

TECHNOLOGY AGAINST TECHNOLOGY=ANTI-TECH

by TAKIS

If the Greek revolutionaries had organized an individual communications system, most of them by now would have escaped the CIA organized colonels and would probably be fighting in the mountains of Greece. It was known to everybody that each Greek had his own file in the NATO organized offices. Though the Greek revolutionaries knew this, it didn't enter their minds what they should do to eventually escape. The first thing the colonels did, of course, through the instructions of the CIA and NATO was to occupy the radio stations and to cut-off the telephone lines. The next step was easy—they got practically every revolutionary asleep in his bed. With the same system they will eliminate all revolutionaries all over the world. It works perfectly, so why not use it?

What would happen if the revolutionaries created an Anti-Tech (Technology Against Technology) movement? It would strongly counter the technologists and would paralyze the establishment. For instance, create an Anti-Tech network, Anti-TV network, personal telephone lines, information bulletins to translate the existing news media—i.e., when Nixon said he was not going to attack Cambodia, it should be translated: Nixon will attack Cambodia. Two weeks before the colonels took over in Greece, the New York Times published an article saying that there was no other way for the king to save his throne than to declare a dictatorship in Greece. This should be interpreted by underground media to mean that the Americans are preparing the public to accept the dictatorship in Greece. It's very clear that the progress of electronics and technology has changed the way of fighting enormously.

If technology helped in the fight against disease to diminish the deathrate, it also gave enormous power to the ruling classes. It's very evident that exploring the moon doesn't only come from human curiosity. The scientists, collaborating with the ruling classes, offered them enormous power. And it's clear that, unless part of this power goes to the revolutionaries, their existence is just a joke to the ruling powers. For instance, if we had seduced some scientists in the electronic fields they could have created an Anti-Tech machine—let's say that this machine could distort the information on the stockmarket, it's evident that it would have completely disrupted it. The same is true for a machine that could distort the magnetic waves in important TV speeches of the chiefs of governments... And for the sake of instant communication, electronic instruments like tape recorders and TV and personal telephone lines should be in the

hands of revolutionaries and sympathizers of the movement. Until now, the only instruments that were in the hands of the revolutionary were some primitive polygraphs and some free radio stations.

It's absurd to think that the revolutionary has tried to get modern munitions and didn't think that technology itself is one of the most important munitions to get hold of...

... Due to the population growth, space diminishes everyday and people in big cities already have very little space to live in per person so that it is more necessary than ever that small spaces be better organized for living. In the near future even the possibility of weekends in the country may be cut-off entirely. What remains for people to do is to organize their homelife more and more. Certain objects can help to create a pleasant environment. But we shouldn't leave room for illusions here. Big technology is in the hands of government. They will only use it for their own benefit. They will not give a damn about air pollution until it affects their own personal interests and for the time being this is not the case. The same is true for space... which also does not seem as if it will be solved in the immediate or near future. Therefore, limited living spaces must be organized as well as possible. They should be equipped with all necessary electronic equipment—possibly independent telephone lines, independent telex-systems, closed-circuit TV sets, tape recorders, and esthetically unlimited editions of works which carry revolutionary messages.

To come back to the Anti-Tech we are obliged to analyse the situations and facts. In the last decade more and more artists have been inspired by technology and aimed to use technology to express their ideas. Unfortunately, though some of them touched the bone of the problem only very few started using technology to fight technology. For instance, Stan VanDerBeek used the teletape to transmit photos, but unfortunately the meaning of those photos is far from fighting the establishment. The only group of artists whom I can mention here who took a stand against technology are the TV artists who exhibited last fall at the Howard Wise gallery. One of them explained to me his idea of using videotapes of subjects concerning the revolution and any other events which usually are not shown by the mass media. This way of using videotapes could permit the communication of the real events in the underground, and in the meantime allow the artist to make his living through selling those tapes. Of course, this

would only be effective provided that the underground would have TV sets available and videotape machines in order to circulate the documentation...

How can an object or an edition of an object carry a revolutionary message? First, the editor should be the right person, one who does not try to brutalize the object. The conception of the artist is aimed to keep production cost down. The artist should probably express his idea from the outset in a simple way, choosing the cheapest possible means of production so he doesn't create attrition with the editor (or distributor) of the object. The editor should ask the public or the revolutionary community to finance the object. The object should circulate at the lowest possible cost, the profits going back to the community with some minimum rights to the artist. There should be no special publicity for the artist, and it should be known to everyone that the object exists and circulated in places where everyone can see them.

Some words to the scientists—During the last few years some of the scientists, though they are as much a minority as the artists, started getting radicalized and wondered if they should continue to give their services to create deadly weapons and poisonous gases, especially in America where the establishment is at war with Vietnam. Those scientists should be seriously approached by the revolutionaries and their help asked, especially those scientists involved with electronics. Of course government will react to this violently once they become aware of it—that the revolutionaries are equipping themselves with electronic Anti-Tech instruments. Governments already have an eye on electronic equipment and in most countries the public use of walky-talkies is forbidden, but with new, lower cost electronic equipment on the market in the next few years the revolutionary will get hold of such instruments. However, existing inventions and technological instruments alone are not sufficient to create an Anti-Tech network, and for this reason the help of the top radical scientists is needed as soon as possible. For the time being, the radical scientists have a rather confused attitude towards the establishment. It's not enough that they pull out of the destructive plans of the governments by reminding them of the danger of pollution. They should take an active position and help the revolutionaries invent Anti-Tech instruments which would serve as deadly threats to existing establishments.

Paris, August, 1970

NEURONE CLUSTER GROPE

by Don Benson

... The technology exists today to provide every person on earth with a direct electromagnetic audio-visual communications channel to every other person. IT&T is technologically ready to produce fully-computerized, battery powered, hand-held, touch-tone video-phones for a cost of somewhere between five dollars and ten cents each, depending upon production volume. The necessary satellites were initially scheduled to be up by February 1969. The procedure required to initiate a call with one of these devices automatically alerts the local billing center. The cost of a three minute call via stationary overhead satellite to anyone anywhere in the world, whether on icy mountain top or in steaming jungle, will be one dollar. The basic charge for one of these wireless video-phones will be about fifteen dollars per month. The video portion of the call will be presented on a thin plastic screen containing microscopic bubbles of three different gases (one for each of the basic colors) which will provide a high definition color picture according to the variations of electrical potential across each bubble. This is being called a "plasma screen."

The technology has also been developed to plug these wireless videophones into film printers, AV tape recorders, xerox and linotype machines. Thus, for a cost comparable to a bottle of beer and a pizza, a person could transmit the copy for an underground newspaper from the East Village in New York City to the West Village in Prague. A young film-maker could notify the world that by touching a specified number anyone can get prints of his latest underground films. The possibilities are endless. Everything ever published will be available at our finger tips, with the result that people will read much less and comprehend much more. The world's computers will be available as public utilities for solving routine problems, and each of us will be able to draw on the collective intelligence of billions of fellow human beings in conducting our artistic activities, much as each nerve cell in the human cerebrum draws on the collective intelligence of billions of fellow nerve cells.

... Despite the immediate profit-making potential in hooking up the world brain, certain establishments are hesitating. They have no idea of the full consequences of what they are on the verge of doing, but they have enough idea to suspect that the consequences will be difficult to control. For this reason, IT&T will be very slow in making the new communications capabilities available to the people other than members of the various establishments. There will be elaborate techniques for blocking and monitoring unauthorized communications.

Nonestablishment systems scientists should begin immediately, therefore, to develop ways of producing and distributing unauthorized video-phones and ways of relaying unauthorized messages... Our problem for the next few years is to establish the basic structure of a healthy world mind which can cope with the coming cultural metamorphosis.

Excerpted from *Neurone Cluster Grope*.

EQUIPMENT

X-RAYS

by Don Ward

... To protect the public from exposure to dangerous x-ray levels, Congress has charged the Department of Health, Education, and Welfare (HEW) with the task of formulating regulations influenced by the recommendations of the National Committee in Radiological Protection. For color television receivers, the recommended limit of permissible radiation is 0.5 milliRoentgens (mR) per hour, when integrated over an area of 10 square centimeters and when measured at a distance of 5 centimeters from any portion of the television receiver cabinet.

Before discussing the possible dangers, remember that it is almost the unanimous opinion of the various investigating committees, that there is no dangerous radiation from any current model receiver when it is correctly adjusted, in good operating condition, and operating on a normal voltage power line.

Many scientists share the view expressed by S.P. Wang of the Rauland Corporation. He states: "The radiation level from assembled receivers has been measured both under normal and abnormal operating conditions, the exposure dose rate level is close to the background due to the natural environmental radiation."

... X-rays are electromagnetic energy, differing from other forms of electromagnetic energy mainly in frequency or wavelengths. All X-rays are characterized by their ability to ionize air or other gases and tissues. This is the characteristic that makes them dangerous to humans. Radio waves are measured in meters or centimeters of wavelength, while the light wavelengths are more conveniently measured in angstroms. But the wavelength or frequency of X-rays is more conveniently designated in terms of "electron volts."

Radiation dose is measured in terms of "Roentgens." A Roentgen produces a specific amount of ionization in a certain volume of air under standard conditions. The dose-rate of radiation is therefore, indicated in Roentgens per minute or hour...

... How are X-rays produced?

Energy is proportional to the product of mass times the square of velocity. When an electron leaves the gun of the cathode ray tube, it is accelerated to a very high velocity by the ultor voltage (25kV) and has greatly increased energy. When it strikes the face of the picture tube, its velocity is reduced to zero and, therefore, it must give up its energy. Part of that energy is converted to visible light by the phosphors illuminating the raster. Another small part is converted to heat which is absorbed by the glass, while most of the remaining energy is converted into X-rays.

Obviously, the quantity of X-radiation should be directly proportional to the magnitude of the beam current and the value of accelerating potential; and you might expect the greatest X-radiation when there is a full white raster on the face of the cathode ray tube. Later we shall see that this is not quite true. About 80% of the electrons entering the electron beam never reach the phosphors, but strike the shadow mask, where their energy is converted into heat energy and X-radiation.

(As previously indicated, X-radiation is proportional to both the magnitude of the beam current and the value of the accelerating potential. This high voltage is obtained from the flyback transformer and high-voltage rectifier. This system has a dynamic resistance which may have a value ranging from 13 megohms in some of the early color receivers to less than 8 megohms in more recent designs.)

This means that as beam current varies with changes in picture brightness, accelerating voltage also varies. As beam current increases with increasing picture brightness, tending to increase radiation, ultor voltage decreases, tending to reduce radiation. Tests indicate that radiation from the face and shadow mask is at a maximum with an average picture brightness of a light gray value.

"There are two distinct philosophies used in high-voltage power supply design." (High voltage regulation and no high voltage regulation)... there are three sources of X-radiation in the modern color TV receiver. They are (1) the picture tube, (2) the regulator tube, and (3) the high-voltage rectifier tube."

... As long as the high-voltage regulator is correctly adjusted and in good operating condition, and as long as the power-line voltage is normal, there is no danger of excessive radiation from the picture-tube face...

... observe the 6-foot viewing distance whenever practicable. Check the power line voltage. Radiation increases when the receiver is operated on high line voltage. The high-voltage power supply increases about 300 volts with each 1-volt increase in line voltage.

Thus, an increase of a little more than 3-volts in line voltage can produce a 1000-volt increase in high voltage along with the accompanying increase in radiation emitted.

Check the adjustment of the 25 kV setting. Remember, the most likely cause of excessive X-radiation is abnormally high voltage. Tests indicate that radiation from the picture tube face is greatly multiplied by each 1000 volts above 25 kV. The Pinellas County (Florida) Health Department reports that of 149 color television receivers surveyed at owners' requests, 23 sets were emitting excessive radiation. Nineteen of these cases resulted from excessive high voltage. Replace all "weak" high-voltage rectifier tubes and regulator tubes, since gas and/or poorly aligned electrodes in the rectifier greatly increase radiation from the rectifier, and since reduced emission and/or transconductance of the high-voltage regulator increases radiation from both the regulator and the picture tube.

Check all components of the metal high-voltage cage. This cage not only protects against accidental shock hazard, but shields X-radiation emanating from the regulator and rectifier.

... Surveys conducted by several interested agencies have found hundreds of receivers emitting radiation in excess of the established "safe" limits. In almost all cases, the situation could be corrected by restoring the receiver to its original condition with the replacement of substandard tubes and components and the correct adjustment of high-voltage controls. While there is little difficulty in guaranteeing that the receiver leaves the factory in "safe" operating condition, there is at present no method of insuring that this condition will be maintained in the owner's home during the set's useful life.

Manufacturers are, therefore, turning their attention to the development of "fail-safe" circuits...

... Radiation is produced when electrons at high velocity strike a target and give up their energy as X-rays. It follows that the energy or wavelength and frequency of the resulting X-rays are determined by the voltage that accelerated the electron. The resulting rays are then measured in terms of "electron volts." This unit is the energy required to move an electron through a potential of 1 volt. Thus, the primary radiation generated in the TV receiver has energy values peaking around 25,000 electron volts (25kV). Unfortunately, our situation is not quite as simple as it might at first appear. When X-rays penetrate a material, some of their energy is absorbed by that material being penetrated by the radiation, an interesting situation occurs. Regardless of the energy level of the X-rays entering a material, much of the emerging energy peaks around a discrete energy value that is characteristic of the particular absorbing material...

... Since the danger of radiation comes from its ability to ionize air or tissue, the energy distribution of a particular flux becomes important. The most direct and accurate means of measuring the ionizing ability of any particular flux of radiation would be to measure the current flowing from a calibrated ion chamber located in that radiation beam. Unfortunately, this requires the accurate measurement of currents as low as one millionth of a microampere. Obviously, this type of instrument is both delicate and expensive...

... It is hoped that such instruments will be available in the near future" (for taking readings).

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STANDARDS

by Eric Siegel

After studying the 1/2" videotape situation, I have come to the conclusion that the Sony AV New Standard series is the best direction for people to go at this time. Although there is some doubt if this will really be accepted as the new standard among all 1/2" manufacturers, Sony and Phillips of Hollywood will probably dominate the market. The major thing holding us back is the lack of exchangeability of tapes among ourselves. If we all agree on one system and get other people to join us on the same system, we could start what we have to do. The hardware manufacturers have been screwing us and will continue to. We must make the most efficient move. Sony seems to have us, as well as other hardware manufacturers, up against the wall. We are confronted with a "if you can't fight it join it" situation for now. Our aim is to force all 1/2" video tape manufacturers to adopt the same standard around the world. This brings us to a more desperate problem, the fact that Sony and Phillips will be selling another standard for Europe—this fucks everything up. I for one urge all our friends overseas to adopt the American 60 cycle 525 line standard. This is not an imperialistic move—it's just one of practicability so that we finally can have the independent worldwide communications. I admit that the European standard is technically better, but what good is that if we can't exchange? If anyone has a more realistic, better idea—please speak up.

Concerning 1" and 2" standards. There are no 1" standards and there won't be any in the foreseeable future. The only 2" standard is quadruplex 4 head system—completely out of our means. I advise that if you choose to use non-standard equipment, don't try to distribute these tapes—copy them down to the New Standard. The advantage of using 1" non-standard is better picture quality on the master, also these larger tape width machines have other features not found on 1/2", like clean editing, slow motion, color, etc. etc. But I stress after you've made your program—copy it down to the New Standard. If we all cooperate on the Hardware Hassle we can get over it and get the work done which has to be done.

- What is considered to be a "safe" radiation level?
- What are the results of unsafe levels? and of constant exposure?
- What happens to you when your tissues are ionized?
- What is the level of radiation in the used portion of the electromagnetic spectrum or what is the background level?
- What are some of the interested agencies?
- What portion of the radiation level (We exist in it) is man-made?