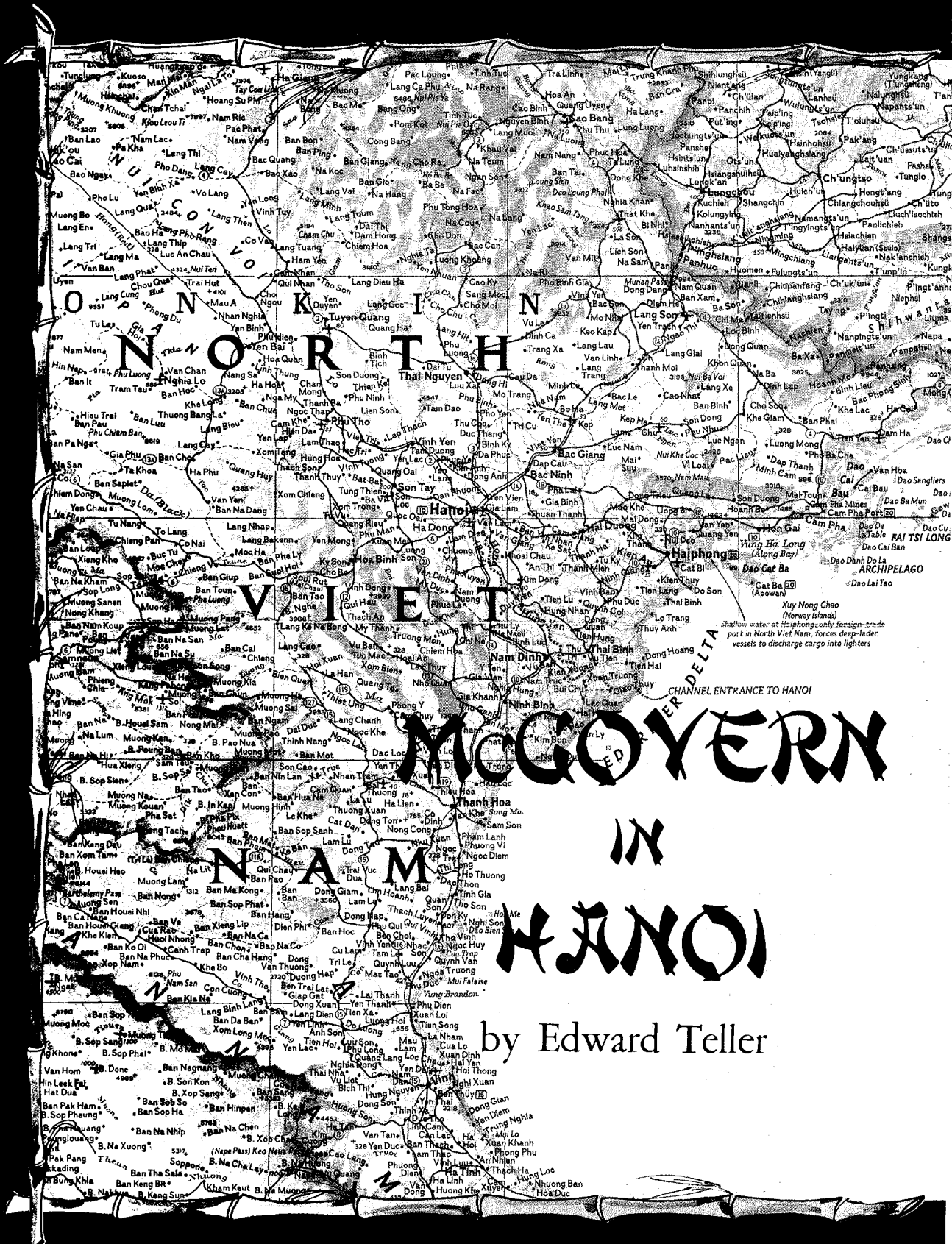


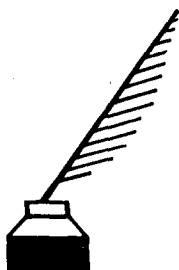
SURVIVE



McGOVERN

IN HANOI

by Edward Teller



Editorial...

UNSTATISTICS

A well-planned, well-trained, dedicated and aggressive fire department will pay off in community safety and economy by effecting so many rescues per year and putting out so many fires, thereby reducing damages and saving substantial amounts of taxpayer money. The man or men who achieve such savings in life and property receive just praise and carve out well-deserved niches for themselves in government hierarchies.

But the man who builds so well that fire is no danger to his structures does not contribute visibly to reducing losses due to fire, because his buildings refuse to burn. Fire loss statistics do not apply to him. He may never become a hero in the eyes of his neighbors.

In some of our cities today emergency ambulance service has become a highly developed art. Ambulance crews are skilled in prompt response and in providing medical aid until patients arrive at hospitals. Statistics show, for instance, that a much greater percentage of coronary patients survive due to almost immediate response to heart attack cases. Statistics are a tribute to those who organize this service. We know of one city which boasts that it is "the safest city in the world in which to have a heart attack." And it is.

Campaigning for a reduction in heart attacks through proper living (diet, exercise, smoking curbs, and mental stability) is likely to provide only *unstatistics*. It's not

easy to tally those who would have been victims had the precautions of sane living not been taken.

This same phantom fight is the story of civil defense. It too deals in unstatistics. If a coastal area is completely evacuated in the face of an approaching hurricane there are no casualties — no statistics. The job was too well done. Who would have died if the evacuation had not succeeded? Who knows? No one.

The situation is even more nebulous when we consider the possibility of nuclear attack. Thorough preparation for this possibility makes the event itself unlikely because thorough preparations create poor targets and discourage attack.

It even appears to many to be silly to prepare so well against an attack that it will not come. But this is the philosophy of Sweden and Switzerland, both of which have been at peace with their bellicose neighbors for over 150 years. That is: *Prepare to defend yourself so well that no one will dare to attack you.*

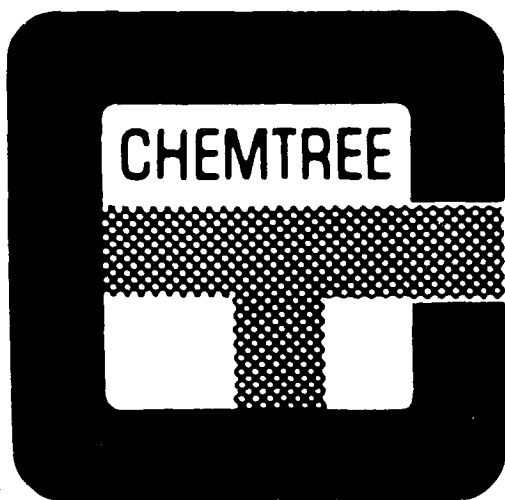
The non-use of defensive preparations is not considered to be a waste.

The absence of war casualties is not considered to be an insurmountable handicap.

And herein lies the paradox of civil defense. What appears to many to be warlike — defense — actually discourages war. And what appears on the surface to be a beatific road to peace — appeasement — actually invites war by tempting the ever-present aggressor.

In this way civil defense too deals in unstatistics. It's been a pretty dull 150 years for Sweden and Switzerland. No war. No missing cities. No green, undulating cross-aligned military graveyards.

Just defense. ■



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"There is nothing so likely to produce peace as to be well prepared to meet an enemy."

George Washington

SURVIVE

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NOTICE: Publication of Eugene P. Wigner's article "What I Would Like My Civil Defense Director To Be" — announced for this issue — has been postponed to the January - February 1973 issue.

SECRETARY LAIRD ON DEFENSE

"I don't want any future President of the United States to be in a position where he has to crawl to any negotiating table anywhere in the world. That is what we are talking about as far as the real issues of the defense budgets are concerned — the maintenance of the future strength of the United States."

Secretary of Defense Melvin R. Laird,
interviewed by *U. S. News and World Report*

SURVIVE

THE AMERICAN JOURNAL OF CIVIL PREPAREDNESS

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Survive presents authentic information relating to civil defense—to the survival of free government, the United States, and its people in the nuclear age. Its aim is public education in this field and service as a forum.

Authors are encouraged to submit manuscripts for consideration by the advisory board for publication. Articles (preferably illustrated) should be 1,000 to 1,500 words in length, slanted to the non-technical reader, and oriented toward the civil defense field. Views expressed in contributions to *Survive* are those of the authors and do not necessarily reflect *Survive* policy.

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Renowned nuclear scientist Edward Teller is imbued with a consuming passion for peace – and the current need for realistic defense policy in achieving and maintaining that peace. Sensitized by the shocking experience of Munich – which led to World War II – Teller is convinced of the necessity now for a fully pragmatic approach to the problem of American survival.

Here Dr. Teller relates this conviction to the 1972 American Presidential Campaign.



McGOVERN IN HANOI

by Edward Teller

The choice is now clearly defined. Our next President will be either Richard Nixon or George McGovern.

The name of this publication is "Survive." It is from this point of view that I want to think about the election: the survival of America and the American people.

The McGovern camp has chosen the issue of Vietnam as its battle cry. If McGovern shall be our next President, he will withdraw from Vietnam and then go to Hanoi to beg for the release of the American Prisoners of War. He has said it and he has repeated it.

What Richard Nixon accomplished was the successful Vietnamization of the War in Indo-China. The last massive Communist aggression spearheaded by hundreds of tanks, was not supported by the people in South Vietnam. This no longer can be called a civil war. The civil war of which McGovern keeps talking is over.

The invasion was successfully resisted by the Army of the South. In terms of achievements and of common sense, the war is nearing its successful ending. Now an American candidate for President is prepared to tear down the results of a defense of freedom by a gratuitous offer to surrender.

McGovern argues in terms of morality. True morality is on the opposite side. However, there are many who want to consider the issue not in terms of morality but in terms of practical politics. We have spent, they say, too much time on Vietnam and have neglected the main issue, the defense of the United States against Russia.

I cannot agree with this point of view. Morality and survival are not independent. In 1938 Neville Chamberlain acted on the assumption that Britons need not die for far away Czechoslovakia. The result was the most terrible war in our memory.

Those who today argue that Vietnam is far away, who would defend the United States but not freedom in a distant land, make the same mistake as Chamberlain. The result however may not be the same. The result may be bigger and worse with the sudden application of incomparably more powerful weapons than were available in 1938 or in the following years in which the Nazis were victorious.

Those bloody victories and horrible defeats were eventually stopped and the Nazis did not attain their original dreadful aim of world tyranny. A repetition in the 1970's which may take the form of Russian aggression and the establishment of a worldwide dictatorship would lead to results that are final and irreversible. The power of a modern state could establish a permanent pattern for the future of humanity.

Let us remember that freedom is a recent invention. It is unstable. Perhaps it is even self-contradictory. The war in Vietnam is the first war we fought without invoking censorship. The result has been that our most prestigious papers which now support McGovern have distorted the news and engaged in propaganda aimed at the victory of our opponents. One single and most unfortunate event in which our troops behaved in a terrible manner at My Lai did become by repetition and exaggeration common knowledge throughout the United States. Viet Cong terrorism resulting in the murder of thousands of distinguished leaders in South Vietnam that paved the way to the conflict in South Vietnam has not been publicized. The systematic massacres by the North Vietnamese committed in 1968 in Hue have been barely mentioned and then forgotten.

Of course it would have seemed more expedient on the part of President Nixon to withdraw from South Vietnam and to leave those whom Presidents Kennedy and Johnson have befriended to their fate. Should we not have accepted the possibility that a million of South Vietnamese would be killed and many millions enslaved? After all, so it is stated, we are not the policemen of the world. Fortunately, Nixon was too wise to accept this argument.

It is my firm conviction that a withdrawal from Vietnam would mean disaster for the United States in the near future. There is no question in my mind that a withdrawal at the present time, as advocated by McGovern and the majority of the Democratic convention, would be indeed fatal not only to the Vietnamese but also to us.

In a technical sense the war in Vietnam has been won by our side. The decision was clinched by Nixon's courageous decision to blockade the ports and to bomb the supply lines in North Vietnam. It is obvious that a small additional effort is needed to bring about a favorable and probably stable conclusion. If we now submit to propaganda and behave in a manner that will appear in the eyes of the world as an extravagant caprice, as an "America first" policy exaggerated far beyond what existed in the 1930's, the credibility of any American alliance will vanish. Europe will no longer remain tenable. America will be isolated.

The world has become small and more interrelated. If isolationism was wrong, neo-isolationism is the most incredible mistake. In fact, the neo-isolationism of McGovern is more than a mistake. It is inexcusable folly.

In the minds of too many Americans a nuclear war is unthinkable. Most people believe that American retaliation would be sure and effective. McGovern boasts that if he is President there can be no Pearl Harbor. That American deterrents are potent continues to be believed in spite of accumulating evidence which points in a different and ominous direction. The readers of *Survive* know that Russia has made thorough preparations for the evacuation of its cities. McGovern opposes civil defense.

Our readers have heard that Russia has developed its arms far beyond parity. The possibility of a clear-cut Russian victory not accompanied by Russian losses is a terrible possibility unless the determined leadership offered presently by Richard Nixon is continued. Even today it is a certainty that Russia is safe against a repetition of the dreadful suffering that the Russians remember from the days of the Nazi invasion. Most unfortunately nuclear war is not unthinkable. But McGovern and his supporters prefer not to think.

In spite of these real and terrible dangers, I believe that President Nixon has established the right priorities. He knew that Vietnam had to be defended first. He knew that what we have started had to be finished. He has ended the paternalistic approach of the earlier Administrations and transferred the responsibility of Vietnamese defense to the Vietnamese people. In spite of the chorus of the doubters and the defeatists he has succeeded. Vietnam now is and should be Vietnamese.

Now we can turn to the question of our own defense and our own survival. The first step in that direction is a most serious and conscientious effort to eliminate tensions between the big powers. We are at peace with Peking and with Moscow. Trips by the President to these places were justified.

We are not at peace with Hanoi. For an American President to go hat in hand to a defeated enemy would be both egregious and, considering our responsibilities, wicked. This is a free country. Let McGovern go if he wishes, but let us make very sure that he shall never have a chance to represent, as President, the American people and perform the act of betraying our Allies.

According to the logic of the military situation Hanoi should stop its aggression. Because of political logic they should continue. Why should they give up while there is a chance that a whim of the American electorate could give them the victory which they could not achieve in South Vietnam? The blood that will be spilt in the next few months is on the head of McGovern.

But worse would follow if McGovern were elected. What is in the making is a new Munich. What is at stake is our own survival. ■



In Step With "New York's Finest"

Quietly 4,000 New York citizens go about their second occupation of being auxiliary police. They donate 32,000 hours per month of their time at no cost to the taxpayer.

Founded in 1950 as an adjunct to civil defense, this volunteer force serves on a spare time basis to augment regular police activities. Composed of men and women between the ages of 17 and 62 — outfitted in uniforms purchased by themselves — the auxiliary force is assigned to police precincts and works with the precinct police teams. New York Police Commissioner Patrick V. Murphy attributes part of the decrease in serious crime to its presence on New York streets.

On June 22, 1972 ceremonies were held at New York's Police Academy in which 1,400 auxiliaries received diplomas for completing the prescribed police training curriculum during the first half of 1972. At the same ceremonies 219 awards were presented to auxiliaries for acts of heroism. Unit citations were presented to eighteen precincts.

New York Mayor John V. Lindsay has announced that \$162,000 in federal funds is to be used this year in providing for auxiliary police needs. In commenting on the success of the program and the recent recognition and awards Carmin G. Novis, New York's Civil Defense Director said: "This demonstrates what can be accomplished when the program has community support."

The Oyster and Agnes

Agnes, which wrought its great havoc last June after it was downgraded from a hurricane to a tropical storm, rates as the most vicious storm of the century in the mid-Atlantic states.

In addition to the debacle of overflowing streams and pent-up water there was the problem of run-offs to the ocean. Life in the sea depends upon a salty environment. Run-offs bring in fresh water. And in Chesapeake Bay, a

narrow 200-mile long inlet fed by numerous streams and rivers, the "Great Salt Water" (as the Indians called it) simply became something close to a fresh-water lake when it received the enormous quantities of water generated by Agnes. At Solomon's Island, where University of Maryland ecologists are making studies, the salt content dropped from its normal 14 parts per thousand to 2 or 3.

Oysters and other shellfish, which need more than double this amount to survive, can exist for around two weeks in a low-salinity condition by "buttoning up." The Chesapeake Bay salt content can be expected to return to normalcy in late September — also oyster harvest time. With the assumption that shellfish survival is possible at readings quite a bit below normal there is room for hope.

There is no known precedent for this situation, and marine biologists — tackling the research opportunity offered — are taking a "wait and see" attitude. It may be a poor year for oyster bars.

Swedish Shelter Tests

In Sweden tests were carried out to investigate what would happen if fire broke out outside a shelter. With the participants remaining completely passive, a test was made to see how long it would be possible to stay in the shelter with the air supply cut off, without endangering the participants. When after 3 hours and 50 minutes the oxygen content had fallen to 16 per cent the test was stopped. In extreme circumstances it would have been possible to hold out in the shelter for another half hour.

The second test — run under the same conditions as the first but with the intention of absorbing the excess carbon dioxide by means of slaked lime — lasted eight hours. When the carbon dioxide concentration reached 3 per cent, the lime was used. After 4 hours the oxygen content had fallen to 16 per cent; oxygen was then pumped in and the oxygen content remained constant. The carbon dioxide content dropped to 2 per cent; these conditions were maintained until the end of the test.

... Bulletin of the International Civil Defense Organization
Geneva, March 1972

Soviet Survival Solution: Evacuation

(Excerpts from *Civil Defense*, by N.I. Alabin, P.T. Egorov, I.A. Shlyakhov. 544 pages. Translated by Joseph Lewin, 1972.)

Dispersal is the term used for an organized departure from the major cities and the distribution in the outer zone of workers and employees of national industrial enterprises that continue to function within these cities in wartime.

In addition to workers and employees of industrial enterprises, people who help operate the city should also be included in the category of those to be dispersed (for example, utility workers). These people must work within the city but must be located in the outer zone for their rest.

Workers and employees of enterprises who are included in those to be dispersed, must, after relocation in the outer zone, go into the city in shifts for work at their enterprises, and upon completion of work, must return to the outer zone to rest.

By evacuation is meant the removal from the large city to the outer zone of the population that does not work in industrial enterprises within the city, and also the removal of population from a zone of possible flooding into safe areas.

Some city enterprises should also be evacuated, including organizations, offices, and educational institutions whose activities during the war period can be transferred to agricultural areas.

Consequently, those to be evacuated include the entire population not connected with enterprises that operate within the city in wartime, and also the staffs of administrative, scientific research, and educational institutions that would be evacuated for the duration of the war to the outer zone in order to continue their activities.

In the outer zone, the dispersed and evacuated population is located beyond the boundaries of the possible radius of destruction that would result from probable nuclear blows at the city, that is, at a safe distance from the city. This distance must in each specific case be established by the civil defense chief of the city.

When the location of the outer zone is determined for purposes of dispersal and evacuation, it must be remembered that areas of dispersal of workers and employees who must work in the city cannot be so distant from the city that the time of round trip travel would exceed four to five hours. . .

After completion of dispersal and evacuation, the only

population remaining in the city will be the operating shift of workers and employees of those enterprises that remain, and service personnel of the city. The remainder of the city population is dispersed over a wide territory of agricultural lands.

These measures reduce the possibility of destruction of the dispersed workers and employees as well as the evacuated population when nuclear attacks are made on the cities. Since within the city there must remain only the operating shifts of enterprises, this reduces the problem of sheltering these people in shelters [blast shelters] at the enterprises, in shelters that are located very near to them. In this case the requirements for shelters will be much lower than would be the case if the entire city population were to be protected.

Calculations show that in case of a rocket-nuclear attack the losses to the population in a large unprotected city may constitute 90% of the population, while in the case of timely and complete dispersal and evacuation of the population the losses may be reduced down to several percent of the total population.

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Nebraska's "Young Americans for Civil Defense Essay Contest" stimulates a good bit of original thinking. One of the 1972 winners was Cindy Sue Rohde of Randolph High School. Noma Shinrock, Secretary-Treasurer of the Nebraska Civil Defense Directors Association, thought Cindy's essay posed a challenge to local government. So did our editorial board.

My Community — Prepared For Disaster?



by Cindy Sue Rohde *

"President Nixon declares Lubbock, Texas a disaster area."

This news of the 1970 tornado might have shocked some people, but it didn't impress the people of my home town — Randolph, Nebraska. This ignorance led me to seek knowledge of my community's civil defense plan and why people were so secure in the thought that Randolph was protected from disaster.

Now it was my turn to be shocked. My new-found knowledge sent shivers of panic through my spine.

First of all, Randolph has no real civil defense director. Our county sheriff is a volunteer as an unpaid director. This is particularly frightening since he lives twenty miles from my town and it might not be possible for him to reach us in time of emergency.

My second discovery also caused me worry: many people did not know where to go in Randolph during an emergency — much less what to do. As if this weren't enough, I found out that our community's fire department and police force were not prepared to fight any disaster since they weren't organized for it.

Since this is the first time any of these things have come to my attention, I had not known of the critical danger we could have been in if an emergency had arisen.

In my opinion, we should petition the government to assign us a civil defense director who is well qualified and has the ability to execute a working plan in the case of an emergency striking the immediate area. The city council

should also be made aware of the seriousness of our lack of civil defense planning.

We also lack adequate shelter in case of fallout. We could only accomodate 350 people in three buildings. For a town of 1,400 these facilities are inadequate. I feel that the members of the city council should also be made aware of this lack of facilities. And I think lives are more valuable than money.

It is our city government's responsibility to present its citizens with emergency planning — what to do and where to go. Literature could be made available through the library, and classes could be conducted instructing people in how to act when a disaster hits. These classes would possibly create a bond between citizens which could prove to be extremely helpful in times of emergency. It could produce a well-organized unit of cooperating citizens working toward a common goal: the saving of lives.

My community is not now prepared for disaster, but it could be with the help of the government machinery and concerned citizens. Our government is based on the principle "of the people, by the people, and for the people." The people can take advantage of this principle and pressure their government into protecting them.

If the government doesn't help by providing effective security from disaster for "we the people," I'm sure eventually we'd have no need for the government because there would be no people. ■

**Miss Rohde is a 15-year-old high school sophomore in Randolph, Nebraska.*



Protection from fallout is an art. And so is progress. We have been keenly interested in the progress of fallout protection down through the years.

Even "awed."

Because back in 1955, some time after we first became worried about the dangers of fallout, the government set a standard protection factor (PF) of 5,000 for fallout shelters. This was quite a bit of protection. So was the 1,000 PF that they reduced it to in 1959.

With protection like that hardly anyone would get sick (radiation sickness) in a fallout situation — even with the highest kind of fallout concentrations.

Well, they reduced the standard minimum PF to 100 in 1960, and this would permit a good number of shelterees to get sick. Not too many would die it is true. But it made war a little more warlike.

And, as the experts pointed out, it was cheaper this way.

It was for this economic reason that the minimum PF was again lowered in 1962, this time to 40. Not only was it cheaper, but more people would get sick. And more would die. One could say that it made war even more meaningful.

Enterprising government specialists had the courage not to stop with a PF of 40, and they soon introduced a category of shelter down to 20. They called it "Category I" and they said this would provide a good bit more shelter where it was needed. And this was so. It did.

They did even more. A little later they carved out another category of shelter they called "Category 0", and this created a lot more shelter. It was especially valuable where the higher categories did not provide enough. This category went down to a PF of 10.

This was wonderful progress. But in some communities it still was not enough. That is, even with Category 0 shelter spaces many people were left without shelter. The General Accounting Office in a recent study of civil defense suggests that we ought to consider shelters below PF 10.

And this is what has just been done. Here in Shangri-La County, shelter-shy and more-or-less remote, we have stolen a march on DCPA (OCD) and have come up with "Category 00."

The double-zero bracket will take in a PF as low as one. This completes the progression because there is no PF lower

by Kevin Kilpatrick

than one. It includes all buildings, sheds, piers, vehicles, tents and canoes. Now everyone has shelter no matter where he is. The problem is solved.

Of course there will be more sick and dead. Especially the latter. But progress has its price. You can't get around that.

The heroic period of the Cuban crisis when the Americans hoarded stocks of supplies and hastily dug holes in their gardens seems long in the past today. The Americans have learned to live with their great fear to the point of forgetting it. Crime, environmental pollution, racial disturbances, student agitation are, for them, threats that are too tangible, too current for it to be otherwise. They leave to others the job of "thinking the unthinkable."

Jacques Jacquet-Francillon
Le Figaro, Paris

Quake Predicting

Lasers and satellite reflectors are the latest tools in the embryonic science of earthquake forecasting. The San Andreas Fault in California marks the long boundary where two gigantic "plates" of the earth's crust meet. The plate beneath the Pacific Ocean here slides slowly northwestward past the plate beneath the North American continent. When the slippage proceeds unimpeded all is well. When something blocks this slippage a "strain" builds up. This strain can be suddenly — and violently — released by means of a geological adjustment we experience as an "earthquake."

Measuring the movement of the Pacific plate with an acceptable degree of accuracy (to see if its progress is "normal" or not) has up to now been impossible. It moves only an inch or two a year. Now, with two ruby lasers, one marking the Pacific plate and the other marking the North American plate at 500 miles distance, beamed on orbiting reflectors, it is anticipated that over a 10-year period movements within an accuracy of plus or minus two inches for that period can be measured. A third laser will go in place in Mexico next year to beef up the system.

Methods of relieving strains that cause earthquakes are also the object of determined research. Strategically placed underground nuclear explosions comprise one promising theoretical method, while another is deep "lubrication" of the plates with large quantities of fluid.

Last year Dr. Michel Toyer was sent by the French Government to the United States to look at American Civil Defense. We asked his candid opinion of what he saw, heard and read so that we could use it in Survive. Part of it he gave to us orally, part in writing (after a ripening delay). We use the latter in this article.

Mission to America

Last September at the time of our meeting with Professor John Samuel** in Gainesville, Florida you did me the honor of asking me for an article for your splendid journal. But you also embarrassed me because you asked me to give my opinion as a representative of French Civil Defense on your American Civil Defense.

Isn't it always a delicate matter when a friend, after having been your host, asks you what you think of him and what he does? If you compliment him too much you are suspected of flattery, and if you criticize him for his shortcomings and errors you risk becoming pretentious and ungrateful in his eyes. Furthermore, I am not by virtue of my official position really able to pass judgment in the name of French Civil Defense.

But I feel that I must reply because everywhere I went in America the welcome reserved for me was especially warm. In my professional contacts I found helpfulness and competence, and much cordiality outside of work. Meetings and visits were well organized. Briefings were meaningful because they were well-prepared, pertinent and given by specialists.

I was all the more appreciative because I asked for more than I gave, because arrangements for appointments could only be made on short notice, and lastly because my modest knowledge of your language called for patience on the part of those people I met.

My stay in the United States, planned for three months, unfortunately could only last for two months due to financial constraints, and this I regret immensely. I was able,

*Chief, Radiation Effects Laboratory at Champs-sur-Marne, France

**Project Director, Civil Defense Technical Services Center (Florida)

however, to take the Fallout Shelter Analysis Course and its examination, and during the course of numerous trips within the United States to be exposed to all the major problems of protecting your population against the dangers of nuclear conflict.

I was also able to appreciate the industry and the determination of those responsible for American Civil Defense, as well as the vast resources at their disposition. I cannot hide my admiration and my envy in the face of so many laboratories so well provided with equipment.

Now, may I also permit myself a few criticisms or reservations along with my compliments?

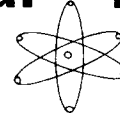
Notably, it seemed to me that the dangers of fire following nuclear bombardment had not yet been thoroughly examined; but I learned at the end of my visit — in Washington — that this deficiency was soon to be corrected.

I admire too the manner in which unity of doctrine is assured in spite of the problems that each separate state civil defense organization in its relations with the federal civil defense office can present.

Public information in your country is of great importance and has a very strong impact — even more than in my country. But it seems to me that the public should be cautioned against publicity which sometimes erroneously favors inadequate measures.

Scientific publications, on the technical level as well as the popular, are extremely abundant and of high value. Orientation of the public appears to have been well thought out, but in spite of this I met many Americans still in the dark about these things. The "machine" seems to be ready

Nuclear Notes



by Michel Toyer *

to function, but it is to be feared that panic will keep it from operating properly in the event of real emergency. Has this been taken into account? Further, solidarity and real patriotism are too often wanting in our overly privileged countries. I say "our" countries because this is true throughout all our society of abundance and peace in which the citizen has to a degree lost certain attitudes and a certain mentality required for his protection. The solution for this situation is to be found elsewhere, but — while basking in a just pride for the work that has been accomplished — we must not delude ourselves. The risk of a world nuclear conflict is small to be sure. Our governments work to make it so. But it remains a possibility.

In your manual of defense against radioactive fallout it is written: "There are no total answers, no easy answers, no cheap answers to the question of protection from nuclear attack." But answers do exist and must be planned beforehand. Pessimism and defeatism must be countered. A strong desire for peace and the numbing of minds against war are not at all synonymous.

I hope that I have not in your opinion been too severe or too presumptuous. In truth a good bit of work has been accomplished in your country.

Please believe, and let it be known to others, that a French engineer alert to problems of defense against nuclear attack learned much in the United States, that he has profited by what he has learned, and that his stay in your great country — although it made him deplore certain grave and delicate difficulties that you have to resolve — resulted only in reinforcing his admiration and his friendship for the American people. ■

With the signing of El Salvadore and Cambodia in the last two months the Nuclear Nonproliferation Treaty signatories have jumped to 72. Out of the five nations which now possess nuclear weapons two have not yet signed: France and China. Six of the eight nations which are "near-nuclear" nations are also holdouts: India, Israel, Italy, Japan, Switzerland and West Germany.

The first U.S. commercial fast-breeder nuclear reactor will be located on Clinch River between Oak Ridge and Kingston, Tennessee. TVA and Commonwealth Edison will build the facility at a cost of \$500,000,000. Construction will begin in 1974, and completion is anticipated for 1979. Breeder reactors are looked to as the most practical solution to power needs for thousands of years to come.

Every year each of the four hospitals on the island of Hawaii (Kau, Kohala, Kona and Honokaa) undergoes a mass casualty exercise. In 1972 these exercises were spaced over a three-month period: April, May and June.

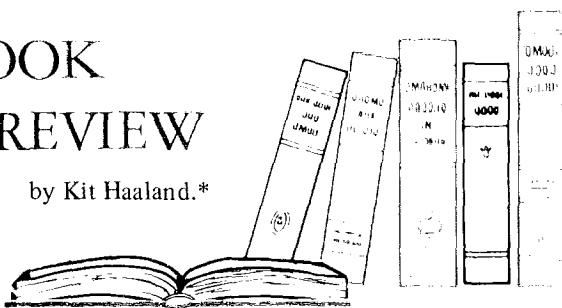
Forty-four countries outside the "nuclear club" now possess nuclear power reactors. This means that traffic in fissionable materials is swinging upward at a sharp rate. With the present development of "breeder reactors" and the by-product of Plutonium the "local" production of nuclear weapons is a possibility that has many scientists worried.

"The emergence of the Peoples Republic of China as a significant nuclear power has added a new and complex factor to the strategic equation, both for the United States and the Soviet Union. China probably already has a capability to deliver nuclear weapons on Soviet targets in Siberia, and on U.S. forces and U.S. allies in Asia and the Western Pacific. *By the mid-1970's China's nuclear reach could extend to all the Soviet Union, and by the end of the decade to the Continental United States as well.*"

—Admiral Thomas H. Moorer,
Chairman of the Joint Chiefs of Staff

BOOK REVIEW

by Kit Haaland.*



When War Comes, by Martin Caidin. Published by William Morrow & Company, Inc., 105 Madison Avenue, New York, N.Y., 10016. 1972. \$4.95.

When War Comes unearths many issues, some buried years ago, which should still be everybody's business — in spite of the ABM treaty. For one thing, author Martin Caidin asks "Whatever happened to civil defense?" even though he believes it won't work.

And this belief leads to one of many serious misrepresentations in the book.

Caidin is most effective when he is describing the horror which could spawn from the release of existing poised-for-action nuclear war machines, and what American leaders have done about the problem (besides sanctioning it with a treaty which came about after his book was published).

When War Comes is hard-hitting prose that combines the best of Argosy and Madison Avenue writing. Unfortunately, the average reader has no way of checking whether Caidin is a nut or a prophet of true doom.

With a few changes this book could become one of the best books I have ever read, and maybe one of the most important books of this age. Caidin is trying to arouse the sleeping giant — the American public — to a full realization of the world predicament caused by nuclear war machines. It is something we all need to think about a great deal more than we have so far.

— Kit Haaland

The subtitle of the book is *The Doomsday Book of the Nuclear Age*. Doom comes to Birmingham and to Manchester (England) in the form of 100-megaton missiles, merely to reinforce an ultimatum from the Soviet Union — quite credible both politically and technically for a post-1975 scenario.

At the same time, the United States is hit with 1700 missiles delivering maybe 10,000 megatons. In addition the West Coast experiences a super-horror, one which Caidin reserves for his last chapter: a thousand-foot high "radio-active" tidal wave blasted up by three gigaton bombs detonated at the bottom of the deep Pacific trench a few miles offshore. The tidal wave is credible, but the excessive radio-activity distributed through several hundred cubic miles of seawater and from only a few thousand tons of salt

wrapped around the bombs, is not! Some one has made a bad calculation.

Caidin's doomsday attack comes "out-of-the-blue," an attack currently discredited by the U.S. defense community for various reasons. Nevertheless, it could happen, either through accident, irrationality, or sheer evil intent.

With our current defense measures for the population of the United States, which are virtually zero against a population attack, Caidin predicts 190 million fatalities in the U.S. alone from this doomsday attack, from blast, burns, fallout and starvation — nearly the entire population. He may be right. Or maybe his number is 20 to 40 million high. What difference does it make? Our country would be destroyed, and in return as the argument goes, the Soviet Union would also be destroyed at the same time by *our* weapons. He writes:

"So there won't be a war. It's too horrible. No one would dare take a chance on something like *that*."

"That's the theory."

"It's *their* theory too."

"We hope."

That's the theory of mutual deterrence by "Assured Destruction," a theory nurtured into doctrine by the McNamara regime, and made manifest by the ABM and Strategic Arms Limitation Treaty.

Caidin is uneasy about the effectiveness of this doctrine, as are many others, including myself. With Caidin, the uneasiness arises from distrust of the Soviets, distrust of our bureaucracy and military complex, and distrust of the controlling mechanisms of our war machines.

Caidin doesn't believe that fallout and blast shelters will work against nuclear weapons. If he did (and if our leaders did) it would become obvious that our hope in strategic deterrence by Assured Destruction would become empty and unreasonable if the Soviet Union exercised its civil defense plans for evacuation of people from the larger cities. It would become obvious, too, that the doctrine for the Soviet Union is *Assured Survival* through protection of the proletariat.

The Soviet manual for evacuation* gives detailed plans for relocation of people, excellent designs for fallout shelters which implicitly include some blast protection, and these shelters can be constructed within a few hours after relocation, whether in forest or in frozen Arctic tundra. The plan also includes prelocation of strategic commodities such as food and medicine. Soviet children are taught passive defense measures in the schools from second grade on, including defense against chemical and biological weapons.

Soviet marshals have claimed that these defensive measures can reduce casualties by a factor of ten. A simple

*Kit Haaland is a member of the Oak Ridge Civil Defense Project at the Oak Ridge National Laboratory.

*Civil Defense, edited by N.I. Akimov, translated into English by S.J. Rimshaw

calculation by Eugene Wigner in *Survive** indicates that the Soviet Union would suffer less fatalities from an all-out attack by U.S. nuclear forces against an evacuated, sheltered Soviet population than it suffered in World War II – less than 10 million.

The Chinese also believe in the effectiveness of shelters. In talks with James Reston last November, Chou En-lai said, “We Chinese are not afraid of atom bombs. . .” and went on to explain that they have underground tunnels under all of their major cities, and these tunnels are lined with bricks laboriously manufactured, delivered and put in place by the combined efforts of men, women, and children.

Somehow, Caidin has been led astray on the effectiveness of shelters, either by bad information or by bad calculations. Here are Caidin’s words on fallout shelters:

“Now let’s assume we can provide six months of realistic training for our people. Okay, we’ll also give them six months in which to build shelters and stock them with food, medicine and other emergency provisions. Good, sturdy, reliable, well-protected shelters. We’ll assume an enemy strike of 20,000 megatons, and again, there will be no consideration for deaths from blast or fire. Only fallout.

“So we’ve got most of the population underground. The country has come to a virtual standstill. We’re all underground like moles, sweating it out. But it’s worth it, isn’t it?

“Not really.

“You see, under even perfect conditions, fallout would kill 89 percent of the entire population.”

This conclusion is incredible. What kind of “Good, sturdy, reliable, well-protected shelters” is he talking about? He doesn’t say. One is reminded of two little pigs who thought their houses of straws and sticks provided good protection against the big bad wolf.

The implications of this conclusion permeate Caidin’s book. Such nonsense needs to be set straight. A simple calculation can show how absurd this conclusion is:

Assume that an enemy is going to try to kill the people in the Northeast Corridor – a strip about 50 miles deep and 500 miles long with about 50 million people in it – by fallout from 15-megaton weapons detonated upwind on the surface. We’ll assume too that the wind patterns are perfect, so that each weapon produces a strip of fallout 10 miles wide and 75-100 miles long in which the accumulated radiation dose 96 hours after the detonation is about 3,000 roentgens.

Under these assumptions 50 weapons detonated upwind would cover the entire Northeast Corridor with an accumulated radiation dose 96 hours after detonation of about

4,500 roentgens (instead of 3,000 roentgens, because of overlapping effects). With 10 times as many weapons – 500 of them – for a total yield of 7,500 megatons, the enemy could lay down a 96-hour accumulated radiation dose of 45,000 roentgens over the same area under the same assumptions. With 5,000 weapons the yield would be 75,000 megatons and the accumulated dose 450,000 roentgens.

Now, what can we do to protect the people from such attacks, given six months for preparation as Caidin allowed? Here’s where Caidin apparently failed to take an engineering approach to the problem.

From *The Effects of Nuclear Weapons** we find that each foot of earth cover will attenuate fallout radiation by a factor of ten, a rule which can be verified experimentally in just about any college physics laboratory. In other words, one foot of earth cover will reduce the fallout radiation by 10, two feet will reduce it by 100, three feet by 1,000, and so forth. The same protective effect can be obtained by using eight inches of concrete instead of one foot of earth, and so forth.

So with three feet of earth cover over the fallout shelters (or two feet of concrete) the 96-hour accumulated radiation dose *inside* the shelter would be 4.5 roentgens instead of 4,500 from a 50 weapon, 750-megaton attack – less than half the average dose of 10 roentgens from the old “fluoroscopic” foot examination (for shoe fitting). Similarly four feet of earth cover (or thirty-two inches of concrete) would limit the accumulated dosage to the same safe level against the 500-weapon attack, and five feet of earth (or 40 inches of concrete) would provide safe cover against fallout from 75,000 megatons *directed against an area less than 1% of the area of the United States!*

If shelters were constructed to protect the Northeast Corridor against a 75,000-megaton fallout attack, the plans would include complete habitability of the shelters for the time needed (up to four months), an evacuation plan to remove people from the shelters after the outside radiation had decayed to a safe level, and relocation areas for the evacuees complete with food and shelter. A natural evacuation route for the Northeast Corridor would be by sea, because the radiation level would be negligible a few thousand feet from shore within a couple of weeks after the attack.

Some of Caidin’s statements are really incredible, such as this one on page 79:

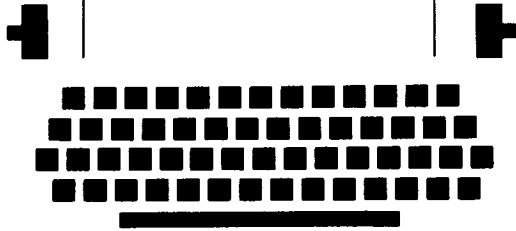
“ABM (antibalistic missiles) will be responsible for massive lethal fallout all around the country.”

The arguments leading to this gem are as mixed up as the web of a spider with brain damage. Altogether I found about 40 places in the book which would require rewriting to correct misleading and incorrect information. ■

**The Myth of “Assured Destruction,”* by Eugene P. Wigner, *Survive*, July-August, 1970.

**The Effects of Nuclear Weapons*, edited by Samuel Glasstone and published by the United States Atomic Energy Commission (1962).

COMMENTARY



We subscribed to *Survive* a year ago and didn't receive any magazines. But we did get a renewal notice in yesterday's mail. Would you like us to pay for another year of silence?

(Name withheld)
Moscow, Idaho

Touché. We are very sorry. This apparently has happened in a number of cases. The writer, in addition to our apologies, gets his missing back issues plus a full year of *Survive* without further charge. The complete reorganization of our (volunteer) mailing department — now in its final stage — is designed to correct mistakes of this kind. We ask all sub-

CD Calendar

(State, regional, national and international meetings)

- | | |
|----------------|--|
| Sept. 10-12 | Annual Conference, North Carolina CD Association — Greensboro, N.C. |
| Oct. 16-18 | Conference, Iowa CD Directors — Des Moines, Iowa |
| Oct. 23-Nov. 3 | Phase I, Career Development Program, DCPA Staff College — Battle Creek, Mich. |
| Oct. 30-Nov. 2 | Annual Conference, United States CD Council — Boston, Mass. |
| Nov. 7-10 | Career Development Graduate Seminar, DCPA Staff College — Battle Creek, Mich. |
| Nov. 11 | Annual <i>Survive</i> Conference — Starke, Fla. |
| Nov. 27-Dec. 8 | Phase III, Career Development Program, DCPA Staff College — Battle Creek, Mich. |
| Nov. 30-Dec. 2 | Third Annual Meeting, National Association of Search or Rescue Coordinators — Sacramento, Calif. |

scribers who have had similar problems to please let us know so that remedial action can be taken.

Margaret Brown
Business Manager

1972 SURVIVE Preparedness Awards

Eight regional awards, one to a local civil defense organization in each of the eight civil defense regions. . . One national award to one of the regional winners.

Entries for the calendar year 1972 must reach *SURVIVE* not later than January 20, 1973. Selections will be announced in *SURVIVE* and will be presented at appropriate occasions as soon after announcement as practical. . .

SURVIVE PREPAREDNESS AWARD ENTRY FORM

(Suggested only; any format acceptable)

Date _____

Organization _____

Address _____ City _____

State _____ Zip Code _____

This entry is submitted for the following general reason(s) — (please limit to 100 words or less):

Specific information in support of entries is appended hereto as attachments as follows (examples of specific information — shelter types, organization for disaster, staff operations, training, warning, local government support, rescue capabilities, functional planning, etc. — attachments may include pictures, charts, clippings, letters, etc. — they should be as brief as full coverage will allow):

A.
B.

C.
D.

E.
etc.

Civil Defense Abroad...

GERMAN WHITE PAPER CRITICAL OF CIVIL DEFENSE

(The *Frankfurter Rundschau* points up the plight of West German Civil Defense by citing passages from the Bonn Government's recent "Civil Defense White Paper." Following are excerpts from the news story as reported in the June 15, 1972 edition of the *German Tribune*.)

... Almost every large-scale maneuver by the German armed forces or NATO has shown that an overall defense system cannot operate fully while civil defense is in such a bad way.

Here, as in many other sectors, the SPD-FDP government inherited serious problems. It was faced with the task of first making a clean sweep of things before starting afresh.

The results of this clean sweep and the plans following on from it can now be seen in West Germany's first Civil Defense White Paper. The White Paper is 120 pages long and very impressive in parts. The prospects it holds out are however very sobering. There is too large a gap between what is necessary and what is financially feasible.

"The government is convinced that a balance between civil and military defense increases the credibility of overall defense both at home and abroad" one passage reads.

"The credibility of a deterrent produced by the guarantee of military preparedness also depends on appropriate measures being taken in the sphere of civil defense" another section states...

The White Paper lists the main duties of civil defense as maintaining the functions of State and government, defending the population, ensuring vital supplies and providing civilian support for the armed forces.

Priority is given to increasing shelter construction, recruiting volunteers for the Technical Aid Organization, providing auxiliary hospitals and expanding public relations work...

Plans to improve public relations work are revealing. The White Paper's statement that civil defense is still linked with bitter memories of the last war and that it must therefore be represented as a humanitarian service in war and peace is as obvious as it is necessary.

In view of the many unsolved questions touched upon in the White Paper and the unsatisfactory answers given (because of finance) one of the "success figures" prompts a certain amount of bitterness:

According to the figures, the installation of sirens is almost complete. About 56,000 of the planned 82,000 electric sirens and 220 of the planned 500 high-capacity sirens have now been attached to the alarm network. Twelve thousand of the planned twenty thousand alarm stations are also serviceable. But only 150,000 persons will be able to find a place in shelters now ready or still being built.

CLASSIFIED ADS

[*Survive's* Classified Ad section begins with this issue. Accepted ads will be published at the rate of \$2.00 per 55-letter line.]

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Q AND A CORNER

Q Over the years *SURVIVE* has plugged blast shelters for cities. Yet — also over the years — many civil defense instructors have neatly divided a targetted population between those people who are outside blast areas and can survive with proper fallout shelter, and those people who are within blast areas and thereby become “part of the problem” — meaning there is no hope for them. They presumably disappear and wind up as part of the fire ball and the fallout cloud. Do we need blast shelter or not? If so, why?

A The national shelter program is at present *fallout*-shelter oriented. Blast shelter is looked upon as too ambitious an undertaking. This is due not to a disbelief in the value of blast shelters but to stringent budget limitations, a political philosophy of “non-provocation,” and expediency. *SURVIVE* is not handicapped by these constraints. In brief, you might say *SURVIVE*'s case for urban blast shelter has a background something like this:

In the blast area of Hiroshima well over 50% of the population survived a totally unexpected nuclear explosion. Many reinforced concrete structures, though not built for shelter, afforded protection for those who happened to be in them at the time. The assumption of total annihilation within a blast area is incorrect.

A bar graph drawn up some years ago by the Office of Civil Defense (now DCPA) and used widely in publications since then shows that blast shelter in 100 American cities would save over 25 million lives.

In its first issue (May-June 1968) *SURVIVE* provided estimates that showed anticipated fatalities of 75%-90% in the central zone of a nuclear weapon burst could through the use of blast shelter be cut to 10%-25%, and that fatalities of 30%-50% in a ring outside the central zone could be cut to 2%-4% in the same way.

There is much more evidence. Statistics also show that the average human can survive a remarkable degree of simple blast overpressure (that is, blast without the complicating secondary effects such as flying debris and collapsing buildings) — over 10 times that level of blast overpressure which would destroy a modern home.

It is this type of information which has made it clear to responsible political leaders in a number of other countries that blast shelter can be of real value in protecting the lives of urban dwellers and in presenting a potential enemy with unrewarding targets. Extensive applications of this principle in these countries have resulted in a hard-shell preparedness for attack that bodes a future without attack.

I hope this answers the question (WM).

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