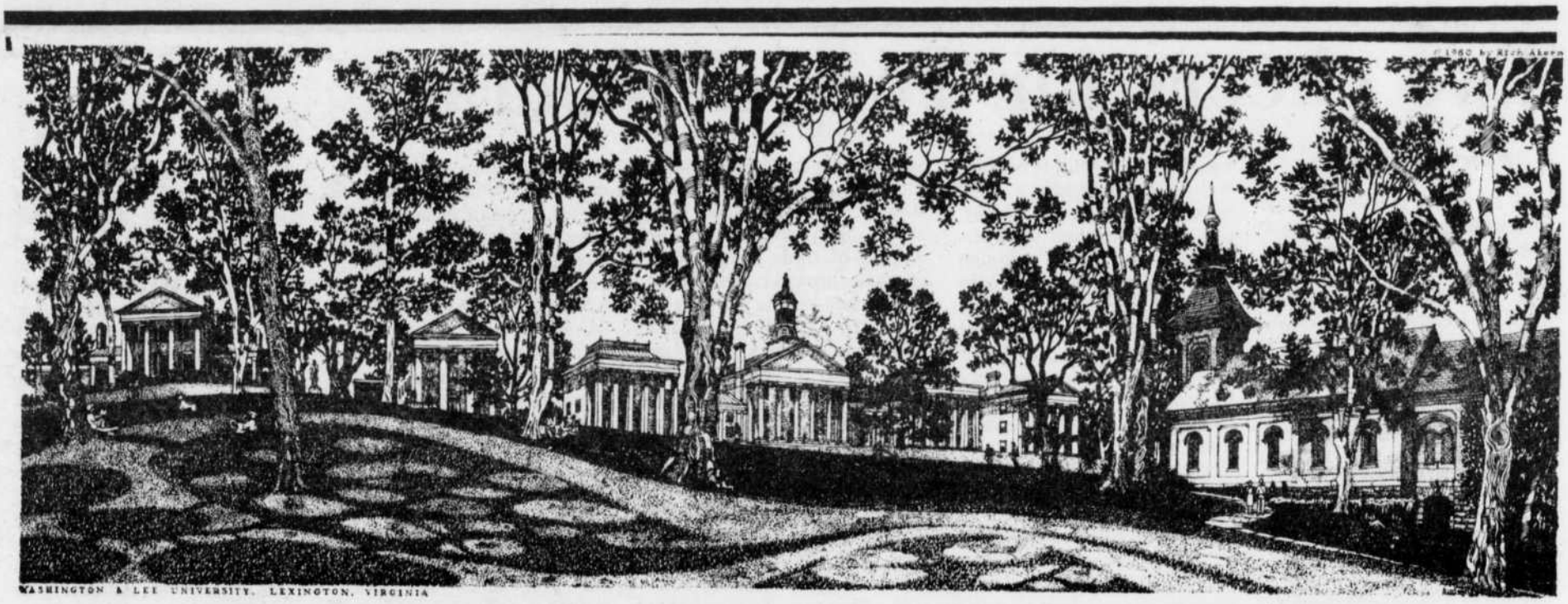

EXCELSIOR

A Journal of Interdisciplinary Thought

Focus: Technology and issues of the future

Focus, the Interdisciplinary Symposium, is proud to present its spring program. Our topic is technology and issues of the future. This subject could hardly be more current and important. Literature on the subject is mushrooming. Congress has formed a committee on science and technology. Scientific and medical journals bulge with the latest innovations. The courts struggle to deal with the increasing technical complexity of litigation. Philosophers and clergy ponder the moral and ethical dimensions of technological change. All of the 1984 presidential candidates have addressed the issue of the impact of new technology on the American economy and way of life. One, Senator Hart, made technology and its promise a centerpiece of his announcement speech, having his words broadcast by satellite over the Cable News Network. Most importantly, man's greatest technological innovation, nuclear power, threatens to take from us our joy and our children and our very lives.

This, the spring issue of **Excelsior**, is devoted to the topic of technology and issues of the future. Of course, we have printed replies to the winter issue. In addition, Focus will present, on May 23, 1983, at 7:30 p.m. in room 327 of the Commerce School, a lecture/discussion on our topic. Mr. Cabell Brand, of Salem, is our speaker. Mr. Brand, president and CEO of Stuart McGuire Inc., has had a keen interest in issues of the future for several years. He was a key participant in "The Woodland's Conference on the Future and the Private Sector." He has also had extensive communication with congressman Albert Gore of the abovementioned House committee on science and technology. Listed in "Who's Who in America" and "Who's Who in American Politics," Mr. Brand's expertise should lend much to our spring program.

This spring's program, and our activities to date this year, show what Focus should be in the off-years between our major symposiums. The first major interdisciplinary symposium is to take place in the spring of 1986.

The new evolution of man

by Rob Kurek

Man has always been somewhat nomadic in nature; to deny that fact is to deny that man has a variety of inherent instincts that have always implored him to "cross the next ocean" or to "look over the next hill." Man is now at an historic landmark; there are no more "wild wests" to be tamed or African jungles to penetrate. Even the frigid poles are now marked by man's presence; without a doubt, man's ultimate manifast destiny has been fulfilled. Our planet Earth, in short, has become a small place indeed. The history of civilization is one of various periods of expansion; a deadend on Earth has now been reached.

There remains of course one last frontier beyond our own planet — that of space. What was seen as impossible only 20 years ago is now in the realm of the thinkable. The reality of the space shuttle is already the first building-block toward giving man an even more permanent "beach head" in space. Permanent space stations and space colonization are now no longer confined to the world of science fiction.

A recent article in Omni magazine entitled "Life after Liftoff," explains how Soviet and American space scientists are now engineering the next giant step in evolution. A new infant science all its own, called bioastronautics, has evolved from this new interest. Specifically, Bioastronautics, is the study of life in space. It seeks to answer questions about such things as how to handle medical emergencies in zero g, and, on an even larger scale, the feasibility of establishing an "Earth-like microcosm in space. an artifical oasis that will support microbes, plants, animals and man."[1]

This futuristic study is even more remarkable in light of problems we still face here on Earth. This research goes on despite a nuclear arms race between the superpowers —arms race that now includes the possibility of using laser beams as weapons in space. One cannot avoid the potential question of how much progress could be made into the peaceful expansion into space if the superpowers could somehow move into a true state of peaceful co-existence with each other. Imagine the progress that could result from the combining of Soviet and American minds. One must add that competition—healthy competition—is not such a bad thing. In looking at history, the exploration of the New World was spurred on by the competitiveness of England, Spain, Portugal, France, and Holland. Yet if we use space merely as another means of gaining military superiority over our rivals, then we have effectively cut off our last hope of a frontier that should remain weapons free for the sake of mankind. One is tempted, then, to say that the Soviet Union and the United States share too many differences politically and culturally to ever reach a state of true peaceful coexistence. Yet if one were to have told an Englishman 500 years ago that his nation would one day live peacefully with and even become an ally of France, he would have claimed your proposition to be preposterous. In more modern terms, following the Korean War, who would have guessed that China and the United States would be on the terms that they are now?

This then, is the perspective from which we must approach our next step in evolution; to do otherwise is to demonstrate that, at least mentally, we have not evolved far from our aggressive and warlike ancestors of a few thousand years ago. We should in no way allow the incredible amount of progress that has already been made in space exploration to tarnish, for to do so would only be to the detriment of mankind as a whole.

1. Engler, Nick and Donna, "Life After Lift Off," *Omni*, May 1983, p. 108-133.

Two cheers for Tory democracy

by Markham Shaw Pyle

I am not a member of any organized political party: I'm a Democrat. Yet I am here replying to Mr. Bouquet's article in the last issue excoriating the GOP as lacking in compassion. I am replying to it because it is not a partisan, but a philosophical, squabble. He is not attacking Republicans as such, but what are called conservatives (i.e., what are XIXth century Lockean Liberals). And I are such an animal, like many Democrats (just as there are 'liberal' Republicans with whom Mr. Bouquet would doubtless be in substantial agreement). And this attack on the classic Liberal position seems to me literally ill-founded. Not necessarily wrong, just grounded on a variety of assumptions that need an examination which they have so far escaped. Let us then examine them, kick their tires as it were, before we buy.

Mr. Bouquet begins by asking how many of the beneficiaries of the Reagan tax cuts would be willing to give some back to the poor who are harmed by these tax cuts. Several assumptions here need examination. The first which impresses itself upon me is the assumption that the poor are being hurt by these tax cuts; that somehow the children's meat is being thrown to the dogs — or fat cats. What would it take for this to be true? Well, it could happen if there were a finite supply of money, so that government expenditures were a sort of zero sum game and one man's gain were of necessity another's loss. You will see that this does not describe the economy in this or any land. He goes on to decry the spirit in which the rich have taken their tax breaks. Aside from the vexing question of where rich begins (because there're a lot of people enjoying this tax relief that would consider themselves middle class,) we should ask what possible point there is to political economy in the intention of the investor? Moral considerations keep any Kantian awake 'til all hours; they are the Church's main concern; but the statesman asks only what effect is produced by various impulses in the populace, that he may choose the impulse likeliest to produce the consequences demanded by the national need. Smith pointed out some time back that it is self-interest that serves to obtain from fallen man the social cooperation that is freely given out of love in the Heavens. And Mr. Bouquet dismisses the economic programs of the administration —bipartisan support and all —with the pejorative label 'trickle-down.' But the question is, is it reasonable? And it seems to me that it is. To leave monies in private hands, where those private hands have been shown likely so to invest or dispose of these monies that economic growth is stimulated, and to then reap a tax harvest from that growth, does not strike me as stark unreason. Rather the reverse. And the same applies to the sensitive subject of crowding out in the money markets. To plunge the public finance into debt is folly where the monies raised are directed to programs in the state which there is no cause to hope will repay the debt in economic growth ripe for taxation. That is a reasonable description of 'entitlement' programs. But where the debt is offered to purchase capital goods, the manufacture and operation of which redound to promotion of real economic expansion, the investment may be regarded as wholly sound. Mr. Bouquet may be startled to hear such a Keynesian model of defense purchasing, but the astonishment will wear off; and when it does, a consideration of the argument on its merits will, it is to be hoped, show the firmness of this foundation as contrasted with teh fundamental assumptions of the conventional wisdom.

On the subject of defense proper, I should like to know why the President's pronouncements are considered dangerous. Is it in a Socratic sense, to the extent that truth is dangerous? Is a statement of military realities hysteric demagoguery? What evidences are there that the nuclear freeze movement, composed mainly it seems of those to whom Lenin habitually referred to as 'useful fools,' is the fault or offspring of President Reagan's statements of fact? And, yes, I am assuming the truth of those statements. Journalism in this country having finally resolved itself into theft followed by publication, you and I and the KGB can verify the alleged military strength of the nation over breakfast with the morning paper. I confess myself at a loss to follow Mr. Bouquet in his analysis.

The major philosophical difference between us Liberals

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A quick,honest word on honor

by Christopher Fulton

Unlocked buildings and self-scheduled exams were cited as the benefits of the honor system by Mr. Tom Connors in the last issue of Excelsior. Mr. Chris Bouquet worried about stealing pens or inadvertantly purjuring himself. As for the merits of the Honor system, I think we are missing the boat with such discussion. Nobody would say that the purpose of the honor system is an always-open Commerce School or library. The purpose of the honor system is, quite simply, to promote honor. I believe that it succeeds. Yes, I am too-well aware that the spirit of the honor system is often acutely bent and frequently broken without punishment. There is no need to cite examples. The fact is that it happens.

The honor system at W&L is successful because it allows an honest student to remain honest. People who want (or need) to cheat will do so. But without an honor system an honest, hardworking student would be hounded by his peers for help. Furthermore he might feel forced to cheat in order to keep up. Why be left behind so easily? And what better comfort it would be than to know that "everyone else" was doing it too? At W&L the pressures to give or receive unacknowledged aid are not overwhelming. An honest student is not driven to dishonesty by the environment here. Furthermore, the honor system, along with fear of punishment, is an effective deterrent to the temptation of writing Chebyshev's inequality on one's foot before a stats test. The honor system forces harder work, in order to honestly remember, for example, the correct titles of Hopkin's sonnets.

In short, the honor system is a blessing for the honest student and a risk for the dishonest one. Most of us prefer to be honest and are willing to accept honest failure. The honor system helps us steer an honest course. And yes, I do like the luxury of self-scheduled exams as well.

EXCELSIOR
The Journal of
FOCUS

Chris Bouquet . . . . . Chairman
Chris Bouquet, ... Spring Co-editor
Chris Fulton . . . . . Spring Co-editor
Steve Keros . . . . . Focus Staff

Special thanks to Ring-tum Phi editor Bill Roberts, and David W. Johnston

Letter from the chairman

Dear Readers,

I have several, somewhat unconnected, things to say about this issue of **Excelsior**, and Focus in general. First, thank you for your interest in **Excelsior** and Focus. Secondly, I would like to thank the Publications Board for their generous financial support for this, the fourth issue of **Excelsior**. Their vote to assist this important co-curricular publication is exactly the type of intra-university support that Focus needs. This university has made a committment to Focus. The 1981 University Council White Paper on Focus was the first step. Subsequent Executive Committee votes for funding Focus amplified and deepened this committment. As chairman this year I have worked long hours, often alone, to fulfill this university's committment to what I feel is a good idea: Focus, the Interdisciplinary Symposium. I recently sent a letter to the faculty asking for ideas and support for this university committment. Out of over 175 faculty members, two replied, one of which was our outstanding and extremely kind President, Dr. John Wilson. Let me say I am deeply grateful for the support I have received. However, it is time for the university as a whole to make a decision about Focus. One person can keep an idea alive but it will take the whole university to make it work well. Is Washington and Lee going to renege on its committment to Focus or is it going to support Focus? Do we quit or go ahead? I say we go ahead not only because I care about this idea but also because I care about the university. I believe Focus is a plus for W&L. Can anyone argue that co-curricular activity and lively debate is a detriment to the university? I do not understand why, with all the talk about an intellectual vacuum at W&L, there has not been more support for an idea that encourages co-curricular activities, that is a forum for the free exchange of ideas. Enough said on that point — allow me to go ahead with another word of thanks. I would like to thank all the people who have made contributions to the **Excelsior** this year. I especially want to thank Markham Pyle for his reply to my article "Compassion and the Republican Party." In the interest of allowing him his fair say, I will not respond here to his criticisms of the positions I took. Suffice it to say that we both start with differing assumptions and that he has somewhat distorted my position. I intend to respond in next week's **Phi**, the last of the school year. Once again, thank you for your interest. I wish all of our readers the best of summers possible.

Sincerely,
Chris Bouquet
Chairman of Focus

Soviet technological subterfuge

Dave Johnston

As President Reagan pointed our when he proposed the "Star Wars" defense system, technology is the weapon of the future. Therefore, if the United Sates is to stay militarily (and at the same time economically) ahead of the Soviet Union a number of things must be done. On the short term we have to restrict the export of our technology, and we also have to start a long term revitalization of the education system that helped produce our technology.

The United States, because of "yankee ingenuity," has been at the forefront of the world's technological development ever since the industrial revolution crossed the Atlantic. Our strong economy and innovation produced the world's best railways and such revolutionary new ideas as the factory assembly line.

More recently we have developed the atom bomb, air plane and silicon chip, all of which are (or will be) potent weapons. The United States is currently at the forefront of the race to develop new computer technology, with a number of our allies, most notably the Japanese, close behind. However, the Soviets and other communist powers have been able to stay in the race because we have let them. High-tech computers are routinely sent to Russia, and although these computers can be used for peaceful purposes, they can also be used to create new weapons and technical advances. A high-tech computer sold to a Soviet "trade company" is now being used to design the missiles that may someday lay waste to the United States.

In order to prevent further mistakes like this from happening a number of steps must be taken to stop American technology from building Russian missiles. First, and most importantly, commerce in sophisticated computers and software should be stopped entirely. We are quite literally selling our enemies the means to design our destruction.

This should not include just computers and other sophisticated electronics, it should include all state-of-the-art machinery. The Russians quite simply cannot keep up with us in many areas. When building their natural gas pipline, American technology was essential to their success. By preventing the use of American technology in that and similar projects we could deal them a staggering blow.

What we do not sell the Russians they steal. As former Soviet Ambassador to the United Nations Arkady Shevchenko stressed in his speech here last month, the Soviets have an incredible spy and espionage ring operating in the United States, one that is concentrating on stealing our high-tech secrets and investigating our current research and development. In order to prevent the Russians from stealing high-tech developments we have to demand that our businesses and research labs be more careful with developments and secrets. Shevchenko laughed at how easy it was for Soviet spies to steal secrets, so this must be stopped.

Another way to cut down on the number of secrets stolen would be to restrict the number of Russian "diplomats" allowed in the United States. Shevchenko said that of the people on his UN mission staff only a small minority were real diplomats, that the rest were KGB spies. He also said that many of the diplomats also worked for the KGB. By cutting the Soviet diplomacy staffs back we may be able to cut down on the number of spies operating in the United States.

All of that can, and should, be done immediately. Another change that must be made, one that will take much longer, is the revitalization of our education system. The calibre of students graduating from our high schools and universities is plummetting. This is partly because the schools do not demand the students to do what was once mandatory, and the quality of the teaching staff is declining. A "wave of mediocrity" grips the education system, and this is reflected by the people leaving it.

Although there is not any quick-fix for our education system, there are a number of steps that could be taken. First, it is criminal that a good mind should be wasted because of money. For the first time a qualified student may be unable to attend a good college because of financial difficulties. If outstanding students from weaker economic backgrounds are to afford a college education the current trend of less financial aid by the government has to be stopped, otherwise our future scientists and leaders will be pushing brooms and cooking hamburgers at McDonalds.

The quality of our teachers, expecially in public schools, has to be improved. A major factor in the shortage of good teachers is the low wages teachers make. Many people who might enter teaching are lured to the private sector by higher wages, leaving less qualified people to teach the scientists and teachers of the future. If our schools are to be staffed by competent teachers they must be paid as the highly trained professionals they are. In some districts janitors make more than starting teachers, a fact which is ludicrous.

For nearly a century now the United States has been the world's supreme economic and military power, but this once secure position is being threatened by countries following our example and copying our developments. If we are to remain secure and comfortable we have to change our ways. Developments and innovations costing millions cannot be sold to a country devoted to our destruction, and our education system, once the best in the world, cannot be allowed to sink into the doldrums of apathy and mediocrity it threatens to. Unless we keep our secrets secret and elevate a good education to the position of esteem it once held we might as well study Russian instead of English.

'SUCH A FALSE, VILE, BASE, MALICIOUS, DEFAMATORY SLANDER, MONSIEUR! WHAT COOKIES?'

To ABM or not to ABM

By Steve Keros

Several weeks ago President Reagan announced his intention to mobilize American technological know-how in an effort to produce a feasible anti-ballistic missile defense system. Reagan's speech set off a flurry of protests in the scientific and political arena. Scientists as a whole were mainly very skeptical; politicians and the media wondered aloud about the advisability of a system that if effective, would probably shake the foundations of the principle of deterrence, which we now depend on to keep the superpowers from annihilating and irradiating the globe. Yet it may not be that bad of an idea, but for a big reason that President Reagan may not have thought of.

Thoughts of pitched battles in space have filled the minds of many. But basically, up until now, these ideas have only come to life in Hollywood. President Reagan, however, proposes that the United States engage in a concerted effort to develop a workable Anti-Ballistic Missile (ABM) system. Yet the idea of an effective ballistic missile defense faces serious technological hurdles that will be very difficult to overcome.

A laser (light amplification by the stimulated emission of radiation) or a particle beam weapon system would have a great advantage over a conventional ABM system in that they would be very quick, have no bad side effects, could switch rapidly from target to target, and because these beams travel at the speed of light, could be aimed directly at the target, thus obviating the need to calculate trajectory. But this is basically where the advantages end. Lasers, to be really effective, must operate in the vacuum of space. Particle beam weapons on the other hand, would be most effective in the atmosphere. Both lasers and particle beams begin to lose their strength over long distances, through the effects of "thermal blooming" (defocusing), absorbtion by other molecules in the beam's path, and the gradual scattering of the beam. Lasers, for example, lose up to four fifths of their energy after traveling only two miles in the atmosphere. And for both particle beam guns and lasers, enough energy to inflict fatal damage on an approaching missile cannot be achieved until the warhead is only a short distance away (several kilometers). In other words, a laser satellite could not shoot down an enemy missile until it is very close. Thus the difficulty of laser satellites handling a huge salvo of inter-continental ballistic missiles (ICBMs) is readily apparent.

An ABM system would also suffer in an encounter with an ICBM attack in that it could be easily overwhelmed. A laser or a particle beam ABM system would have to detect an enemy attack, distinguish individual targets from decoys, lock on to a specific missile, fire, determine whether a hit was scored, (if the target was hit), determine whether it knocked the ICBM out, and then locate new targets. In a full scale attack, Kosta Tspsis estimates that individual laser satellites would have somewhere in the ballpark of 1.5 seconds for each missile to calculate all that information. And besides decoys, ICBMs could be fitted with effective countermeasures like covering the ICBM with mirrors to deflect laser beams. In addition, there is no guarantee that this kind of defense would be 100 percent effective. If even a few MIRVed missiles slipped through, the damage inflicted would be tremendous.

Lasers and particle beams would operate against incoming rockets by burning a hole into the missile's vitals, knocking it off course. Thus these weapons must have pinpoint accuracy to be effective. Particle beam weapons are extremely heavy, and can be only deployed on the ground or in ships. These ABM weapons would be most effective during an ICBMs boost phase, which occurs right after launching, when the ICBM cannot take evasive action. The total time that enemy missiles can be effectively fired upon

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The smoking gun

By Les Clark

"Look at all the awful things technology has done to us! It's polluted our air, land and water, and it's killing off all sorts of animal and insect life!"

"Technology is making people lazy — look at how much time people are spending glued to their TVs! And just think how much less effort it takes for us to carry out the tasks of everyday life!"

"Technology is a social scourge! These days not only are our kids subject to powerful new drugs and the effects of taking them, but mankind now has the means to destroy every man, woman, and child on the earth in a matter of minutes!"

Unfortunately such statements are not always made by sheer idiots as some people might think they would be. I can't count the number of times I've heard intelligent, and educated people make these incomprehensibly narrow minded statements. Certainly I myself am harrowingly narrow minded on some issues I shouldn't be. But the issue of technology's wickedness is particularly frustrating because it simply reflects a much greater social problem: mankind's nearly invincible skill at pointing a well intended finger in the direction opposite of the true cause of a problem(s).

The characteristics of the technology issue and its particular ramifications remind us of the adage that guns don't kill people, people kill people. The problem here is that people who hold the belief that technology is evil appear to have the adage backwards, saying that people don't kill people, guns kill people — this is obviously ludicrous. My point then is that technology doesn't use people to cause problems, rather, people use technology in many ways, some of which make for great difficulties. It is a complete waste of effort and intellect to get angry with technology. (It's not only a waste of energy — it's stupid — can you imagine a person getting mad at a gun that some criminal dropped after shooting it at a person?)

The waste of good intentions is easily what is most bothersome. As long as people think that technology is bad, unfair, or evil these people will contribute precious little to solving the problems that technology "causes."

The true culprit is not technology, it is, of course, mankind and its individuals (funny how that finger seems to have missed coming to rest on that self same culprit so many times throughout history, isn't it?)

Technology is very similar to the gun only it has the gun's positive and negative characteristics a thousand fold. Its potential for harm is stupendous; its potential to benefit is breathtaking and beautiful. But as long as we stand and yell at the gun lying on the ground the criminal will always get away to strike another place at another time.

Technology and the economy: A view from Economics 120

By Christopher Fulton

These days it is fashionable to criticize modern technology for our modern economic and environmental ills. Continued economic and technological growth, many believe, will exceed the limits of the environment precipitating a drastic, not-good change in civilization. We are on the verge, the argument goes, of using up our resources, over populating the globe with respect to food supply, and over-polluting our environment. Well, that is more or less what I, along with the advocates of zero Economic Growth (ZEG), believed until recently: that continued growth would lead to trophe.

The fact of the matter is that we may never reach these limits thanks to technology and the good ol' free enterprise system. ZEG is not a realistic policy. Resources are not limited. As a resource becomes scarce, its price will rise causing a number of things to happen. First, current consumption will decrease (the principle of supply and demand here). Second, scarcity stimulates exploration. William Baumol and Wallace Oates point out that as a resource is used up new exploration keeps the total supply of a natural resource somewhat constant.[1] It is no accident for example that the discovery of oil in Mexico and in the British North Sea coincided with the OPEC embargo of 1973. Third, as the price of a resource rises, it becomes profitable to extract less easily accessible resources — again I cite North Sea Oil as well as Alaskan oil. Furthermore lower grades of ores and other resources become exploitable. Fourth, substitutes are discovered as the price of a scarce resource rises. The rise of oil prices for example has led to many alternate energy sources from wood stoves to solar energy. Fifth, recycling becomes economically feasible. After all, iron ores are not used up, they are converted to a different form. Why throw away aluminum cans that are worth money? In short, our resource base is not a fixed pool. Continued economic growth will not use up our resources. Rather, it forces alternatives.

Technology is another mitigating influence on the scarcity of resources. Quite simply, with improved technology we get more and more units of output with a single unit of input. More iron per ton of coal, more food per acre of land, more information per computer chip, and more miles per gallon of gasoline.

A policy of Zero Economic Growth would be very unwise, if not itself catastrophic. Not to even mention the monolithic regulation and virtual socialism it would require, it would exacerbate existing problems which only economic growth can cure. Technological research would suffer. Natural governors of the market system would be short circuited. Furthermore, as Baumol and Oates mention, economic growth is the only chance third world nations have of rising above poverty level, especially when one notes that birth rates in affluent nations become smaller.

From an economic and utilitarian viewpoint then, technology is a cause of optimism for the future. Technology to the rescue.

Aesthetically however, looking ahead to a fast moving, pushbutton, computerized society is not as exciting. Time is another scarce resource and technology is a means to get more out of that resource, a scarce minute or day. Technology is saving us time too but I wonder if I want to be rescued with the complications and depersonalization of my apple-dapple-self-stimulating-electronically automated and simple to operate computer.

1. William Baumol and Wallace Oates, *Economics, Environmental Policy and the Quality of Life*, (Englewood Cliffs, N.J., Prentice Hall Inc., 1977), Chapter 6.

Pyle responds

continued from page 2)

and those who purloined the name a few decades back is over the proper duties of the State. The base assumption of classical Liberalism is that the State is a compact between sovereign individuals for the protection of life, liberty, and (oh joy!) property. In this model, John Kennedy's famous question, (What can I do for my country?) is simply not applicable. The State exists to serve the individual and not contrariwise; to preserve its contractual parties in their liberty, to protect them from violent death, and to keep an eye on their worldly goods when they go to St. Kitts-Nevis for break. And it is ceded no more power than is necessary for these duties, as agreed by the contractual parties. There is no room for entitlements. No one ever asks, I suppose, why, and in virtue of what, various classes are entitled to skim cash off the top of the monies given the State for the provision of protection of life, liberty and property. It is an interesting question. The attempt to exclude the middle by saying, 'if it is wrong to let folk suffer, the State must throw money at them,' is invidious. To say that the State ought not arrogate to itself the proper duties of private charity and Mother Church is not to condemn people to die in the street. If they do begin to be found abandoned by the more fortunate, it is time for a Revolution, I agree, and I'll lead the jacqueries. But I cannot support the fond notion that we can safely turn to Papa Staat to rectify these misfortunes. To do so would of necessity cause the State to assume such powers in the attempt to redraw the national economy as would put liberty, capital, and finally life in danger. It is a logical impossibility to will that 'that which is to protect life, liberty, and property' (the State, for short) should be given the power to attack same. That men should be clad and warm and fed is good; and that men should be free is, strictly, imperative. To attempt to make the Staat the guarantor of both these rights is an exercise in futility. It is also supererogatory insofar as there exist ways of dividing these responsibilities so that neither right is likely to be abrogated. And that is the proper business of statecraft.

In the end, I would find it difficult to justify the 'liberal' positions on the grounds on which they now rest, grounds which only confusion can excuse; nor are there other grounds on which to base them. But Lock continues to speak to our condition, and a little thought will I trust convince you of this. Therefore, let us praise life, liberty, and the glorious institution of property, for they have given us the Constitution; and that is the Father of the spirit and letter of the Reagan agenda. All hail republican (small 'r') principles! Two cheers for Tory democracy!

On ABM technology

(continued from page 3)

with the greatest likelihood of incapacitating them is thus not very long. ABM systems such as ground based particle beam weapons or satellite based lasers are also a bad idea from the standpoint that the enemy may try to compensate for the obvious disadvantage by developing anti-ABM systems such as advanced satellite killers thus prompting another kind of weapons race, or even worse, by building even more ICBMs to try and overwhelm our ABM system in case of nuclear war.

In addition, the question has been raised, in the case of an anti-ballistic missile system, as to what the effect would be on deterrence. One side having the advantage of an ABM system may be tempted to strike in the event of a serious crisis, since it would not seriously have to fear any sort of retaliation. The side with a good satellite based laser or particle beam system could also shoot at the opposing side's ICBMs while in their silos, destroying them without any collateral damage.

Most people would feel that the twin factors of technological unfeasibility and potential political instability should definitely preclude any further development of particle beam or laser weapons. Simple prudence would dictate however, that the U.S. continue to keep abreast of ABM technology. After all, one must remember that two of the three inventors of the laser were Russian. The Soviets are basically on the same level as the U.S. with particle beam technology, and not far behind in the laser field. One advantage to the military development and improvement of lasers and particle beams that President Reagan may not have considered is the possible civilian scientific benefits that would accrue. Advances in photochemistry are already one result of the military's exploration of laser technology. So in one sense, it may be a good idea to try and work towards an effective laser/particle beam ABM system, since the resulting intermediate technological gains may have civilian application. Yet, the likelihood of it being deployed anytime in the forseeable future is very dim indeed.