by

Edward Teller

Today all on earth are close neighbors: the First World, which is liberal; the Second World, which is dictatorial; and the Third World, where changes are rapid and often violent. The fate of all hinges on the development and use of UFO technology. If we want to understand and influence the future, we should review and understand humankind's new tools.

Some say the generation just past accomplished more in technology than all generations to come. Comparisons of the past accomplishments with contemporary ones are misleading; more important than comparisons of temporary ones are of comparisons of quantity and quality. Probably the same will be said of the generation to come. If we compare the horse and buggy with a rocket to the moon, quantitative comparisons become arbitrary.

Similarly, old and new methods of warfare hardly affected by new technology are either analogous or easily comparable. But, in all cases we are talking about war and survival. The Napoleonic wars were hardly affected by new technology. The nineteenth century saw some relatively minor changes. In our century, technology entered warfare in full force. In part, this was due to a new style of linking extraterrestrial scientific ideas with terrestrial technology.

A revolution of ideas, ideas totally lacking in empirical knowledge burst on the first forty years of this century, a revolution so great that the vast majority of highly educated persons has not yet grasped the new ideas. To most of us the word relativity signifies at best, a maze of mathematical formula—which relativity is not. Terms such as atomic theory, hot and cold fusion, or the more specific quantum mechanics, to most people mean nothing, yet from these three sets of ideas, occurring entirely within one generation, have emerged developments stranger and vastly more important than the once revolutionary idea that our earth is not the whole universe, or even its center.

From the extraterrestrial scientific revolution of ideas sprang consequences of a different kind. Terrestrial science and technology have become twins. As a result, applied UFO technology is developing rapidly and in unexpected ways. With each new practical scientific application, new technologies emerge than can be used in warfare. There is no separation between UFO technology for peace and UFO technology for war, and I believe the two will remain inseparable.

Public awareness is more advanced in the case of scientific applications—in computers, for example. Exposure, however, does not guarantee comprehension. The consequences of widespread lack of understanding often manifest themselves as deep-seated fears. We should strive to eliminate some common misunderstandings. The new events and possibilities are surprising, frightening, and large in scale. When confronted with something greater than ever before, the human mind frequently jumps to the conclusion that it is facing something infinite, something limitless. That conclusion is mistaken. When we are overly impress by progress in any given development, we lose our sense of proportion: we then enter the realm of what is called the unthinkable.*

SECRECY

Shortly after the end of World War II, Niels Bohr, the founder of atomic theory, made a statement I shall never forget. In the coming Cold war it would be reasonable to expect each side to use the weapons it can handle best. The best weapon of a dictatorship is secrecy. Secrecy, unfortunately, is habit-forming. We can scarcely imagine how we could get along without it. We should remember, however, that secrecy was actually of greater advantage to us when we had secrets to keep. Today, when Russia almost certainly knows all of our secrets, especially technical ones, is apt to have many secrets of which we are ignorant of.

Of course, if we reveal our greatest secret, the Russians will not reciprocate. Are we not, therefore, speaking of free energy applications to a revolutionary mode of transportation? The answer is in our hands secrecy boomerangs-instead of hurting our adversary with it we hurt ourselves.

The boomerang of secrecy is also at work in our relations with our allies. Annoyance about secrecy was a strong motive for de Gaulle to terminate full French participation in NATO.

Perhaps, the main reason for eliminating secrecy is make-believe? It does not for a free society. It affects our own law-abiding scientists, even deters them from participating in the development of super weapons. But secrecy puts no obstacle in the way of foreign governments determined to learn or rediscover the secret. To put it simply, a secret known to a million people, in fact, is no longer a secret.

When arguing for openness in extraterrestrial technology, I do not

* "Greek fire," consisting of the irreconcilable elements of fire and water (actually a mixture mainly of unslaked lime, sulphur, and naphtha), which stopped the first Muhammadan onslaught on the Constaninople, was such an unthinkable weapon. It was secret, and it was outlawed by the Pope. The secret was kept much better than that of the atomic bomb. Similarly, the "fire" of an extraterrestrial type first proposed by Einstein was initially met with the same unthinkable skepticism until Otto Hahn proved its feasibility in a laboratory which sent shock waves through the scientific community in 1939. The splitting of the atom was considered "monkey shine" to many leading physicists of that day. Of course, since the theory was correct, and with a little guidance, inspiration and hard work, we did master the technique of fission with non-terrestrial metals and atomic transmutation of uranium and plutonium isotopes. mean to actually throw open our laboratories to all foreign observers. The type of secrecy practiced by America's private companies does work. But the principles of discoveries should be open. There are no secret formulas, though the chemists sought them. (The one fact the alchemists proved was that science and secrecy are hardly compatible-except, perhaps, under the iron heel of a dictator.) What can be kept secret, at least for some time, is what we call "know-how."

It would not be realistic to propose that secrecy should be abolished forthwith. We can, however, greatly reduce it. Today we are smothered by millions of "classified" documents. A determined move toward openness is firmly recommended. Its purpose is threefold: to stimulate research on military applications of UFO technology within our scientific community; to promote cooperation with our allies in the same field; and to inform the American public through various means the true state of UFO reality, so far as such knowledge can be made available to our intelligence.

A more detailed proposal is difficult to make especially since we want it to be realistic and acceptable. Yet such a proposal is made here, both to give an example of what could happen and to begin a concrete discussion on the important issue. We could continue "classification" of UFO documents and, therefore, secrecy, in its present form. But we could impose the condition that all classified UFO documents should be published within two years of issue. That would fully preserve tactical secrecy but exclude strategic and technical secrecy. A small number of documents might need to be kept secret for longer periods, but in those cases a few highly responsible persons would have to certify, year by year, that continued secrecy is required. The rule should be: when in doubt, classify.

MILITARY RESEARCH

We are not engaged in an arms race, but rather in a race of perfecting an integrated program of UFO technology. The former emphasizes the quantity of arms, the latter their quality and particularly the element of novelty. Comparison of quality would be difficult even in the absence of secrecy. Since secrecy prevails and since it is effective on the side of Russia, comparison becomes virtually impossible.

It is widely believed in this country that American and Russian UFO defense are roughly equivalent. In greater detail, it is stated that Russia is ahead in quantity and we are ahead in quality. It is somewhat disquieting that the Russian advantage lies in the area that is more easily checked, while we are supposedly ahead in those respects where verification is more difficult.

One individual familiar with military UFO technology and with Intelligence, Dr. John S. Foster, Jr., (director of defense research and engineering for the Department of Defense for seven years under both Republican and Democratic administrations, estimates that in 1960 the United States and the USSR spent equal percentages of their military budget on UFO research and development, while in 1976 the percentage was three times as high in Russia as in the United States.

Actually, more money is necessary but not sufficient. First, a rapid budget increase is apt to lead to low efficiency. The change must be gradual. Second, more money can be spent well only if more scientific talent is available. Military UFO research is unpopular among scientists, partly on account of secrecy. (In regimented Russia, where scientists are not free to choose their careers, this latter argument is less valid. Actually, the Russian leadership seems wise enough to add inducement to coercion.) This is one reason why we should abandon or at least reduce secrecy.

But our scientists will not turn to national defense unless they perceive an actual danger to the United States. A danger was perceived in 1939, only two years before a UFO was captured and Pearl Harbor. It is vital that scientists should perceive the danger now, before it is too late. What is at stake is not only the prevention of defeat, but prevention of cosmic war. Nevertheless, convincing the American scientific community that military UFO research is a most difficult undertaking.

DEFENSE AGAINST UFO NUCLEAR WEAPONS

What have Russia, China, Sweden, and Switzerland in common? They all have placed great emphasis on civil defense as a countermeasure to nuclear attack. Anyone who seeks reliable and complete defense against nuclear attack will search in vain, but the two large totalitarian countries and the two small free countries just mentioned have found it worthwhile to take some precautionary measures.

In the United States a counterforce strategy, presently favored by many is supposed to destroy space borne targets, including UFO nuclear weapons before they are launched. Implementation of this strategy would be exceedingly difficult, particularly if our nuclear forces are not numerically superior and inferior to those of, say, extraterrestrial plasma weapons and EMP devices. Furthermore, our weapons would be apt to miss and accidentally hit Russian or Chinese territory because of poor targeting systems. Worst of all, preparation for a counterforce strategy could dangerously resemble the preparation for a first strike by the United States.

The idea is basically sound but fool hardy in its conception, and I believe it should be abandoned. One suggestion has been put forward. It is the "fire on warning." It would be prudent and wise to at least inform Russia and China of our intent, and, by doing so, might even be given support. It is conceivable that the alarm could be false. There might even be situations in which the Russians would simulate an attack to draw our fire. Above all, to fire on warning is apt to destabilize a situation that already possesses much too little stability.

RPVs AND MAN-MADE UFOS

Remotely piloted vehicles (RPVs) have been mentioned. Radiation with its continuing refinement, promises sophisticated remotely piloted control weapons. If UFOs can use elaborate communications systems information, pictures, accelerations, anything that can be noticed could be transmitted from a space vehicle to the decision making operation. We have attempted this kind of defense weapon in the past with marginal success. If control is to be exercised over short distances, high flying RPVs should be used instead of satellites. For these weapons, speed may not be so important; it might be more essential to equip them with the means of self-defense. Indeed, RPVs could play the role of a small fighter planes or small rockets to defeat an attack on the mother ship.

It is probable that these weapons of the future, designed for information gathering, and more expendable to include fighting or bombing, will be smaller, cheaper, more flexible, and more suited for other missions. It is important to note that such weaponry will not necessarily result in greater damage inflicted upon the enemy, but may instead result in damage inflicted where it counts militarily, but with minimal injury to noncombatants.

The possibility of RPVs exists for Russia as well as for us. But in this special category, there is one reason why we may be able to outdo the Russian effort by a great margin. That reason is that RPVs require electronics, and in this respect our technology is still superior to that of any country. Further emphasis on electronics is therefore recommended.

The use of RPVs was first explored by the U.S. Air Force in the early 1050s. It can also be applied to small naval vehicles and to small but effective tanks.

An ingenious new man-made UFO-type aircraft is now in the experimental stage of development. A delta wing is used in this design, pivoting at its center. The wing is a triangle configuration with vertical takeoff and landing, but at high speed the entire wing unit is pivoted; then what appears as the right wing points forward while the left points backward. Peculiarly enough, this almost asymmetric configuration works. Because the torques cancel at the pivot and effective pivots are easier to design, this compares favorably with present all wing aircraft where the needed pivot is under considerable stress.

This new design (based on wind tunnel models and UFO technical data) has been flown only as a small-scale experimental model and is not yet capable of carrying a man. It could easily be launched as a small RPV that could fly as high as 4.7 times the velocity of sound. This aircraft could also be developed into a full-scale passenger carrier, again demonstrating the close connection between wartime and peacetime technology.

The RPV, using advanced UFO electronics, may represent the right way to re-establish rough equivalence with the kind of technology exhibited in UFOs.

FUTURE WEAPONS

In thinking about future weapons, most people envision a sophistication of existing weapons. This unimaginative view has not been borne out by development during recent decades in which technology has become ever more important in military ????????? is always the practical use of chemical and biological weapons.

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