PROJECT X

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In order to guarantee myself against complete failure to live up to the noble traditions of the Chicago Literary Club for which I feel both great esteem and a sort of uneasy awe, I chose last year to give this paper the title it now bears. If I am sure of nothing else I say tonight, I can at least be comfortable in the knowledge that not one of you knows what the title means. Thus is my position secure. If I have learned one lesson well over our hot chocolate and hors d'oeuvres, that lesson is: a proper Club paper almost always must have a thoroughly obscure title. Surely "Project X" is obscure enough for anyone. I can almost allow myself a certain sense of manful pride. After all, I could have taken the coward's way and submitted a title like "Top Secret" or "Cosmic" or even that mightiest of all security classifications—DBR—a stamp found, incidentally, on papers only two places in the world—the second floor of the Pentagon and the basement of the CIA building in Maryland—DBR—Destroy Before Reading. Modesty and humility force me to limit the delight I feel even now in this accomplishment of title, especially because as I sat down to write the paper intended to fulfill its rich promise, I realized that I didn't know myself what I intended to write about. Such a development is, I assure you, a sobering experience and serves admirably to keep any upwelling pride of authorship within reasonable bounds.

What in heaven's name could I write about? What small chatterings did I dare let loose among the echoing memories of poetry, biography, nostalgia, and scholarship which we have been so privileged to enjoy here. Should I, for

example, tell you about the time, years ago, when I was involved with the first attempt to launch a monkey to the edge of space in a rocket. It was 1951 and the space age had not yet been born—at least as far as the public was concerned. No one knew what would happen to a complex mechanism like a man or a monkey under zero gravity conditions. We decided to find out about zero gravity and about the then unknown effects of the radiation in space by boosting a little Rhesus monkey to an altitude of 60 miles or so in an Aerobee. An Aerobee rocket, by today's standards, is a little firecracker, but in those days it was pretty big stuff.

One bright hot summer day we were all set to go out on the desert of White Sands, New Mexico. We went through a very elaborate check-out procedure—at least we thought it elaborate—and proceeded into what is now called the countdown. In those days it wasn't so highly organized, and I am not even sure anyone bothered to count backwards from ten down to zero. In any event, we had arranged a pretty fancy scheme to recover our little friend the monkey after he landed by parachute. The whole crux of the experiment was to let King Kong—that was his name—live out the rest of his days in happy retirement so we could see if there were any long-term effects that would show up from his adventure in space. We had help from practically the whole military establishment. We had helicopters, radar trucks and personnel positioned all over the desert floor so that we would be able to locate and recover the nose cone with our little friend aboard as soon as possible. With a small silent prayer, we finally pushed the button and King Kong roared off into space cradled in a specially-designed hammock made for him by the Air Force Medical

School. He soared up 60 miles and apparently was happy as a clam about the whole thing, as we could tell from the records of his heartbeat, blood pressure, etc. which were radioed back to us from the automatic instruments in the nose cone. I admit that some of the medical group had taken the precaution of arranging for a little tranquilizer to be added to his blood stream at the proper time and that might have helped too. In any event, King Kong came roaring back down toward earth in beautiful fashion. The automatic parachute opened about 20,000 feet above the desert; and with great majesty he floated gently down the last few miles. By that time, we were jumping up and down in the blockhouse congratulating ourselves on having achieved the first successful launching into space and recovery of a higher animal. Helicopters promptly flapped off to get our little friend who was by then resting comfortably, it appeared, on the desert. An Air Medic went along to the impact site and reported by radio that everything looked fine. We shook hands all around and broke out a few cans of beer and began to toast our prowess as scientific experimenters. Now all that remained was to keep our little friend happy and confortable through the medical examination and his long retirement. Here was truly a magnificent success and we had visions of ourselves as pioneers in the dawning space age. Kong was released from his hammock and, as a reward, it was decided to let him stretch his legs in the desert sunshine. On such little things does success or failure of million-dollar experiments sometimes hang. King Kong, survivor of blast-off, zero gravity, and all the unknowns of space, died of sunstroke that day. Monkeys just don't like to live in the desert.

Well, I could tell a story like that to the Literary Club and tragicomic though it might have been, it seemed now to be just a little too old—the space age has long since passed it by.

Perhaps I should choose something more personal and closer to home—something homey like a fishing trip adventure.....there is one such story in which other Club members here tonight even participated.

A group of us had gone to Little Vermilion Lake in Canada to try our luck at the Northerns and Wall-eyes, allegedly as large as tree trunks, to be found up there. By and large I must say, as a few waggling heads in the audience might now confirm, that we did do pretty well. I did well I know and primarily because of one beat-up, homemade, silver-plated spoon that I, with my father's help, had made as a boy. Actually he had done most of the work and I guess, as it turned out, I caught most of the fish. My father was a silversmith until his death some twenty years ago and that explains why I am one of the few fishermen around with genuine sterling fishing equipment. This particular lure was one of the few from the old days that remained in my tackle box. I am not sure, but I don't believe I'd ever used it before this Canadian expedition. But this time it was infallible. Every time we would pull around a point of land I'd lay out a cast and almost every time I'd come back with a fish. It got to the point where I was calling the shots and would announce beforehand that I would catch a fish on this or that particular cast. Now this might not seem too remarkable, in view of all the fish stories you've heard about virgin Canadian lakes, were it not for the fact that no other lure in my tackle box or in any other seemed to have the appeal of that little silver spoon. I recall once or twice

hearing a few good-natured grumbles from the other end of the boat....at least I think they were good-natured.

On our last day we were pulling around a rocky point and I let go a long cast toward the shore line with Old Faithful. We were really pretty much surfeit with fishing, but it was, after all, the last day and we wanted to catch just a few more, as fishermen always do. That cast was the last one I was to make with the old spoon because it dropped into a crack in the rocks and jammed heavily about three feet under water. By that last day everyone in our boat, I think, had grown a little attached to that bit of metal because we rowed over to the spot where it had snagged and one of the fellows promptly stripped to the waist and, with two of us hanging onto his feet, went head first over the side to try and retrieve it. Devotion, you see, must have had something to do with it because it was a cold, rainy day and the temperature was probably in the 40's. The fellow who was working on it was about 6'3" and a former football player, and he struggled mightily as long as he could hold his breath—but to no avail.

Now there was nothing I could do as a true fisherman but to give it a try myself and so I did; only I elected to strip to the waist and step out onto the rocks and go under completely. I have never been quite so cold in my life, and I also admit to being a little bit worried about the footing on that slippery rocky ledge which we knew dropped off sharply into twenty feet of water. I also confess a certain feeling of exhilaration when I came up for air to find that our boat had drifted out of reach and I was there without anybody to help me keep my balance on the rocks. To finish this sad little tale, I must say that all our

efforts were fruitless and I finally broke the line and climbed back into the boat. I felt, then and now, a little like I had buried a friend out there under the rocks. After we raced back to camp and to warm clothing, I gave detailed information on the rock's location to the Canadian guides in the hope that they might find Old Faithful if the water level dropped later in the year. I have not heard from them and doubt I ever will, but maybe that's all right because Old Faithful never could have kept up its pace through a whole fishing season. I guess it's best to go out in your prime.

Now as I considered telling a story like that before the Literary Club it occurred to me that while it might be filled with meaning for me, and possibly even for a few of my fishing companions, it could never occupy 45 minutes; so I'd best look for some other subject.

Perhaps, I thought, I should do something in the form of a travelog. I have been fortunate enough to have spent a fair amount of time in Europe, lately in Paris, for example. Ah Paris, that conjures up images in almost everyone's mind, I am sure. The last trip I took there, for example, was in connection with a meeting of the NATO Parliamentarians—a group of senators, foreign ministers and the like who hold forth at great length but without much meaning. All this they do in four languages and once or twice each year. It is perhaps pertinent to observe here and now that hearing a bad speech in one language is a little more than one-fourth as bad as hearing a bad speech in four-language simultaneous translation. I suspect that Parkinson could develop this more or less reliable observation into a new book, if he chose to do so. A second reasonably reliable observation on a NATO Conference speech is that if you need

one drink after hearing an ordinary speech, you need four drinks after hearing one in four-language translation. A colleague of mine and I proceeded to test this scientific relationship in a very dark Parisian bar near NATO Headquarters the evening of the very first day of the meeting. I decided midway in the experiment to make a 'phone call—after all, we were in Paris. The 'phone booth turned out to be well-equipped and brightly illuminated and that was my undoing. After putting down the receiver, I stepped jauntily and reasonably steadily back into the dark bar-room only to feel something strange and soft underfoot. I looked down but my eyes were not yet dark-adapted and, for an instant, I could not see a thing. At that moment something grabbed me with surprising firmness. My vision cleared and I found myself staring face to face with a giant Chow dog whose jaws were clamped securely and steadily on my right leg. He looked at me and I looked at him. He then let go and ambled out of the way without further comment.

A crowd of Frenchmen, however, gathered instantaneously and my colleague came rushing up thinking I had been challenged to a duel or something. The uproar which ensued was without precedent in my experience and would generally be approached only by a three-car collision in the Place de la Concorde. Those of you who have watched two Frenchmen discuss a two-car accident will understand the massive proportions of a debate over a three-car accident. Perhaps I should add that my French is limited both in quantity and quality and so having no course but to remain quiet in the midst of the din, I proceeded to roll up my pants leg to survey the damage. What I uncovered was more impressive than serious, but the sight of American blood being spilt in a French

bar produced an audible gasp in my audience and immediate signs of organization. The bar proprietor took charge with an air of complete authority. He addressed me in French which my colleague translated simultaneously as I dug for a handkerchief to stop the bleeding. The sense of the Frenchman's speech was—do not call the police. I replied "What the hell good would the police do," and smiled bravely. There was an approving murmur from the audience. The proprietor's wife burst through the ring of people and, with a hopeful expression on her face, presented me with a photograph of my tormentor....standing splendidly amidst a collection of gold medals and blue ribbons. My friend, still translating, announced that I had just had the honor of being bitten by the National Champion Chow-Chow of all of France at which time the proprietor of the bar, who was also the owner of the dog, shook my hand vigorously. I said I wanted a cognac, besides which how the devil did I know I wouldn't get rabies. My friend said, "don't worry, the dog gets better care than you do."

I said I wanted some cognac. My friend said, "He goes to the veterinarian every two weeks." I said I wanted some cognac. My friend said, "Be patient. They are getting you the best stuff in the house." I was patient for what must have been fully 2-1/2 seconds. Someone blew the dust off an old bottle taken from the top shelf behind the bar. The owner uncorked the bottle with a flourish and a sense of genuine pride. He poured an adequate quantity into a brandy snifter and I breathed a heavy sigh and reached for it, but he moved me aside. Before I could shift my exposed leg from the bar stool he upended the snifter and poured the cognac lavishly over my calf—disinfectant, you know. I allowed that; after all maybe it was a good idea, but then when I asked for cognac

I had internal application in mind. The proprietor graciously obliged. The crowd graciously obliged. Everybody obliged everybody. We spent the rest of the evening making sure I was thoroughly disinfected inside and out and listening to stories of Hairos—the most decorated dog in all of France. Again and again we were shown the great strings of gold medals, the stories in Paris Match and in the newspapers. And through it all, I assure you, the dog himself remained regal and aloof—the French have a way with them—even when they are dogs.

Now I might have considered that a dog story and travelog such as this would be a decent topic for a Club paper, but it seemed to me that to really do the thing properly I would have to show the scars and that might seem a bit undignified to some of our membership.

Come to think of it, however, I was in Paris for a rather serious purpose, namely the NATO Space Program, and I could attempt some rolling erudition on the Atlantic alliance and its problems. At the same time I might even be able to discuss, indirectly, some of what's going to be happening in the U.S. space program. I might even quote from my own speech in Paris and save myself some writing.

"The military implications of man's increasing ability to place both instruments and himself in the space environment are as yet only dimly understood. Even at this early stage of development of space science and technology, it is nevertheless clear that NATO can ignore space only at its peril—a peril which derives not from any clear and present threat from enemy space operations but rather from the possibility that progress will be so rapid as to obsolete important aspects of NATO planning for the more distant future. It does not

seem reasonable at this stage to think in terms of a full-scale NATO research and development program in space technology. Rather it would appear judicious for NATO to consider a program which would keep its key personnel fully informed on man's increasing capabilities in space so that, at the earliest possible moment, military implications can be discerned. In this way, NATO may avoid being caught unaware by militarily important breakthroughs in the space programs of potential enemy countries. An effective yet inexpensive approach to this problem by NATO would appear to be necessary and desirable.

"That the question of economics in a NATO space program must receive great attention in choosing a course of action for NATO in the immediate future is obvious. If NATO were to embark upon large-scale manned or unmanned satellite programs, it would immediately be faced with the expenditure of very large sums of money indeed. Satellites cost about $25,000 per pound and many ten's of thousands of pounds are likely to be involved in any military program.

"One interesting possibility for NATO lies in the technology of so-called 'reaper' satellites. These are satellites designed to collect or 'reap' data from various unmanned instruments disposed on the earth in inaccessible or dangerous locations. Reaper satellites might be used in ocean surveillance in conjunction with sonar buoys for submarine detection or might be employed to obtain low altitude and surface weather conditions using unattended observing equipment. The use of reaper satellites in oceanographic problems and in Anti Sub Warfare is quite intriguing. Here NATO could undertake the development of the terrestrial units and leave the very expensive satellite system itself to national programs or to a later stage of NATO's own space program. It must be emphasized that

a good deal of lead time for research and development will be necessary before terrestrial units would be available for militarily important purposes. In the intervening years of such effort, NATO's role in space would probably be clarified substantially.

"Two more suggestions for where NATO might look in an effort to embark on a military space program without large financial commitments contemplate using U.S. space programs. These programs are still in the planning stages and have not been approved as official U.S. activities. On the other hand, if and when they are approved, they do seem to represent quite unique opportunities for collaboration with NATO.

"The first of these possible U.S. projects is the SPEMS program, an acronym standing for "SPace Environment Monitor System." This U.S. Air Force program would concern itself with establishing a monitoring network of unmanned instruments to make intermittent and/or continuous measurements on the properties of the space environment which could be important to military space operations. The system is simply the space analog of a weather station network on the earth's surface. Such matters as solar flares, ionospheric conditions, upper air density, and so on would probably be involved. The SPEMS program, because of its military orientation, might well be suitable for early NATO participation. This seems particularly likely because, by its very nature, the program will involve collaboration between many laboratories and scientists and the injection of NATO into the situation at this early stage might be relatively easy as compared to putting NATO into the middle of an on-going, fully-developed, national program.

"There is a second major program in the study and planning stage in the United States. This program looks forward to the establishment of a MOL (Manned Orbitting Laboratory) in space below an altitude of, say, 300 nautical miles. The laboratory would have a flight duration of the order of one year or more and would be supported by ferry rockets from the earth which will arrive at frequent intervals every few months. The MOL concept is under study both by NASA and DOD and appears to offer a number of extremely interesting possibilities for both military and scientific applications. Since the instrument payload for the MOL will be cycled by means of the ferry rockets, it is clear that NATO instrumentation or even one or more NATO personnel could participate in MOL operations at some stage. The number of personnel aboard the MOL varies substantially with the configuration but could be of the order of ten to twenty people or more. NATO could, at relatively small expense, put itself in a position to instrument certain of its activities aboard MOL. It is noteworthy that the ferry costs and the establishment of the laboratory itself will not involve NATO participation or expense. The MOL program, if the U.S. decides to embark upon it, will surely have far reaching implications in all areas of space technology. The flight dates for the program which are currently under discussion are surprisingly early and, if NATO acted with dispatch, it would appear that there is no reason, in principle at least, why it could not participate in this most significant undertaking. It seems apparent that the presence of man in space under the conditions contemplated for MOL, or some future outgrowth of MOL, will have considerably military significance."

Now if I went on with this sort of thing, even though it does say something about what the first phases of a military space program are going to look like, I suspect I might soon lose whatever is left of my audience. I could go on and talk about the present chaotic status of NATO and how deeply disturbing it is, if you let yourself think about it, that there are 15 four-star generals in Paris NATO Headquarters trying to put together the NATO multi-national force—a supply sergeant's nightmare, using at least four calibers of rifle ammunition, and heaven only knows how many classes of spare parts for war machinery built to different specifications by each and every NATO country.

It would be possible even to explore how this lack of standardization in NATO would likely force the allies to "go nuclear" as it's euphemistically termed if the Russians should mount a serious threat to Western Europe in the near future. "Going nuclear," as you no doubt surmise, simply means using tactical nuclear weapons to defend yourself against otherwise overwhelming military force such as the well-coordinated and integrated Russian Army would represent. Strategic planners think long and hard about the when and if of "going nuclear." One analyst has in fact identified 18 possible forms of nuclear attack including, for example six variations of counterforce. Counterforce is the term used for the strategy of delivering nuclear weapons against enemy military targets exclusively. It is only one new phrase in the so-called "Doomsday Dictionary" used by the people who have to force themselves to think about such matters. There are many other phrases in the official language of oblivion which, dry as they are, must be thought of in terms of the conceptions and events which stand behind them. Here are some.

Catalytic War: A war between super power initiated by a third power. Super powers are those capable of serious threat to any other nation. There are only two now—the U.S. and Russia. Thus, a small nuclear power might drop nuclear weapons on the United States, intending that this be misinterpreted as an attack by the Soviet Union.

Countervalue Strike: A military assault against targets that are thought to be of great value to the enemy, regardless of whether they are of great value to the attacker. In particular, an attack against civilian population per se.

Doomsday Machine: A reliable and securely protected device that is capable of destroying almost all human life and that would be automatically triggered if an enemy committed any one of a designated class of violations.

Rationality of Irrationality: An instance of rational behavior consisting in committing oneself in advance to an action in the event of a contingency that one earnestly hopes will not occur, even though it would be clearly irrational to carry out the action if the contingency occurs. The doomsday machine is an extreme example of this.

Self Fulfilling Prophecy (as applied to International relations): The assertion implied in a nation's attitude of trust or distrust toward another nation, which generates, if believed, a like attitude on the part of the other, thereby reinforcing the first nation's attitude and making the implied assertion self-validating.

Spasm War: An all-out uncontrolled war in which forces are expended very rapidly in a violent nuclear exchange.

Now it is tempting to conclude that a lexicon like this would convince anyone of the impracticality of nuclear war and, if one could count on people remaining rational enough to recognize impracticality, the world would be safe from nuclear war. It's this assumption of rationality that, of course, one has to worry about.

Interestingly, even Lenin had something to say about the present status of things. The quote comes from a Paris magazine. Let me quote:

"I, too, understand that all human conceptions are on the scale of our planet. They are based on the assumption that technical potentials, when developed to the full, will not go beyond 'terrestrial limits.' If we arrive at establishing interplanetary communications we must revise all our philosophical, social and moral conceptions. In that case the technical potentials, having become unlimited, will impose upon us the end of violence as a means and method of progress."

Lenin apparently believed that everything is rational in the world, and violence would end once technological potentials exceed terrestrial limits. Alas, I am forced to note here that there may be new and still apparently rational ways developing to preserve violence in the world. For example, war could be made practical and rational again and, therefore, dangerously probable by the development of a truly effective Anti Ballistic Missile System. Such a system doesn't seem to be likely and it is most interesting, I feel, to observe that our irrepressible technology is turning away from what may be

the blind alley of nuclear war without nuclear defense. How then can war be retained as an instrument of rational national policy? Increasingly, technology is gathering its forces to answer this question by developing techniques of non-nuclear warfare. One begins to see increasing emphasis on "unconventional warfare," on "limited war," on "counter-insurgency forces," on "death ray development," and a host of others. One can argue, I think, that we are developing toward a situation where highly technological, localized conflicts will be fought with extremely sophisticated and highly precise weapons. These conflicts will go on under an umbrella of massive nuclear weapons on both sides which are not employed, if rationality prevails, because of their impracticality.

One hears talk these days in Washington of the "fire break," between nuclear war and other kinds of war. Such a "fire break," of course, does surely exist, but it exists only as long as both sides are rational. One of the most crucial questions of our time in this struggle to keep war practical is, therefore, a psychological one. If one side is losing a non-nuclear, but highly technological, war at some boundary of its sphere of influence—will it engage in a mutual suicide pact by initiating a full-scale nuclear exchange without a nuclear defense? Technology has, of course, no answer to this question but technology, as a hand-maiden of society, is well on its way to making us confront this question most fully.

We are developing new and efficient ways of killing people--but only selected people—soldiers rather than whole populations. We started with tactical nuclear weapons and we argued that "small" nuclear weapons, of the

size, say of a thousand tons of TNT equivalent or so, could be placed with precision on strictly military targets so that a war using such weapons would still be practical. While the concept of escalation lurks everpresent in the back of our minds, we rush headlong in every direction which seems likely to let us fight without using megatons to do it. We are now going full speed to develop such things as very high-fire power conventional weapons, one-man rocket belts, highly efficient communications systems for jungle war, and ways to locate military targets out of a mass of non-military materiel.

We have, in fact, decided that we must have a choice of various possible wars and we must be both equal to an enemy in our ability to exchange nuclear warheads, and thus retain the deterrent which keeps such an exchange impractical and, at the same time, be superior to an enemy at all levels below such a general nuclear exchange. To retain the first of these conditions requires Minute-man, the Polaris, the continuing search for an ABM. To achieve the second of these conditions requires that technology press forward on many fronts to develop new instrumentalities of non-nuclear war. And technology is increasingly committed to this task. As technology succeeds, war could become more and more practical and hence more tempting. But unilaterally stopping the technical developments is not the answer. In reality, the only way in which this new and dangerous thrust of technology can be blunted is to develop new political and social ideas which render it unnecessary to keep war as a practical instrument of national policy. It is a race against time and unfortunately, I feel, technology is ahead. Technology is ahead in many other ways too. I could, for instance, list a few comments and observations in areas

where it is raising problems much faster than mankind seems capable of solving them.

1. Computer technology is analogous to automation in one sense in that it can be viewed as replacing brain power in the same sense as automation replaces physical power. I think we ought to consider the effects of this replacement along with the other effects of computer technology, particularly in the area of communication.

2. Communication has changed tremendously. We have increased a millionfold man's capacity to transmit. This, of course, says nothing of man's ability to receive—measured in both human and technological terms. For example, the fact of a Telestar satellite capable of transmitting our ideas to any place in the world means little to the Africans who do not have the reception apparatus. Further, it is clear that even if they did, much that we might communicate would be meaningless. Still it is important to note that the race is now in possession of the means for volume communications of an unprecedented order.

3. Two aspects of technological development in the area of transportation should be distinguished and analyzed. The first is the simple fact of our present capacity for fast physical movement; the second, the "leap-frog" effect technology can have upon the development of the poorer nations, that is, many of the newer nations will jump directly from ancient modes of transportation to more modern ones than the developed nations have now, without going through the intermediate stages of development. Along with the economic motive, I think this is an area which may be particularly significant in bringing about social uniformity.

4. In the area of peaceful use of nuclear explosives, the major possibilities seem to be in construction on a rather wholesale scale. What effect would planetary engineering on a rather gross level have upon people?

5. Disarmament technology suggests some of the problems that arise with centralized control of technology apart from the economic and political controls. One of these is the use of technology to defeat secrecy and to provide information through espionage.

6. Compared to the development of communications and weapons technologies, the technology of shelter has lagged behind. Had there been similar concentration on this area we would probably be living in wall-less shelters. When you stop to think about it, our present structures are really not that dis-similar to the cave. While, of course, there have been changes, my point is that the changes as regards this basic need have not proceeded with a pace anything like that of developments in other areas.

7. Several interesting points can be illustrated by the current work in energy generation. The widespread use of nuclear fuels, which is technologically feasible, will contribute to homogeneity. It will end the need for physical transportation of large quantities of material. Effort is also being directed toward finding substitutes for traditional energy sources. One not too promising example is solar energy. Another, controlled thermonuclear energy, illustrates an interesting phenomenon. We are expending considerable resources in order to provide something which really will not be needed for centuries. We might ask what, in the light of more immediate problems, brings about this type of policy?

8. In the area of water supply there has been comparatively little development. We are working on a de-salinization but we have not yet been very successful. However, this is probably more a problem of economics than technology. It is important to note that when de-salinization becomes practical, it will be possible to extend general technology into heretofore inaccessible areas.

9. Correlative to the attempts to develop a technology for weather warfare, there are the attempts in the area of weather control. We will probably face it as an accomplished fact within this century. How will mankind handle it?

10. Automation, in conjunction with computer technology, raises the problem of the possible need for methods of distribution other than on the basis of productivity as men are replaced in production by machines. We have today evidence of this need.

11. Productivity of food is another of those basic areas where we have made substantial advances in increasing per unit land yields but where these increases are rather insignificant as compared with some of the others I have mentioned. In this same sector it might be observed that our techniques of food preservation are relatively clumsy in perspective of overall technological development.

There are two further and obvious points to be emphasized: first, there is a great disparity between the developments in different areas, e.g., between that of communication and that of shelter and, second, today we are going through a once-in-history transition to a large-scale, centrally controlled commitment to technological effort.

Clearly the world is a rather complicated place these days as is obvious to everybody, and I wondered if I should burden the Literary Club with such gloomy matters. I debated especially talking about mankind progressing in his search for new ways to kill people. There are a few small glimmers of hope on the horizon like the test ban agreement, for example. Perhaps I could talk a bit about it and point out that, in my opinion, the question of the wisdom of a test ban does not rest heavily upon matters of fall-out, genetic damage to the race, and similar problems, but rather on estimates of the trade-off between increasing our security by technological or political means. The test ban is an attempt to increase our security by political means at the expense of technological ones, and I believe that now the time is ripe to try such a move so I believe personally that the test ban is a good thing. It is, of course, only a good thing if it leads to further progress, for in and of itself, it does not reduce the probability of nuclear war very substantially. It will be years before we can judge the sincerity of the Russians in this matter, but I feel we must try once more to trust them. Next steps toward peace must, however, follow soon. If they do not, the USSR may be able to gain more for itself by breaking the test ban than in keeping it.

Of course, the test ban for people like me is an immediate signal to start reminiscing about the summer of 1962—that hectic summer during which the U.S. rushed headlong into its last nuclear weapons test series. So much has been said and written about nuclear testing that it didn't seem to be a topic for the Literary Club. Still, those South Pacific Islands were interesting and while the native girls don't look anything like the posters say they ought to look, it is

still true that places like Tonga and Samoa might be worth talking about. If I were to have talked about the world's problems today, it might have been welcome relief and also nicely symbolic to hear about the time of our first visit to the village of Satanga on American Samoa. I remember it very well.

It was a soft South Pacific evening just about twilight when we drove up before the chief's fali to pay our respects and explain our presence near his village. After the usual amenities and amid coconuts and some thirty varieties of bananas, the villagers informed me that they were going to give me a present. "What was it?" I asked warily. "It's a she, and her name is MaryAnn," they replied, and there in front of me she stood—one of the island maidens, all 160 pounds of her. She was smiling, so what could I do; I smiled too. That was my mistake! The villagers decided at that moment that I had accepted her as my "wife" during my stay on the island. Acting with alarming dispatch, MaryAnn stripped to the waist and began to shower and fix her hair under the community water faucet. I asked myself whether even science and national security were sufficient cause for the sacrifice I was about to be called upon to make. I tell you here and now—and for whatever you want to make of it—I beat a hasty retreat to my jeep and back to camp.

I shall beat another retreat right now with only the closing comment that as I sat and stared at the blank piece of paper on which was written only the title of this talk, I decided to start with a comment about the noble and venerable traditions of the Chicago Literary Club, remarking particularly that a proper Club paper almost always must have a thoroughly obscure title. I'd now admit that if you were to assume that Project X had something to do with fragments of life in the mid-twentieth century, you'd not be far wrong.