FIGHTING CHANCE

John 8: 31-32 *Proverbs 22: 3*

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RIFLE BAGS

So far the Middle East war has been a war of ships, airplanes, and missiles. Fortunately, American ground forces have not been involved in much individual combat, and, hopefully, they are now all coming home.

Nevertheless, hundreds of thousands of American infantry soldiers were sent to the Middle East armed with rifles and the other items of personal infantry equipment. Had they been required to fight with this equipment, many unnecessary deaths would have occurred.

Most of you know of Cresson Kearny as the author of Nuclear War Survival Skills. He is, in fact, the acknowledged world's expert on expedient civil defense. He is also a Rhodes Scholar who graduated summa cum laude from Princeton and earned two degrees at Oxford.

Less known, however, is that Cresson Kearny (now retired and living in Colorado) is America's foremost living designer of field-tested infantry equipment. Many of the items which American soldiers carried in World War II, Korea, and Vietnam were invented, adapted, and field-tested by Cresson Kearny and his colleagues.

This aspect of his career has involved the scientific aspects of invention and experimentation and the frustrating political aspects of dealing with the absurd Washington bureaucracy which seems to stand perpetually between Americans and innovation - especially in necessarily government programs such as defense. Even the high technology weapons used successfully in the Middle East were developed against continual opposition from the dead hand of Washington bureaucrats and politicians.

The military bureaucracy has been especially negligent when it comes to personal equipment for infantry. Not only have they been slow to provide needed equipment in wartime, but they often stop producing needed items which then must be reinvented

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through American casualties in each succeeding war. In Vietnam, for example, many of the items of personal equipment used by American soldiers were markedly inferior to those used by the Vietcong and North Vietnamese. As the years passed and many men died unnecessarily, the equipment began to slowly, very slowly be improved.

As soon as the Middle East deployment began, Cresson Kearny began a systematic experimental review of the current equipment being issued to our soldiers. He found many deficiencies. Consider two incredible examples. The American gas protective uniforms are notorious for being permeable to gas warfare agents, unlike those of the Soviets and our NATO allies. The hand-held American anti-tank weapons are accurate but have one notable deficiency. They often fail to penetrate the armor of modern tanks. Unbelievably, the U.S. Marines have, therefore, introduced training in making expedient Molotov cocktails.

Most deficiencies were not correctable in the short time available. Moreover, public discussion of these deficiencies might have been harmful to American soldiers by giving useful information to the enemy. The two mentioned above both reached the front page of the Wall Street Journal, but not from Cresson Kearny. One deficiency was, however, easily correctable and of no strategic value to Iraq.

About twenty years ago the American military switched to the M-16 rifle. It is a much smaller caliber (.22) than the earlier weapon (.30) and the current Soviet weapon (.30). This reduced-caliber weapon has a shorter effective range and is much less capable of penetrating steel, trees, or other obstructions. The ammunition costs less (financial bonuses are given to our bureaucrats for cost reductions), however, and is lighter so more can be carried with the same effort.

The marketplace has given a clear evaluation of the American M-16 rifle. Throughout the world, virtually all dictators, drug dealers, "revolutionary armies", and other military "entrepreneurs" chose the Soviet rifles over the American.

This is partly as a result of the smaller caliber, but is also because the American M-16 has the one flaw which is absolutely unforgivable in a military firearm - it often fails to fire due to jamming. The M-16 mechanism along with the cartridge shape is quite susceptible to malfunction when exposed to small quantities of dirt.

Bureaucrats respond that soldiers should keep their weapons clean. This reminds me of my admonitions to the kids to keep the milk bucket clean when they milk our cow in a muddy barn during a week-long rainstorm.

In Vietnam men were found dead with jammed M-16s in their hands. Imagine the consequences of the blowing dust and sand in the deserts of the Middle East. One soldier was even observed on television network news looking at his rifle and exclaiming "jammed again!"

In Vietnam this problem was partially solved by issuing light, disposable plastic rifle bags which kept dirt away from the rifle and which could be quickly torn off the rifle or even fired through in an emergency.

In the almost two decades since Vietnam did the bureaucrats give our troops a better rifle? After all, it isn't a technological problem. The world abounds with rifles that work better. They did make one change. They discontinued the rifle bags.

They sent hundreds of thousands of soldiers into the sand storms of the Middle East with the jam-prone M-16 rifle and no rifle bags.

Upon realizing this, Cresson Kearny immediately wrote letters to Washington urging that rifle bags be supplied. He knew, however, that a bureaucratic solution in the time available was very unlikely. Therefore, he also responded with a solution straight from the expedient philosophy of his civil defense work.

He designed a rifle bag which ordinary Americans could make from plastic and tape. He field-tested his design along with a companion design of magazine ammunition protectors made from sandwich bags, wrote illustrated instructions, and initiated a cottage industry in Colorado with military support groups and prisoners at a local prison making these bags for the troops.

If the instructions were disseminated widely, American families could make and mail rifle and magazine protectors to their family members serving in the Middle East. (During Vietnam there was a cottage industry from which families purchased ram-rods which they mailed to their sons and husbands for use in unjamming their M-16s. The enemy's rifles had built-in ram rods, but all efforts to get the U.S. bureaucrats to supply ramrods had failed.)

To help with this, Gary North and Bruce Tippery printed and mailed to their supporters 15,000 instruction sheets. 1,000 were also sent to Steve Alley at the Department of Maine American Legion with whom we work on civil defense. American Legion volunteers in Maine then made and mailed thousands of sets of sand-protective bags.

Meanwhile Cresson Kearny and I sought to expand this effort with factory produced bags. We found that we could get delivery of 100,000 rifle bags at a cost of about 9 cents each within less than two weeks of placing the order. This was several-fold less expensive than the hand-made variety. Moreover, some U.S. Marine officers were so anxious to have the bags that they agreed to pick them up at the factory and have them immediately airlifted to the Middle East for distribution to the Marines.

Throughout this rifle and magazine bag project the Marine Corps, including officers who would usually be designated as Washington "bureaucrats", were exceptionally responsive and helpful. Moreover, numerous Wall Street journal articles have parenthetically shown that the Marine Corps shows substantial initiative in adapting to poor equipment in such a way as to maximize Marine effectiveness. They appear to be a service trapped but not defeated by the larger military service bureaucracies.

So, with some donations in hand and the hope of raising the rest of the money, we swallowed hard and ordered our first 100,000 rifle bags. Bruce Tippery and Gary North then donated resources and mailing lists for a direct mail appeal for funding. Ultimately, about 300 families and individuals made monetary donations to **Fighting Chance** for this project.

Meanwhile, Gene Harrington, a retired plastics man and Department of Maine Legionnaire was brought into the rifle bag project as a result of Steve Alley's efforts. Mr. Harrington made inquiries about factory manufacture at reduced or donated costs.

Over the next two weeks, Mr. Harrington, who has a golden tongue or an impossible to resist personality, gradually reduced the price of rifle bags to 4 cents, and then to 1 cent,

and then to 0 cents. Moreover, he talked the First Brands Corporation out of 4,500,000 Glad Sandwich Bags for magazine protectors.

One serious obstacle arose. Initial Marine Corps plans to ship the bags were thwarted by Pentagon logistics bureaucrats who intervened and insisted that the bags go by sea freight only - six weeks of delay. 100,000 rifle bags were "eaten" by this bureaucracy and may, as far as we know, still be enroute to Saudi Arabia.

Initially we overcame this obstacle by mailing the bags by first-class priority air mail directly to the soldiers and to the Marine officers designated by the Marine Corps. Many tens of thousands of bags were shipped in this way and were the first to reach the troops. Then, with the help of a volunteer, two air shipment methods were opened up on U.S. military bases. Finally, Federal Express took one load.

In all, 600,000 rifle bags and 4,500,000 magazine protection bags were shipped during a three week period. The last 170,000 rifle bags, which were manufactured too late to be used in the ground fighting, were shipped, at Marine request, to Camp Lejune in the United States for future use.

Special thanks for the success of this project are due to:

Cresson Kearny who recognized this need and caused it to be filled.

Volunteers in Colorado who produced the first shipments of hand-made bags according to Cresson Kearny's instructions and with his financial help.

Bruce Tippery and Gary North who printed Cresson Kearny's instructions in large numbers and distributed them nationwide.

Volunteer organizations, such as DDP, which further disseminated information about the project.

Steve Alley who inspired the manufacture and shipment of thousands of hand-made bags by members of the Department of Maine American Legion including Gene Harrington.

Gene Harrington who mobilized the support of corporations throughout the United States and spearheaded the commercial supply project.

Volunteers from Gene Harrington's, Alfred W. Maxwell, Jr. American Legion Post 40 in Winthrop Maine whose Legionnaires, Sons of the Legion, and Auxiliaries provided labor for Gene Harrington's efforts. Also, Department of Maine American Legion Adjutant, Charles Michaud, who supported their efforts.

Maine Poly Inc. in Greene, Maine and its President, Robert Ray, and Vice-President, Robert Neal, who contributed manufacturing of the rifle bags. This company's contribution was the key to the major expansion of the project and to its ultimate success.

Mobile Polymers U.S. Inc., Quantum Chemical Corp., Rexene Corp., and an anonymous company which all contributed polyethylene for the rifle bags.

Robert Harris and Postmaster Vic Martin of the Winthrop, Maine post office who arranged unusual high priority procedures for the priority mailing of tens of thousands of rifle bags directly to Saudi Arabia.

Blanchard Associates who provided communications services to Gene Harrington.

First Brands Corporation which, through the actions of Alfred E. Dudley, Paul Stansel, and Bruce Anderson, donated 4,500,000 "Glad Sandwich Bags" to the project. These bags were provided at warehouses near the military bases from which they were airlifted to Saudi Arabia.

The Manley Foundation which, through the actions of Michael Roth, arranged immediate airlift capabilities from two American airfields direct to American troops in Saudi Arabia.

Federal Express which, through the actions of Fred Smith and Gary Molinary, flew one airplane shipment of rifle bags directly to Saudi Arabia. Also, H. Ross Perot who arranged contact with Federal Express.

Tex-tech Industries, Hannaford Brothers Trucking Company, and Consolidated Freightways for truck transport.

Mr. E. Addington of the Office of the Directorate of Logistics at Fort Benning, Georgia for arranging airlift of rifle and magazine bags to Saudi Arabia.

The United States Marine Corps whose officers within the United States - Col. James Marsh, Col. Joseph Stewart, Maj. Berger, Maj. Tremel, and Capt. Gordon - and in Saudi Arabia - Col. B. D. Lynch made possible the immediate delivery of the rifle bags and magazine protectors to American soldiers in the Middle East.

300 families and individuals whose donations provided financial support.

Thankfully, this effort (like the vast majority of the military logistics effort for the Middle East War) was never really needed - at least, so far. Nevertheless, we feel privileged to have had an opportunity to help.

Moreover, we are going to use this example and follow-on actions to try to assure that this particular deficiency never again arises for American troops. A series of actions are now planned for the coming months which we think will achieve this goal.

And what is, as the newscaster says, the "rest of the story?" The rest is that several Pentagon bureaucrats have now claimed that they too saw the need and responded. They say that 500,000 rifle bags (no magazine protectors) were manufactured at a cost of about $374,000. Half of these, they say, were airlifted to Saudi Arabia and half were sent by sea.

But where are they? As far as we and our military contacts know, these bags did not reach American soldiers. One Pentagon bureaucrat has given Gene Harrington an answer. They just lost them. The logistics bureaucrats have not been able to find them.

Things do get lost in the massive movements of materials in wartime. This does not, however, explain the toleration of a jam-prone weapon for 20 years. It does not explain the dropping of this essential item of equipment from infantry supplies after the Vietnam war.

After all, our soldiers should be trained with these protectors, keep them on their rifles, and have spares among their personal effects.

In any case, it does illustrate a difference. What do you think is the possibility that our hard-won rifle bags would be "lost?" We even sent them to Saudi Arabia by four different routes so that part would get through regardless of unexpected delays.

Of course, we didn't have $374,000 to spend and a horde of highly paid bureaucrats to help us. We had no salaries and almost no money, but we had numerous patriotic American "wildcards" who each did what they could to help.

Although the rifle and magazine bags have not yet been much needed in a life-saving role, they are proving to be a convenience to American soldiers who must keep their rifles clean regardless of use. Since the fighting has been done mostly with bombs, cannons, and airplanes, few Americans have needed to depend upon their rifles.

We hope President Bush gets every one of them out of the Middle East before they do.

OFFENSE AND DEFENSE

Americans have just witnessed a spectacular display of the effects of several trillion dollars worth of military weapons under the control of American politicians and their supporters. According to public opinion polls, the American people are very pleased with this display.

The politicians identified a country which they say was a threat to the safety of the American people. (Iraq also had the important characteristic that it was small enough to defeat.) They went to war, fought the war entirely away from American soil, and obtained a victory.

This was a World War II type victory. It is the sort of war that most Americans understand and many have experienced. Had the enemy possessed deliverable nuclear weapons, a credible airforce, and the ability to destroy American satellites and airborne battle management airplanes, this television extravaganza would have been entirely different. This particular enemy had none of those things.

The Soviet Union and Communist China are not Iraq.

I do not say this to belittle the accomplishments of American servicemen and servicewomen who performed very well in the Middle East. Some of them took substantial risks and a few even died in this effort.

To those soldiers who fought actual encounters with the Iraqi military, the lopsided nature of the larger effort made little difference at the time. We were fortunate, through the rifle bag project, to have an opportunity to work toward providing a small amount of help to American soldiers. We are certainly happy that, so far, they have been successful.

Governments in various countries give different emphasis to offense and defense in their military planning.

Switzerland has made its military preparations solely on the basis of defense. This has nothing to do with their courage. The Swiss are very tough people. The very strong Swiss defenses coupled with the policy of strict neutrality which they enforce upon their politicians have kept them out of all wars for many generations.

It is said that this is the most sensible policy for Switzerland, because it is a small country which would be very vulnerable if it undertook an offensive policy.

This is true, but overlooks by implication the fact that modern technology has now made even very large countries just as vulnerable as tiny Switzerland.

The Soviet Union can devastate the United States far more completely than the Germans could have devastated Switzerland in 1941. This fact will not change even if the Soviet Union gets a new name or breaks up into several independent states. Their stockpiles of weapons are still there and, at present, still increasing in power.

The Swiss model, therefore, is superlative defense. Behind that defense they have built a remarkably free, productive, and prosperous country.

A different example is the Soviet Union. With an economic system which is controlled to keep their elite in power and so is inherently less productive than their competitors, the Soviets decided to build themselves into a militaristic superpower. They succeeded in this and have built the most formidable military machine the world has ever known.

So far, this policy is working. The rest of the world has sent vast quantities of economic favors to the Soviets in fear of their military might. At present, increased fear of the Soviet military is motivating Western countries to do everything in their economic power to prop up the Soviet Union and stabilize its internal problems.

If economic appeasement from a frightened world can save the Soviet elite, their military decision will have been successful. If not, their collapsing military empire may bury them and the Western world, too, as it disintegrates.

The Soviet militarists decided that maximum military power would be achieved by committing approximately half of their resources to defense and half to offense. They built, therefore, a strong nation-wide civil defense system. They also have spent vast sums on strategic defense in the form of defensive fighter planes, radars, missiles, and space technology.

Their enormously powerful offense also emphasizes defense in its design. Their offensive missiles, for example, are road-mobile. Even their road-mobile 1950's missiles (the Scuds) were still operating out of flattened Iraq. Imagine those Scuds as MIRVed ICBMs each with a dozen nuclear warheads aimed at the United States and hidden in the vast Soviet Union. They are there - in large numbers - today.

Half offense and half defense - the Soviet military has done its job well whether or not Soviet politicians are doing theirs.

A third example is the United States which has based its military policy on offense alone. With no defense at all, Americans must rely upon their politicians to reach out in the world with their military offense and destroy any potential threat before it can reach the United States.

The flaw in this program, however, is that technology has made the larger military threats like the Soviet Union too powerful to safely attack. These threats have just grown more and more dangerous. They have become so dangerous that our politicians want to give away much of American sovereignty to international bodies and alter American life in whatever ways seem necessary to appease these larger international threats.

Moreover, once established, this policy of reliance only upon offense has become bureaucratically and economically self-perpetuating.

The American military establishment and its industrial fellow-travelers oppose strategic defense, civil defense, and even sensible defensive deployment of offense, because these involve large financial expenditures which would come out of the money upon which their own personal empires and advancement depends. Moreover these expenditures would spawn new military services which would be future competitors for resources.

In addition, large offensive budgets are best obtained if the population is fearful of attack. With a strong strategic and civil defense in place, Americans would be less willing to support such a large offensive military machine.

Paradoxically, even though that offensive machine did the job in Iraq, changing perceptions (as opposed to realities) about the world are already endangering the offensive military budget and threaten to decrease our offensive capabilities.

This decrease in offense would be sensible if we were building a strategic and civil defense. Without defense, however, it is suicidal.

There is also the problem of military imperialism. Whenever vast offensive military power is placed in the hands of a political establishment that is not committed to the ideals of limited government, there is a probability that military power will be used to further the personal goals of influential people and groups.

We hope that the war in Iraq was not of this type. After all, the Soviets could have seized Kuwait's oil through the military actions of Iraqi surrogates. Kuwait is not a "free" country (the wartime propaganda to this effect was shameful), but Kuwait is pro-American and certainly a better occupant of those oil fields than would be the Soviets.

It is also true, however, that powerful people to whom President Bush owes his political career have large interests in the oil fields and economic wealth of Kuwait.

It is clear that these three options - defense alone, defense and offense, and offense alone - offer different advantages to different groups of people.

There is no doubt whatever, however, which of the options offers the greatest security to ordinary Americans. Offense AND Defense is the safest military policy for a large nation of free people who wish to retain their physical security and personal freedoms.

Our country must be offensively strong enough to deter attack and yet be defensively strong enough to survive attack if a war should come to our soil.

If we have adequate defenses, we may not only avoid war, but we will avoid manipulation of our electorate by fear - a manipulation which could also cost us our freedom.

It is likely that most people reading this analysis will generally agree with its conclusions. After all, we are an organization of pro-civil defense Americans. This analysis is correct. It is not new, and it has been shared by some very influential Americans such as Presidents Truman, Kennedy, and Reagan. Why does America have no defenses?

The answer lies in the same factors which influence many other enterprises which have great and obvious potential to improve the quality and security of life for ordinary people - enterprises which are said to be "populist" in nature.

In the two areas in which I have substantial knowledge and experience - national defense and biomedical research - I have learned that populist efforts often do not effectively advance and protect the careers and wealth of their proponents.

Power, prestige, advancement, and resources flow to individuals for many reasons. These reasons rarely include effective efforts to improve the quality of human life. Many people and enterprises do manage to improve the circumstances of ordinary people, but this is often a side-effect which actually harms those who make these efforts.

This phenomenon is especially true of complex undertakings such as defense and medical research wherein the average person lacks the training and information to easily understand his best interests.

The history of medicine and of national defense is littered with the careers and resources of people who improved the lives of ordinary people and destroyed their own careers and lives in the process.

The solution to this paradox lies in knowledge. In the case of national defense it lies in grass-roots understanding of defensive and offensive technology.

The road to the effective dissemination of that knowledge is a long path. It includes many obstacles put there by those whose personal interests are best served by popular ignorance. It is a road littered with the careers and resources of many people.

It must be travelled if our nation is to survive.

SELF RESCUE

It is especially important to assure that shelter occupants are not buried alive in their shelters. Fear of this possibility or more general claustrophobia is sometimes mentioned by people who say that they would not want to occupy a small space underground even in an emergency.

In a real emergency, claustrophobia and other apprehensions quickly disappear. Virtually everyone is happy to have a safe place available. Never-the-less, a poorly planned shelter can become a death trap.

The most common shelter danger in war time is carbon monoxide from fires near the shelter air vents or near air leaks into the shelter. Carbon monoxide is an odorless gas

produced by incomplete combustion of carbon compounds. It is fatal to humans in very small quantities. Many people in World War II were found dead from carbon monoxide in makeshift shelters under burning buildings. They were usually otherwise uninjured and appeared to have just gone to "sleep" without realizing their danger.

Carbon monoxide is not removed by gas filters such as those in gas masks or sophisticated shelter ventilation systems like the Luwa 180.

In order to guard against carbon monoxide, shelters and especially their air vents should be located well away from burnable structures and trees or else special precautions should be taken. These include gas-tight doors and sealed-operation capabilities with carbon dioxide absorbers and oxygen supplies. These were discussed in detail in the April 1990 issue of this newsletter.

Carbon monoxide should not be confused with carbon dioxide.

Complete combustion produces carbon dioxide which is a ubiquitous component of our environment comprising 0.033% of normal atmospheric air.

It is bizarre that carbon dioxide has now also become yet another target of people who call themselves "environmentalists." Carbon dioxide is required for plant and animal life. Plant life would be markedly enhanced if there were more carbon dioxide in the air. Human activities, however, can change carbon dioxide concentrations by only a small amount. (In a sealed shelter, however, carbon dioxide can build up to levels 10 times over normal due to human respiration. These levels are toxic and must be avoided.)

The next highest risk to shelter occupants is poor planning which results in their being forced out of the shelter. This is especially serious in nuclear shelters where fallout radiation may make the outside environment 100% fatal for a few days. One such factor would be inadequate water supply. The most dangerous, however, is inadequate shelter ventilation. Planning only for breathing air in a warm climate is the most common error. Warm outside air and a crowded shelter can increase per-person air requirements by 10-fold or more.

Inadequate air supply can force shelter occupants out of their shelter within a few hours. Inadequate water can do the same in a couple of days. Food, however, is not usually a life-and-death matter except for infants. A healthy adult can go without food for about 30 days without harm. Under special circumstances, this period can be extended. Post-attack food for the year after the shelter stay can be a life-threatening problem - a problem which can be solved by $100 worth of supplies per person as described in our September 1990 newsletter.

After considering all of these risks, however, what about those that more immediately come to the mind of most Americans? What if your air vents become plugged? What if something heavy falls on your doorway or flying debris damages the door hinges or locking mechanism, so that the door will not open?

The debris question has special relevance in city streets where chunks of tall buildings might come to rest on top of the shelter doors. Soviet civil defense training devotes special attention to rescue of people trapped in city shelters. Some knowledgeable shelter experts consider this problem to be the principal limit to the effectiveness of a shelter-based civil defense system in cities. The problem is solvable, but most effective solutions are so expensive that they could not be used in a practical public system.

Our standardized shelter design incorporates the best features which we have found that will minimize these problems at reasonable cost. Some of these features are not immediately obvious, since they involve design features which may not be understood at first glance.

First, the air vents which exit the entryway pipes near the ground surface are protected by dust filters and blast valves which are easily accessible from inside the closed entryway. This allows them to be cleaned or unplugged from inside the structure. The pipes then enter an underground T-fitting from which two air pipes emerge. These pipes should lead to completely separate, site-specific protected locations. In this way, both the air intake and the air outlets are two-fold redundant and less likely to be plugged.

In the unlikely event that both pipes in either inlet or outlet are plugged, the two-entryway design allows expedient ventilation. In the worst case, the doors could be partially opened and the shelter ventilated by fanning as illustrated in Nuclear War Survival Skills. A Kearny air pump or at least expedient fans should be supplied in each shelter for this purpose.

A shelter with only one entryway cannot be effectively ventilated by expedient means. This is one very important reason that shelters should never be built with one entryway. The entryway geometry in our standardized design limits radiation leakage into the shelter even if the doors are open for expedient ventilation. Expedient blast protection can be fashioned by propping the doors up with sticks which will be crushed and allow the doors to close if a high pressure wave passes over the shelter. (This doesn't work in all circumstances, but it is worth a try.)

For those with Luwa ventilation systems and therefore a secondary gas-tight door at the shelter end of the entryway, there is additional protection. If this gas-tight door is made of half-inch steel and secured to the shelter flange with bolts or several strong clamps, it serves as a secondary blast door. Since any blast load on this door is transferred only to the steel skin of the shelter, it is of limited strength, but it would provide protection from explosions other than those very close to the shelter. Therefore, if the primary door is opened for any reason, the secondary door can remain closed providing a safety-lock room.

The entryway doors are designed entirely without hinges or latches between the doors and the shelter. Our special rotary hinge (the only specific piece of shelter equipment that we have personally invented rather than adapted from previous designs) does not secure the door to the shelter. The door can be lifted straight off the hinge. Also, the load binder locking chains inside the entryway cannot be jammed.

What if a 10-ton piece of rubble is resting on top of the door? First, use the other door. That is another reason we must always have two doors. Suppose, however, that there is 10 or 20 tons of rubble on top of both doors.

Before cutting a hole in the shelter side or opening the hatch which you built into the side for this purpose and starting to dig, there is one final safety feature. This is superior to the digging alternative, because your tunnel may come up under 10 tons of rubble, too.

This safety feature is a Swiss "self-rescue" device. This simple item (costing about $150 plus import and freight charges if purchased from Luwa) is placed in Swiss concrete shelters to help force open blocked vertical concrete doors.

The device consists of a large threaded bolt and nut and a wrench for turning it. These are secured with a seal so that they remain beside the door at all times and are not to be used except in extreme emergencies.

The bolt is inserted into a hole in a steel tab which is set in the shelter wall. The nut is placed on the bolt and in front of the tab, away from the shelter room. The bolt and wrench are designed so that 40 tons of pressure can be exerted on the end of the bolt by a normal person turning the wrench. This can force the vertical door open far enough for a person to slip through.

For our horizontal doors we have adopted this solution by providing three very heavy reinforced and drilled plates equidistant around the doorway and welded to the entryway tube below the door. (These are on the mobile display blast doors and should be seen by anyone who has an opportunity to visit one of those displays.) One of those plates is positioned directly under the rotary hinge pin, so that the pin will not bind when the door is lifted.

The insertion of three bolts in the these plates allows 120 tons of vertical lift to be applied to the bottom of the blast door. Even if someone parks a large Caterpillar tractor on your door, you can easily lift it off far enough to emerge from your shelter. Actually you can move several tractors if they can figure out a way to stack them all on your door.

This arrangement does not solve all possible problems. For example, dense rubble several feet deep and positioned in certain ways could still prevent your exit. This could be offset by building the entryway so that the top few feet of entryway telescopes upward over the bolts instead of just the door. This additional precaution should be considered for public shelters in the streets of large cities.

Such shelters should also have a telescoping air vent that could be screwed upward through the centers of their blast doors. For most private shelters and in most locations, however, the simpler design reduces danger to an acceptable minimum.

Two entryways - never build a shelter with only one! Air supply through the entryway with equipment such as blast valves easily accessible from inside. Redundant air inlets and outlets. No hinges or locks on the doors which could jam under distortion. Self-rescue devices installed inside the doors. These precautions go a long way toward ensuring that your shelter does not become a death trap.

PERCEPTION VS. REALITY

A few years ago, Americans perceived a very great danger. Over 10,000 Soviet nuclear weapons were being aimed at us by our "enemies".

Today, Americans are complacent. They have been told that the custodians of those weapons (which are still being aimed at Americans in numbers over 10,000 and in increasingly effective and dangerous ways) are now our "friends".

The reality is that the Soviet navy has improved by adding another nuclear submarine every six weeks. Soviet missiles have improved in accuracy. They have also improved in

reliability by being replaced by a new generation of road-mobile missiles which can be hidden virtually anywhere in the vast Soviet Union. The only target for all of this new hardware for mass destruction is the United States.

Well, anyway we still have mutual assured destruction, MAD. At least we still have that part of it which our politicians have not yet negotiated away to appease their new friends in Moscow. MAD, the threat that we will try to kill the Soviet people if their masters kill us, works, we are told, because the stable and sensible Soviet Empire would never risk destruction by an attack upon the United States.

That's the other way things have improved. The Soviet Empire is now breaking up and has become an unstable collection of splinter countries.

These splinter countries - armed with nuclear weapons pointed at the United States - include, for example, fundamentalist Arab states in the southern part of the Soviet Union.

That's O.K., mankind has changed. We are asked to perceive that no honorable country would blow up the civilian infrastructure of another country with today's fearsome modern weapons unless it has United Nations approval.

For 40 years nearly all important United Nations votes have been opposite to the stated positions of the United States government. Now we are asked to perceive that United Nations resolutions can be used as a license to kill and that they are of greater importance than the Constitutional authority of the United States Congress.

The reality is that the world is a dangerous place full of nuclear, chemical, and biological risks along with the dangers of natural disasters. The reality is that the best preparation against these risks is a first-class civil defense system. The reality is that governments representing 28% of the world population have provided civil defense for their people, but that the United States is not in that 28%.

The perceptions are phantoms of the television sets.

Realities can kill.

FUEL AIR EXPLOSIVES

During the recent Middle Eastern fighting, the United States utilized fuel air explosives. These devices were also used in Vietnam. The Soviet Union also has these explosives, and it is now reported that they are beginning to migrate into the less developed countries. There is, for example, speculation that Iraq has them.

These special weapons will pose an unusual threat to Americans if they do in fact begin to be widely available. Lack of publicity about them during the past 20 years has been, in part, a deliberate effort to diminish the rate at which this technology spreads.

When a combustible substance is vaporized at normal temperatures, its ignition can lead to an explosion called a "conflagration". This happens, for example, when methane or butane used in home heating leaks into a home and is ignited by a spark or flame.

This display, like the Pennsylvania and Utah models, is wider than 8 feet. The Idaho display room is 8 feet 6 inches in diameter. The overall display is 9 feet 6 inches wide. A wide load permit is required for it on the highway.

The greater width is better at large events like fairs when many people are continually touring the display. There is a disadvantage where volunteers may want to move the display with a pickup truck or other small vehicle to an event in the local community. There is very little difference in cost of construction of the two models.

We expect that our next mobile shelter display will be built for the State of Arizona and will be on exhibit at the Doctors for Disaster Preparedness meeting in Las Vegas in September. It will also be exhibited at the American Legion national convention in Arizona in August. That will probably be an 8-foot diameter model as has been requested by the volunteer organizations in Arizona that expect to make use of it.

As far as actual shelters are concerned, the majority which have been built have been 8 feet in diameter as a result of the easy availability of surplus fuel tanks in this diameter.

The Swiss military carried out a careful study of the diameters of cylindrical steel shelters as a function of practical interior space. Their conclusion was that 3 meters or 9 feet 9 inches is an optimum diameter. For reasons of road mobility, our mobile shelter displays are of a smaller diameter than this. We have one shelter room here at the Oregon Institute of Science and Medicine which was made from a 10 foot diameter surplus fuel tank. It certainly is a spacious and convenient internal size.