interview. "It amazes everyone and makes people enjoy being around her and helping her."

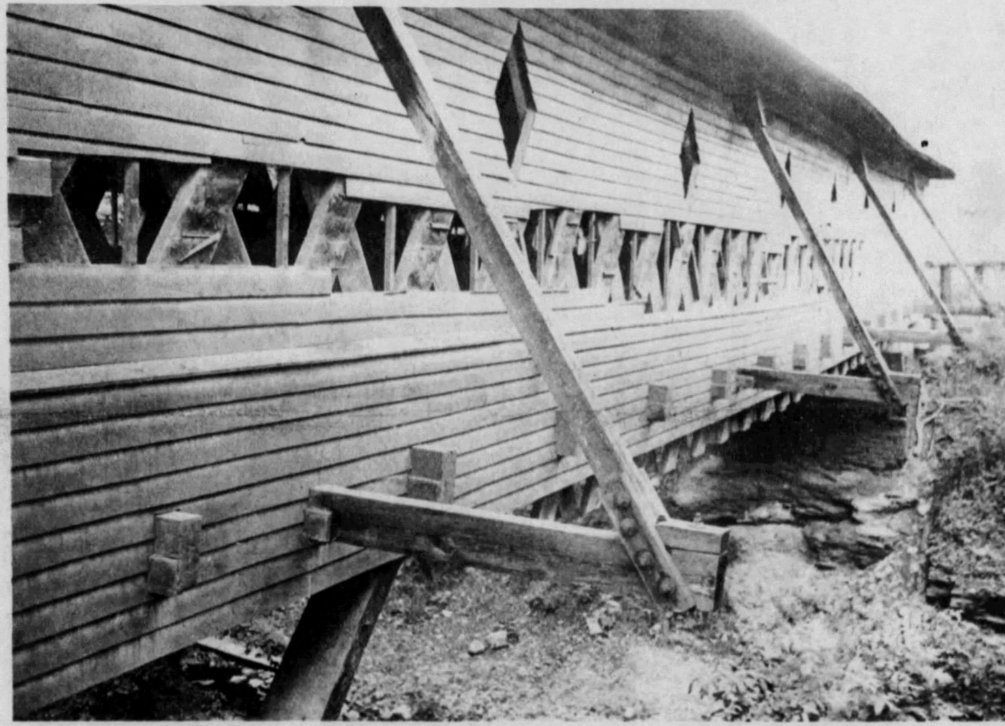
Through use of an electronic voice vibrator, Susan now can say such things as "how are you," "yes" and "no," her mother said. Mostly she speaks by moving her fingers in the deaf alphabet.

It is difficult for her to read, but her handwriting has improved.

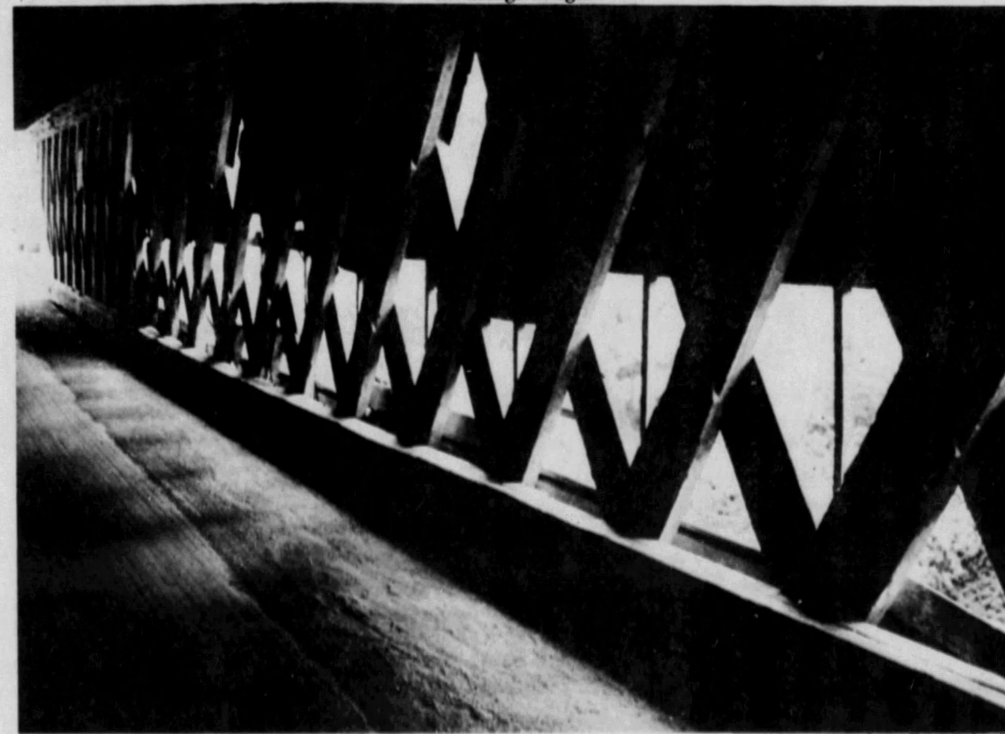
She needed to complete only two classes, civics and English literature, to get her diploma.

Her mother said a private tutor, Jeannette Hovey, came to the house four mornings a week for a half an hour to read lessons and lecture. A girl Susan's age was hired to help her during the afternoon and at night, her parents would quiz her.

"But she worked so hard on school now. She didn't have that many other activities."



These pictures from the interior and outside of Newfield covered bridge show part of the damage done in recent days by vandals who have removed exterior siding from the structure. Both sides of the historical edifice have been similarly damaged for almost its entire length. The diamond-shaped opening at a higher level are part of the bridge design.



Journal Photo by Barbara Bell

Kissinger Thieu Meet on Strategy

SAIGON (AP) — Presidential adviser Henry A. Kissinger and President Nguyen Van Thieu mapped out an Allied reply to the new Communist peace proposal Sunday and explored ways of speeding U.S. troop withdrawals from Vietnam, informed sources reported.

The 2 1/2-hour strategy meeting at Independence Palace was one of the most significant of the Indochina war, the informants said. Although details of the session were kept secret, aides to Kissinger described the conference as "fruitful."

The importance of the meeting was underscored by its length. The sources said they could not recall Thieu spending as much time with any other visiting dignitary.

The government-operated national television network, in a newscast Sunday night, said Thieu and Kissinger discussed three main subjects: the peace negotiations, the war situation in Vietnam

and South Vietnam's national economy. It gave no details.

The war faded for the time being, with only a series of patrol skirmishes reported, none of them significant.

Just the same, U.S. B52 bombers kept the pressure on North Vietnamese forces massed in the northern quarter of South Vietnam below the demilitarized zone and along the Laotian border.

Up to a score of the giant Stratofortresses dropped 600 tons of bombs on suspected North Vietnamese troop concentrations, bunkers, ammunition and food storage depots, and rocket, mortar and anti-aircraft sites. Some of the raids were within a mile and a half of the DMZ.

In Phnom Penh, the Cambodian high command reported that Cambodian forces sweeping vast marshlands northeast of the capital killed 38 Viet Cong and North Vietnamese in the first significant clash there in two weeks.

After his meeting with Thieu, Kissinger lunched with Deputy U.S. Ambassador Samuel Berger and Gen. Creighton W. Abrams, commander of U.S. forces in Vietnam. During the afternoon, he conferred with George D. Jacobson, the acting chief of the U.S. pacification program in Vietnam, and Emory C. Swank, the U.S. ambassador to Cambodia.

Later, Kissinger went to a Fourth of July reception at Bunker's residence.

The national security advisor to Nixon will meet today with Vice President Nguyen Cao Ky and Duong Van "Big" Minh, both of whom are contesting Thieu's bid for re-election in the Oct. 3 presidential election.

3-Car Crash Kills Nine

By The Associated Press

A three-car crash near Louisville Ky., killed nine persons and injured a 10th Sunday as the death toll on the nation's highways climbed steadily during the Independence Day holiday weekend.

The collision on Interstate 65 two miles north of the Ohio River in Indiana was the worst so far during the holiday period, which a National Safety Council spokesman said "could be the worst such holiday we've ever had."

The highway death toll climbed to 405 late Sunday. During the three-day holiday period last year 540 persons lost their lives in traffic accidents.

Indiana State Police said a car carrying five persons and driven by Wayne Lee Carroll, 32, of Louisville, crossed the median strip on Interstate 65 near Clarksville, Ind., and collided with another vehicle bearing Indiana license plates. A third car skidded into the autos, but no one in that vehicle was injured.

Carroll, his 25-year-old son, Michael Wayne and two other unidentified persons in their car were killed. Four persons—all unidentified—died in the other vehicle and a fifth person was injured.

On Saturday a 28-year-old off-duty policeman, Erick Rogers, and three of his passengers were killed when he lost control of his vehicle and smashed into the center concrete support of a bridge overpass in Baltimore, Md.

Also killed were his passengers, Sherley Fierson, 21, Hazel Walker, 20, William Ervin Jr., 29, all of Baltimore.

Inside the Journal

FIREWORKS SHOW cut short by soft turf — Page 3.

HAYNES JOHNSON assesses the American mood — Page 6.

ART BUCHWALD examines the mood at Wimbledon — Page 7.

HJACKER GIVES UP, no one hurt — Page 10.

TREVINO WINS another playoff — Page 11.

MORGAN-WESTLAKE WINS Ed Heffron Memorial — Page 13.

Ann Landers 15 Horoscope 19

Bridge 19 Obituaries 5

Charles J. Elia 8 Sports 11-14

Comics 19 TV Scout 15

Editorials 6 Want Ads 15-18

Financial 8,9 Women's 4

Today's edition of The Journal includes an eight-page Penney's advertising supplement. If your copy does not contain it, please call the Circulation Department (AR 2-2321), and one will be delivered to you.

alternative to eventual statewide financing of local schools. "I wouldn't want to see the state paying more than 90 per cent," he said. "There should be some local effort." As for local control, which he dubbed "a minor branch of theology," Nyquist said local boards would still make all the educational policy decisions.

With statewide financing will come statewide teachers negotiations, he said. "The state would negotiate on the money matters with the teachers, and the locals would handle the rest." The upstate and downstate teachers unions will merge in three or four years, he said, and the teachers will become more militant, particularly in political affairs.

Continued on Page 15

Nyquist Predicts Statewide Financing, Open Education

By CAROL R. RICHARDS and CHARLES R. HOLCOMB

Gannett News Service

ALBANY — New York's public schools will break sharply from tradition in the 1970s, shifting to statewide financing, a new theory of elementary learning, and a host of other far-reaching changes.

State Education Commissioner Ewald B. Nyquist, in an exclusive interview with the Gannett News Service Albany Bureau, predicted that:

—State and federal aid will account for 90 per cent of the cost of running local schools, easing the burden on local taxpayers.

—Teachers' unions will merge into a statewide body that will negotiate with Albany for a uniform statewide salary scale and negotiate with local schools

districts on educational matters.

—More elementary schools will switch to "open education" or the "British infant system" which Nyquist describes as a "free, open, noisy approach" where the teacher is required to shed her habits and is acutely aware of the progress of each child.

—Collegians will be able to win a degree in three years and many students will earn "interim degrees" without ever setting foot on a college campus.

In his wood-paneled office, bedecked with tapestries, university seals and newspaper cartoons poking fun at the education bureaucracy, Nyquist frankly discussed his treatment at the hands of the 1971 legislature, and the future of school integration in New York State.

He said the parochial school system will

not collapse in New York, even if the courts reject the state's parochial aid laws.

Nyquist, with two years on the job, is viewed by many as second in importance and power only to the governorship. He accused the 1971 legislature of making "an unwarranted political intrusion into educational affairs."

It was not the budget-cuts to which Nyquist objected, but legislation setting admissions standards for New York City's specialized high schools, a bill requiring college professors to spend minimum hours in the classroom, and the measure — now vetoed by Rockefeller — that would have reduced Nyquist's judicial capacities.

"I agreed with what they (the legislators) did in connection with

lengthening the probationary period of teachers and abolishing tenure for administrators," Nyquist said. But, "I think they did it for the wrong reasons."

Nyquist said racial integration in New York's schools will "proceed apace" now that the U.S. Supreme Court has overturned the New York law that prevented him from ordering reassignment of pupils to improve racial balance.

"There's a lot of emotion" in desegregating a school system, he said, "and people get upset. But once a decision is made, things settle down."

He rejected the theory that urban school integration causes an exodus by whites from cities. "I suppose there'd be an insignificant number of people that because of racial integration would

transfer out," he said, "but I don't think that is the major factor."

He continued: "One of these days, you know there isn't going to be any place to run to" to avoid integrated schooling. "Long Island has been the place, but Suffolk County's developing fast, and that's the end. There's no place left to go."

Nyquist, who favors state aid to non-public schools, said he doubted the parochial system would fail if courts reject New York's new \$33-million parochial plan. "Every once in a while I hear someone say that the whole catholic school system will collapse," he said. "I don't believe that for a minute. There would be an accelerated decline, but it would level off."

The commissioner said he sees no