

The Senate will convene at 12 o'clock meridian, following a recess; and, under the previous order, following the recognition of the majority and minority leaders or their designees, there will be a period for the transaction of routine morning business for not to exceed 45 minutes, with statements therein limited to 3 minutes.

Following the period for the transaction of routine morning business, the Senate will proceed to the further consideration of the pending business.

Mr. President, what is the pending question?

The PRESIDING OFFICER (Mr. BEALL). The question is on the motion of the Senator from Alabama (Mr. ALLEN) to postpone until the next legislative day the motion of the Senator from Pennsylvania (Mr. SCOTT) to proceed to the consideration of Senate Resolution 9.

RECESS

Mr. BYRD of West Virginia. Mr. President, if there be no further business to come before the Senate, I move, in accordance with the previous order, that the Senate stand in recess until 12 o'clock meridian tomorrow.

The motion was agreed to; and (at 3 o'clock and 8 minutes p.m.) the Senate recessed until tomorrow, Thursday, February 25, 1971, at 12 o'clock meridian.

NOMINATIONS

Executive nominations received by the Senate February 24 (legislative day of February 17), 1971:

U.S. ADVISORY COMMISSION ON INFORMATION

The following-named persons to be Members of the United States Advisory Commission on Information for the terms indicated:

For a term expiring January 27, 1973: Frank Stanton, of New York (reappointment); Hobart Lewis, of New York, vice Thomas Van Husen Vail, term expired.

For a term of 3 years expiring January 27, 1974: James A. Michener, of Pennsylvania, vice Palmer Hoyt, term expired.

IN THE ARMY

Gen. James Hilliard Polk, xxx-xx-xxxx, Army of the United States (major general, U.S. Army), to be placed on the retired list in the grade of general under the provisions of title 10, United States Code, section 3962.

The following-named officer under the provisions of title 10, United States Code, section 3066, to be assigned to a position of importance and responsibility designated by the President under subsection (a) of section 3066, in grade as follows:

To be general

Lt. Gen. Michael Shannon Davison, xxx... xxx-xx-xxxx Army of the United States (major general, U.S. Army).

EXTENSIONS OF REMARKS

RALPH B. WILSON III, CONNECTICUT'S STATE WINNER OF VOICE OF DEMOCRACY CONTEST

HON. ELLA T. GRASSO

OF CONNECTICUT

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mrs. GRASSO. Mr. Speaker, I am particularly proud of Ralph B. Wilson III, a high school junior and son of Mr. and Mrs. Ralph B. Wilson of Litchfield, Conn. His essay was judged the winning speech for the State of Connecticut in the Voice of Democracy Contest which is sponsored each year by the Veterans of Foreign Wars of the United States and its Ladies Auxiliary.

I would like to acknowledge the splendid contributions of the Veterans of Foreign Wars in the area of education. This year over 400,000 students are competing for a first prize in the national contest of \$10,000 in scholarship funds. The winning contestant from each State will be brought to Washington, D.C., for the final judging as guest of the VFW on March 5 through 9. The theme of the speeches was "Freedom—Our Heritage."

The continuing efforts of the Veterans of Foreign Wars to instill a sense of loyalty and pride among young people in our country have been most admirable. I look forward to their continuing efforts in this regard.

Ralph Wilson's speech should serve as an example of the fine quality of citizenship among our youth. I would like to call his speech to the attention of my colleagues.

I include the article as follows:

SCRIPT OF RALPH B. WILSON III, 1971 VOICE OF DEMOCRACY WINNER

The American people have long been a race of pioneers, shaping a nation out of the wilderness of an unknown continent, and a laboratory out of an alien and unknown universe. Such pioneer spirit has led to some of the greatest technological achievements in history, but the American pioneer spirit has always meant something more than this. From our very conception as a nation, Americans have been pioneers of freedom.

In the nearly two hundred years of our nation's existence, Americans have died for freedom. At Lexington and at the Bulge, at Bunker Hill and at Porkchop Hill, Americans have fought against attacks upon freedom from without. Now, as we enter a new decade, we Americans face a challenge every bit as crucial and demanding, the challenge of living freedom and of fending off attacks upon our freedom from within.

It is a current fad to curse America, to burn our flag and our universities. Anyone who does not is considered to be "selling out" to that great, if somewhat unclearly defined monster, the "establishment." The thing we must all realize is that it is those who would incite violence who are selling out. These people are selling out our freedom, no matter what their ends.

There is a basic lack of logic in the arguments of people who would have us destroy our society in order to improve it, and give up our freedom in order to secure it. When anyone, regardless of their motivation or political persuasion, would ask us to take away the rights of others, he asks us to deny the existence of our own rights, for he ignores the basic responsibility of liberty as stated in the Declaration of Independence. Governments are instituted among men "to secure rights," and if any system of government is to be a valid defender of man's rights, it must defend every man's rights. This means that, just as every free man's first right is the security of his own freedom, his first responsibility is the security of every man's freedom.

If our freedom is to grow in strength and breadth, it must grow through education and understanding, and not through ignorance, revolution, and destruction. There has never been freedom in chaos, there was none under the revolutionary governments in Russia, China or Paris, and, regardless of their good intentions and their high rhetoric, there is nothing to suggest that our own revolutionaries could offer us any more security for our freedom than these groups did.

But if revolution is not the answer to freedom's challenge, then what is? Certainly we cannot simply continue along present lines, with peace on earth, a clean environment and universal freedom seemingly further away than ever. I think the answer has to lie in some far too seldom used words—"cooperation" and "trust," for these are the challenge of our Heritage of Freedom. As we have drawn ever further away from the time when Americans had to die for their freedom, we have been lulled into a worship of security, and away from these words, and it

is instinctive for us to search for an easy way to protect that security. Certainly, it would be easy to say, whether to the government or to a revolutionary, protect *my* interest, keep *me* secure, at any cost; but it would be a hollow security indeed if it meant the surrender of our freedom. In a time of so many challenges to our freedom, mutual trust is vital, and division would be disastrous. War and bigotry, ills which have been created through selfishness and mistrust, can only be destroyed through trust and understanding. We must begin to live our freedom. Every American must become a pioneer for freedom and take the hand of his brother and of God in building upon our Freedom's Heritage the freedoms of the future, freedom from fear, freedom from want, and freedom from ignorance.

ESTONIAN INDEPENDENCE DAY

HON. WILLIAM R. COTTER

OF CONNECTICUT

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. COTTER. Mr. Speaker, today I wish to take time from our busy legislative schedule to commemorate the 52d anniversary of the independence of the Baltic State of Estonia.

This is a historic, but sad occasion. Fifty-two years ago the people of Estonia declared their independence, after centuries of subjugation. However, the autonomy of this proud people did not last long. The country is now under Soviet occupation.

I would like to take this opportunity to recognize this anniversary and to share with Americans of Estonian descent and Estonians behind the Iron Curtain the hope and promise that these people will be able to walk free in their own land once again.

Mr. Speaker, I am sure that the courage and forbearance of these great people will provide inspiration to the peoples of all nations.

On this day dedicated to the freedom of Estonia, I am prayerful that the future will bring its people the happiness they deserve.

CANAL WOULD BADLY DAMAGE
FLORIDA'S ENVIRONMENT

HON. C. W. BILL YOUNG

OF FLORIDA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. YOUNG of Florida. Mr. Speaker, President Nixon's recent decision to halt construction of the controversial Cross-Florida Barge Canal has set off howls of anguish from advocates of the project. Among their charges is the accusation that the President acted unconstitutionally, running rough shod over the rights of Congress.

Therefore, I believe it essential that the Congress be aware of the critical environmental consideration that led to the President's decision. For this reason, I am submitting the Council on Environmental Quality's interim report on the canal:

INTERIM REPORT

BACKGROUND AND DATA

When the canal project was originally authorized many of the environmental factors were not recognized, and in any event, it was not then Government policy to weigh environmental considerations heavily in such decisions. Both of these situations have changed dramatically.

Through the National Environmental Policy Act of 1969, it is now the Government policy that environmental considerations be given appropriate attention at all levels of Federal planning and decision making, and further, that consideration of environmental impacts applies to ongoing as well as new activities.

Ecological knowledge has greatly expanded in recent years, and the areas in which particular improvement have taken place include understanding of ecosystems and ability to predict environmental consequences of certain types of actions.

Knowledge of the environments affected by the Cross Florida Barge Canal itself has expanded greatly through the conduct of a series of studies, surveys, and reports. A list of the studies and reports is attached. These documents were reviewed in the course of the studies on the canal project which the Council on Environmental Quality carried out.

Environmental Considerations

The major environmental considerations are briefly summarized here, not listed in any order of importance of significance.

The meandering Oklawaha River with its river valley would be largely inundated by Rodman Reservoir and Eureka Reservoir. A central channel, 12 feet deep and a minimum of 150 feet wide, would be created. The flooding, clearing and dredging would irrevocably alter the entire ecosystem.

The Oklawaha Valley and River is not "virgin" in the sense that there has been human activity, including substantial lumbering, in the past. However, it is regarded as an area of unique wild beauty. In 1963, the Joint Study by the Departments of the Interior and Agriculture found that the Oklawaha River "should be included in any system of wild rivers. It is felt that this use outweighs any other possible functions that have been proposed for the general area." Criteria for inclusion in the system were that such streams should "be preserved in their free flowing condition because their natural scenic, scientific, esthetic, and recreational values outweigh their value for water development and control purposes now and in the future." The River was also considered for inclusion under the Wild and Scenic Rivers Act of 1968, but by that time construction of the canal was in progress.

The project would cause some physical alteration of the land surface through digging, dredging, construction of dams and locks, and relocation of transportation facilities. The major impact, however, is due to alterations in the surface and subsurface water. Significant areas will be inundated. The three main reservoirs created would have a combined area of some 50 square miles. The water table of the river valleys and to some degree that of the other surrounding lands would be altered by the canal. In some cases, there would be a raising of the water table level, in others lowering, depending on the site along the route of the canal and factors such as the nature of the topography and the geology. Any change in ground water level will affect surface vegetation and will have an impact on the ecological balance of the area.

The loss of the habitats that are totally altered, such as the dense stands of hardwoods in the Oklawaha Swamp, the "hydric hammock" habitats, means the loss of the associated wildlife species which are limited to that habitat. The impact, however, extends far beyond the areas most significantly and obviously affected.

The Oklawaha River and swamps provide a key part of the habitat for many of the wild animals and birds that inhabit the adjacent Ocala National Forest. A number of species such as deer, bear, and turkey spend much of the year in the extensive pine flats of the National Forest, but require the river and swamps to provide food and cover during critical periods when adequate food and cover are not available in the pines. Thus, alteration of the relatively small area of hardwood swamp will exert a profound influence on the wildlife of a relatively vast area of adjacent pine forest.

Changes in the water table, as noted above, will result in changes in vegetation and, therefore, in wildlife habitat. This effect can be expected, to a greater or lesser extent, along the entire length of the canal, although from a wildlife standpoint, the Oklawaha valley is probably the most significant part of the proposed canal route. In the area impacted by the proposed canal, there are a large number of species of wildlife (birds, mammals, reptiles) including several on the threatened species list, among them the alligator.

Other species will move into the new environment. Experience shows that from this type of development the species which move in include a much less diverse and stable range of species and frequently a very much higher proportion of exotics and pests.

The fish life will be profoundly affected. There should be a temporary increase in the sport fisheries in the new reservoirs, but the long-term effect should be a replacement of the present desirable sport fishery by what are largely trash fish, including gars, bowfin, shad, and bullhead. Species which require migration up stream in their life cycle, such as striped bass and mullet, will find their path blocked by dams, their migration and spawning will be interrupted, and eventually they will be eliminated from the system. This process has begun already on the upper Oklawaha because of the construction of Rodman Dam.

The Florida Game and Fresh Water Fish Commission made a careful comparison between the St. Johns River and the proposed Oklawaha River reservoir complex, believing that, although the St. Johns River is not impounded, the comparison is valid because of the relationship of water flow and nutrient load between the two of them. There are many data referred to, but during the period of study (20 years) the important game and food fish species declined in weight percentage wise as follows: large mouth bass, 40%; black crapple, 46%; blue gill, 68%; shellcracker, 42%; redbreast sunfish, 98%; channel catfish, 48%; and white catfish, 27%.

Concurrently, populations of other non-game fish types of little economic value expanded. Gizzard shad expanded 447%, long-nosed gar (in 17 years) increased 2,640%.

Factors involved included slow movement of water, heavy undesirable algae undergrowths (caused by combination of over-enrichment of nitrates and phosphates, rising water temperature, and direct sunlight. These produce growths which rob life-giving oxygen and result in periodic fish kills during the months of April, May, and June), eutrophication, and sedimentation, the slowly decaying hyacinth and other plant materials covering fish spawning areas and reducing bottom productivity.

Citing the well known temporary increase in productivity following damming, the Commission cited cases of Florida reservoirs where the decline occurred five years after impoundment (two cases) and eight years after impoundment (one case). "We expect the fish population in the Rodman and Eureka reservoirs to peak earlier and harvest success to stabilize at a lower level than those reservoirs listed above due to the exceptionally heavy nutrient load which will produce excessive aquatic vegetation and algae growths." The heavy sediment build-ups will ultimately render the bottom unproductive for most sport fish populations, and the shallowness of the canal reservoirs further magnifies the problem.

The anticipated increase in the fishery in the first few years after damming may be to a greater or lesser extent offset by the three to four years of continuous dredging required to construct the canal, as well as subsequent dredging to maintain the channel open. The effect of the dredging will be to increase the turbidity, siltation, and fertility. The siltation and other factors render the bottom unproductive for reproduction of many of these fish and smothers and kills the young of some species.

The rich fisheries that exist in the Oklawaha and in some Florida lakes are due, in part, to fluctuations in water level. The Florida Game and Fresh Water Fish Commission has expressed the view that the barge canal and fishing are incompatible because of the importance of the fluctuating water to the fishery contrasted with the need for stabilized water levels for barging.

The Federal Water Pollution Control Administration noted that the creation of the canal with its impoundments will change the bottom animal population and will increase the number of potential nuisance organisms such as mosquitoes and midges. "The slack back waters will serve as breeding areas for mosquitoes." Organic materials now swept away by current will settle to the lake bottoms and accumulate to provide food for increased numbers of midge larvae."

The canal will provide a direct infestation route and a means of transport for a variety of organisms, some of which are potentially serious pests. Once introduced, the pests could spread virtually unobstructed throughout the waterways in the other parts of the State, i.e., the other side of the State, and in some cases, extend their range possibly into adjoining States. There are abundant examples of this type of transfer provided by other canals. The movement of the sea lamprey into the Great Lakes via the Welland Canal is, of course, a classic case.

In the Florida barge canal area pests which have been identified include waterweeds, fish and clams.

Among the waterweeds are the *Hydrilla verticillata* and *Myriophyllum spicatum*. *Hydrilla* is one of the world's fastest growing and rapidly multiplying submerged aquatic flowering plants and is regarded as being potentially the most difficult aquatic plant to control in Florida. Introduced in recent years to Inglis pool, it has become a major problem there and has now engulfed over half of the pool. In an experimental chemical control

program in August 1970, 140 acres of the pool were treated. A small fish kill was reported and, although the area was reasonably clear initially, within two months a two-foot high stand of *Hydrilla* had grown back. The cost of chemical alone was \$39,000 and, as a result of the experiment, it was calculated that at least two complete treatments a year, at a cost of \$815,000 per treatment, would be required to keep the weed under some control in Inglis Pool. If this plant were to spread through the canal to the eastern waterways, the economic and environmental dangers are clear.

Myriophyllum spicatus, or Eurasian millfoil, is another submerged aquatic plant introduced into Florida waters where it has become a serious waterweed. *Myriophyllum* now is found within a few miles of the western end of the canal route.

Potential faunal pests which could be spread by the canal include such organisms as the exotic fish, *Tilapia melanotheron* and the Asiatic clam, *Corbicula*. The impact of this particular fish on the aquatic ecosystem and fisheries of the eastern waters is uncertain. The introduction of exotic elements into aquatic ecosystems generally disrupts existing conditions, often to the detriment of the ecosystem and the fishery. The intentional introductions, for purposes of management or fishery improvement, which are based on adequate research, are a totally different situation from the unplanned, accidental introductions, as through a canal.

The threat posed by the clam was described in a memorandum to the Governor of Florida by the Chairman of the State of Florida Department of Air and Pollution Control, dated May 12, 1970. "The Asiatic clam (*Corbicula*) . . . has already demonstrated its devastating effect in the Tennessee Valley and to a lesser extent in the Apalachicola and Escambia Rivers. The canal will open the entire Oklawaha and St. Johns Basins and eventually all of eastern Florida to the spread of this clam." The clam exists at the western end of the waterway in the Withlacoochee River where the Federal Water Pollution Control Agency reported live clam populations as dense as 2,000 per sq. ft. in the lower reaches.

EUTROPHICATION

One of the particularly severe environmental problems associated with the canal construction will be eutrophication. In its natural state, the Oklawaha is a cool, highly enriched, densely shaded, flowing river. When the flow is obstructed by dams and locks, the entire ecosystem is drastically disrupted, producing a warm water, highly enriched, unshaded, shallow watercourse, with little or no flow. The ecosystem which formerly supported fishing, hunting, and aesthetic values is in jeopardy because the new system is a nutrient trap that functions similar to a sewage treatment "polishing pond." In the reservoir system of the proposed canal, the soluble nutrients will be utilized by higher aquatic plants or by algae. These in turn will die, sink to the bottom, contributing to the organic build-up and utilizing oxygen.

The nutrient utilization will probably follow two paths. Some of the nutrient will stimulate both the floating plants such as water hyacinth and submerged plants such as *Egeria densa* and *Hydrilla*, which ultimately choke the waterways. Alternatively, the nutrients may be utilized in the production of algae. Rapid growth of algae produces an "algal bloom," characteristic of eutrophication conditions, and often covering much of the water surface. Dead and dying algae may be extremely odiferous, and sinking to the bottom, they deplete further the dissolved oxygen in the waters.

Both of these developments may occur simultaneously. The low oxygen associated with the high organic matter under such conditions further alters the conditions re-

quired for fish and also for recreation purposes. The Florida Game and Fresh Water Fish Commission noted that the problem of low dissolved oxygen could occur for a number of years "or possibly will always be a threat to the aquatic life within the Rodman and Eureka pools."

The type of problem can be visualized by considering the flow-through rate of water in the Oklawaha. It is calculated that under the natural conditions, water entering at Moss Bluff traverses the entire length of the river in 3.6 days. It is calculated that with the reservoirs the flow time will increase to 56.2 days in Eureka and 19.8 days in Rodman. This gives 76 days for the impoundments plus the time required for the water to traverse the remainder of the river outside the impoundments.

Comparisons have been made between the Rodman and Eureka reservoirs and the Inglis reservoir with the objective of showing that the reservoirs on the Oklawaha River would not eutrophicate as rapidly as has been predicted because the Inglis does not. The comparison is not entirely valid. The Inglis reservoir is about one-tenth the size of the Oklawaha reservoirs. The average surface water flow entering the system is very much greater than that in the Oklawaha system, and some data indicate that it is not as rich in available nutrients. The key point is that the detention time in Inglis reservoir is only 5.1 days which will greatly reduce the time in which the nutrients can express themselves in the form of eutrophication. However, in spite of these factors, Inglis reservoir is a nutrient trap and it has serious aquatic weed problems.

AQUATIC WEEDS

One serious result of the eutrophication noted above is the rapid growth of aquatic weeds. Waterweed growth in relatively still water in that part of Florida is extremely high. For example, following the initial flooding of Rodman Pond in September 1968, during the roughly 2½ months growing season remaining in the year, an estimated 300,000 tons of water hyacinths grew. The submerged waterweeds including *Hydrilla* represent possibly an even more serious problem.

Control of water plants is exceedingly difficult, and at best, appears to be a continuing and costly process. Mechanical means involving removal of the plants from the water, as recommended by the Federal Water Pollution Control Administration to avoid aggravated eutrophication problems, have been deemed impractical by the Corps of Engineers. Therefore, the chemical control which is expensive, not totally effective, and pollutes the waters and the ecosystem, must be continued. The nature of the chemical control problem for *Hydrilla* in Inglis Pond was described above, with the annual costs calculated at \$1,630,000. The weed control problem is not limited to the impoundment. The Florida Game and Fresh Water Fish Commission cites Dr. Lyle Weldon, Aquatic Weed Specialist, U.S. Department of Agriculture, as stating, "I do not believe it unreasonable to postulate that the cost of weed control could reach \$10,000 to \$12,000 per mile" per year in the cross Florida barge canal channel.

IMPACT OF DREDGING

The several years of dredging (12 months each for Rodman, Eureka, and Inglis Pools plus 12 months stumping and grubbing in Inglis and 20 months for St. Johns River) will stir up and place in suspension silt, clay, and organic material creating turbidity and blanketing the bottom of the reservoirs; it will recycle nutrients trapped presently in the bottom muds, probably reducing available oxygen; it is expected to degrade portions of the section of the Oklawaha River from Rodman to the St. Johns River.

Although the greater part of the dredging

will take place during the first several years, continued maintenance dredging will be required to keep the channel open. This and the constant stirring with passage of vessels produces suspended silt which affects the quality of the surface water and will also present pollution of the aquifer where outflow from the canal system to the aquifer occurs.

INCREASED SALINITY

In periods of low water when the water is pumped back into the pools from below the dams or locks to maintain the pool levels, there is a danger that the flow of fresh water to the lower rivers will be reduced, and salt may move further up the St. Johns River and possibly also the Withlacoochee River and the canal. The plan of operations, however, is supposed to avoid this. This problem at low water periods will be aggravated by evaporation from the pools themselves and by the possibility of additional leakage from the pools.

SURFACE WATER POLLUTION

Mention above has been made of the problems of siltation, eutrophication, chemical pollution from insecticides and herbicides, and the possibility of some salt pollution. The greatest potential pollution hazard comes from the barging itself. Heavy commercial utilization of waterways historically causes pollution problems and degrades water quality through accidents, bilge pumping, spillage, leaks, and similar factors. Although every effort would be made to avoid accidents and other sources of pollution, there can be no question that a real danger exists and that the danger would increase with increases in the volume of barge traffic involved. The problem is aggravated by the nature of the projected barge cargoes. According to the Corps of Engineers 1962 report, about 48% of the total estimated annual volume of barge traffic would consist of industrial chemicals, petroleum, fertilizer, and fertilizer materials. The industrial chemicals include caustic soda, chlorine, methanol, and similar substances, while the fertilizer includes ammonia, ammonia nitrate, sulfate, nitrogen fertilizer solutions, potash, and sewage sludge. All of these, of course, represent severe pollution hazards if released by accident anywhere in the canal system.

POLLUTION OF SUBSURFACE WATER

The canal will not be a closed system, its water separated from the various subsurface waters of the area. Instead, it interconnects with the subsurface waters, and there will be flow in both directions between the canal and the aquifer. The United States Geological Survey report on the geohydrology of the cross Florida barge canal area pointed out that there will be outflow from the proposed canal to the Florida aquifer in several areas, and the report emphasized the need to avoid surface pollution to minimize the risk of pollution to the aquifer.

Although it is not the only section of the proposed canal route where there is possibility of contact with subsurface waters, the Summit Pool is the area where the potential problems would appear to be most acute. The canal would be in contact with the aquifer in several areas. The design objective is to maintain the pool water at a level to equalize inflow and outflow from these various points. As necessary, to maintain water levels, water will be backpumped into the pool from the channel below the lock to the east, above the confluence of Silver Run and the Oklawaha River. Depending on the water conditions, this pumping itself may introduce pollution into Summit Pool since the Oklawaha River is somewhat polluted from the residential and agricultural land use upstream. The Summit Pool section is nearly 30 miles long, about 50% longer than the next longest section of the proposed canal. Consequently, the opportunity for pollution from barge

traffic is relatively great. There seems to be no question among the geologists familiar with the region that some outflow from the canal to the subsurface waters will occur and that, if pollutants are in the canal water in those areas, they could enter the aquifer. There are differing views as to the total amount of outflow and of the magnitude of the consequent impact of canal pollution on the aquifer. One view holds that the outflow will be significant and may increase because of the water backpumped into Summit Pool from the river system to the east. If this water has characteristics that are sufficiently different from that in the aquifer under Summit Pool, it would tend to react with the limestone. This could increase the leakage by further enlarging the openings which would interconnect the canal waters with the aquifer. The other view, based on essentially the same data, is that outflow or leakage will be relatively low and should not increase. While the USGS report noted that the operations as planned should not seriously affect Florida water supplies, it carefully noted the possibility of pollution of the aquifer if surface pollution did occur. Given the surface pollution potential discussed above, there is a clear potential for some pollution of the Florida subsurface waters.

A secondary effect of the outflow or leakage potential from Summit Pool is the potential of significantly reduced water flow in the dry season. If leakage is significantly more than has been calculated, increased backpumping may be needed in an effort to maintain the water level in the pool high enough to avoid affecting the flow of the aquifer and to permit barge traffic. This increased pumping, in turn, would reduce the flow of water down the canal system below the Summit Pool, producing possible adverse effects on navigation, the ecosystems involved, and possibly leading to salt intrusion.

ENVIRONMENTAL IMPACT ON COSTS AND BENEFITS

Economics, as such, are outside the scope of this report. However, it should be noted that the environmental factors discussed above profoundly affect the projected costs and benefits.

The benefits in the Corps of Engineers benefit/cost ratio of 1.4 to 1 rely heavily on recreation. About 24% of the projected (FY 71) benefits are listed as "recreation," and about 66% are listed as "Transportation savings and recreational boating." Much of this recreation is adversely affected by the environmental conditions noted above, particularly those which affect water quality and sustained recreation use of the reservoirs. The Florida Game and Fresh Water Fish Commission concludes their March 1970 report on the canal as follows:

"In conclusion, it is the opinion of the Game and Fresh Water Fish Commission, based on the information now available and in consideration of the principles of ecology, that the previously assumed benefits from fishing and hunting will not be realized throughout the project life of the Cross Florida Barge Canal."

At the same time, environmental factors would be expected to increase the costs above previous estimates, particularly in the areas of weed control for barging and recreation, and for other aspects of maintenance of acceptable water quality. The projected annual costs of 1.63 million for Hydrilla control in the Inglis Pool alone indicate the potential magnitude of the costs, based on the most recent information.

ALTERNATIVE ROUTES

Because of the rising national concern expressed over the fate of the Oklawaha River, the Corps of Engineers has considered alternative routes which would avoid flooding the remaining portion of the river. One alternative route proceeded from the east end of Summit Pool, near Silver Springs, east-

ward to Lake George. The Corps studied this route and rejected it on various grounds, including increased costs due to the length and terrain involved.

A second alternative involves a route to the west of the present Oklawaha River and roughly parallel to it, between the State Route 40 bridge and the Eureka Dam. This route would utilize the Rodman Reservoir, but would bypass the remaining roughly 20 mile stretch of the Oklawaha River which has not yet been inundated.

Many of the above environmental considerations apply to the canal with the alternative routes as much as to the original canal route.

The dangers of pollution of surface waters and consequent threat of pollution to the aquifer apply to the canal with alternative routes since the major areas of interconnection between the aquifer and the canal lie west of the proposed alternative routes, in the parts of the canal where the route would remain unchanged.

Regardless of the route chosen, a canal will provide a direct infestation route and means of transport of potential pest organisms. Pests such as the Hydrilla and the clam, now present at the west end of the canal, would have access to the eastern waters and up the Oklawaha to the basin above, with the alternative as well as with the original routes.

The eutrophication and associated problems will remain for the Rodman Reservoir which would be required to maintain a relatively constant level, and for the other parts of the canal, with the alternative route. The only area not affected would be the by-passed section of the Oklawaha. This applies equally to the aquatic weed problem. Therefore, many of the concerns with maintenance of fishery, water quality, and recreation remain equally for the alternative routing as for the original.

The problem of reduced water flow in dry seasons, accentuated by backpumping to maintain pool levels, possibly resulting in increased salinization in the rivers east and west, remains with any alternative.

The proposed bypass would protect the Oklawaha from direct physical damage. However, there may be indirect impacts from altered surface and subsurface water levels or regimes. In particularly dry periods the water required to maintain the Summit Pool (the various problems are described above), plus that needed to maintain water level in the by-pass canal, may so reduce the flow available to the Oklawaha that ecological alterations will result. The canal, running parallel to the main river course, will alter the subsurface water level which will have an effect upon the vegetation and wildlife of the surrounding area including the river valley.

FUTURE USE

Future use is beyond the scope of this report. However, it should be emphasized that in the absence of the proposed canal, maintenance of the environmental values discussed above will be dependent upon the future uses of the area involved. In determining future uses compatible with the environmental values, many factors must be taken into account, among them the various environmental factors discussed above, flood control, land ownership, and administration.

TRIBUTE TO RICHARD B. RUSSELL

HON. PHILIP M. CRANE

OF ILLINOIS

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. CRANE. Mr. Speaker, the people of America have suffered an irreparable

loss with the recent death of the Honorable Richard B. Russell, of Georgia, President pro tempore of the Senate.

My colleague in the Senate distinguished himself as a man of vision who loved his Nation and his State. Senator Russell was a dedicated champion of the national defense who knew his trade and practiced it well. My fellows in both Houses of Congress and I would do well to emulate his selfless devotion to principle.

A man of outstanding ability, Richard Russell also possessed a deep compassion and understanding. He will be sorely missed.

My wife and I extend our deep sympathy to his brother.

TIMELY ACTION NEEDED ON TRADE LEGISLATION

HON. LOUIS C. WYMAN

OF NEW HAMPSHIRE

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. WYMAN. Mr. Speaker, last year the House passed—by a margin of 50 votes—a trade bill that would grant badly needed relief to the shoe and textile industries. Unfortunately, the other body was unable to complete action before Congress adjourned. The need for orderly marketing legislation, as the following articles clearly point out, not only continues but has in fact increased. Foreign shoe imports now account for 42 percent of the American market and, in the textile industry, more than 14,000 jobs were lost during 1970 in New England alone.

The Congress through inaction must not surrender two American industries to the unrestricted importation of articles produced under a system of cheap labor abroad. This is exactly what will happen if the Ways and Means Committee does not soon report and act on trade legislation. This should be a matter of the highest priority to the membership, and I urge action before it is too late to bring about this necessary relief.

The authors of the two articles that follow, Mr. William Sullivan and Mr. Maxwell Field, are unquestioned authorities in their respective areas of textiles and shoes. These gentlemen have followed closely the overall industry attempt to combat the import problem and know from firsthand experience the depth of the crisis in terms of factories and jobs lost to the Foreign Imports.

I commend their articles to the readers of the RECORD in order that the urgency of the situation can be placed in better perspective.

The articles follow:

IMPORTS CUT INTO TEXTILES

(By William F. Sullivan)

The textile industry in New England and in the nation felt the winding down of the war in Vietnam and the effects of a stringent monetary policy pursued by the government in 1970.

But in addition, the textile industry had to cope with the continually rising level of textile and apparel imports. This took place in spite of declining U.S. consumption.

Manufacturing employment in New Eng-

land declined by 129,000 jobs, or 8.5 per cent during the year. Textile and apparel employment declined by about the same rate—more than 14,000 jobs, leaving a total of 148,000 at year end.

Larger percentage declines were registered by such industries as machinery and electrical machinery which accounted for about 41,000 lost jobs out of 83,000 jobs lost in durable goods industries during this period.

The reduced level of textile production which began in the second quarter of 1970 will probably continue into the second quarter of 1971, by which time the growth of imports should be checked either by legislation or by voluntary arrangements worked out by our government with the principal exporting countries.

The Trade Act of 1970, which provided for control of textile imports as well as shoes, was enacted by the House of Representatives with a 50-vote margin last November, and although the Senate probably would have passed the act, time ran out before it came to a vote. Protectionist sentiment in the Congress is expected to be even stronger in 1971.

With the Administration declaring itself ready to turn the economy around, and imports finally under control, the textile industry hopes to move ahead by mid-1971, and modest gains in employment, sales and profits should be registered by the year end.

SHOE MANUFACTURES HARD HIT

(By Maxwell Field)

The year 1971 is expected to show lower footwear production totals for both the United States and New England shoe industries than in 1970—declining to the lowest levels in several decades! This declining trend is a direct result of the rising rate of foreign shoes imports—now equal to 42 per cent of U.S. shoe production—plus a recessionary period in 1970.

Total shoe production, exclusive of rubber footwear, in the United States in 1971 is forecast at 550,000,000 pairs. This represents a drop of 10 million pairs from 1970 estimated output of 560 million pairs and compares with an all-time high output of 646 million pairs reported for 1968.

Significantly, it is the lowest output since 1954—lower than production totals in the recession periods of 1958 and 1963!

The New England shoe industry continues as the largest employer among nondurable industries in the region, with an estimated employment of 66,000 shoe workers in 200 plants!

The industry is the largest employer of labor in both states of Maine and New Hampshire. It is the fourth largest manufacturing industry in Massachusetts.

There is an additional employment of some 30,000 workers in the region directly dependent on the shoe industry. They are employed in the tanning, leather products, shoe machinery and shoe supply trades producing component items for assembling of finished shoes.

However, this employment has been steadily declining during the past four years. In 1967 employment was at a high level of 80,000 shoe workers plus 35,000 additional workers in the leather and shoe supply trades in New England!

From 1968 thru 1970, a total of 71 shoe factories ceased operations and 12,450 workers lost their jobs! It should be noted that a few of these plants—7 actually—were reopened by other management groups, but with lesser production and fewer workers! Thus, these closings account for the drop in both output and employment stated above.

Already, in the first half of January, two more factories in Massachusetts announced that their plants would be phased out. Some 700 shoe workers are involved in these closings. And looking ahead to the balance of '71, more shoe factory shut downs are antici-

pated. The reason is that imports are rising uncontrollably because of the lack of congressional and administration action on the Trade Bill in the 91st Congress!

For New England, therefore, we forecast 1971 will be another year of declining production and employment—just as in 1970 and 1969. Output is expected to total only 160 million pairs this year, a drop of 10 million pairs from 1970. Last year, New England's ratio of output to U.S. production equaled 30 percent which compares with a ratio of 33 percent for the Sixties.

For 1971, we estimate total U.S. footwear imports (non-rubber) will soar to 280 million pairs, equal to 50 per cent of domestic production!

This compares with increases in footwear imports in 1970 to a total of 235 million pairs—or fully 42 percent of estimated U.S. shoe production.

Forecasts issued by our association estimate that, if imports continue uncontrolled, by 1975 imported footwear will take one-half of the domestic market for non-rubber footwear. This means that imports will equal domestic production!

The major factor for the competitive advantages of imported footwear over the domestic product is simply the wide differential in labor costs—to the tune of 20-35 percent—which keeps American manufacturers at a disadvantage which they can in no way overcome.

The very low and unfair wage structure of countries like Spain, Italy, Japan, Taiwan, Brazil, etc. are illegal by our standards. In this country there are child labor laws, unemployment compensation and Social Security taxes—federal minimum wage and overtime pay—all these additional cost factors mitigate—against American manufacturers competing on any reasonable basis with imports from foreign countries.

These facts speak for themselves. They explain the persistence of leaders in the footwear industry—working in harmony and cooperation with textile leaders—in supporting trade legislation in Congress to establish, via quotas, limitations on footwear imports. These bills do not call for a halt in imports. They will not so limit supply as to raise prices to the consumer! They call for fair trade—to enable American producers to give jobs to, and keep on their jobs, fine American citizens.

The failure of the 91st Congress to act in the last days in December because time ran out, can only mean that the shoe industry—together with the U.S. textile industry—will continue to press for this legislation in the 92d Congress.

Every New Englander, yes every American citizen, is directly affected by the outcome. The issue is clear: Do we expand imports and export American jobs? Will the American citizens employed in shoe-textile jobs continue to earn fair wages and support their families and pay taxes—or will the Federal and state governments continue to pour out (or pour down the drain) billions of more dollars annually for unemployment and welfare relief programs?

Where are the returning veterans from Vietnam going to find good jobs and earnings high enough to raise their families?

There is only one American Way!

CONGRATULATIONS TO CARL HANSEN

HON. DON EDWARDS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. EDWARDS of California. Mr. Speaker, I would like to take this oppor-

tunity to call attention to the contributions made by Carl Hansen of San Jose, Calif., to the great effort to find a cure for muscular dystrophy which afflicts so many innocent children in America. Carl Hansen, as the former host of KNTV's children's program, "Hocus Pocus Show," promoted Carnivals Against Dystrophy. The money raised through these programs is used to advance the research and patient service programs of the Muscular Dystrophy Associations of America, Inc.

Carnivals is a program whereby the hosts of popular television shows invite their young viewers to write for free Carnival kits which explain how funds can be raised to help children afflicted with this horrible disease. The youngsters run carnivals in their own backyards, and through them learn how to organize and set up a relatively complex project and how to meet the challenge of managing their own "small business." Perhaps most importantly, they learn to identify with and care for those for whom Carnivals are conducted, children who, because their bodies have been weakened by muscular dystrophy, cannot take an active part in the projects. In 1970, young people across the Nation held 22,383 backyard carnivals, raising more than \$500,000 for the victims of this disease.

I think we can be justly proud of Carl Hansen for the compassion and care his program shows and proud too of the many thousands of youngsters who care enough about other children to make an effort to help fight muscular dystrophy.

BRITISH SHIPPING AIDS COMMUNISTS

HON. MARIO BIAGGI

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. BIAGGI. Mr. Speaker, the recent activity in Laos has focused attention on the Communist supply routes that keep their men throughout Southeast Asia fully equipped. Alarming, a good deal of these supplies enter North Vietnam in vessels flying the British flag.

Although Great Britain has continually voiced her support of our position in Southeast Asia and has claimed to be a strong ally, she is unwilling to put a stop to vessels supplying the enemy with war materials and other essential items.

Moreover, many of these vessels which are registered in Hong Kong, are owned by Chinese Communist shipping interests based in the island protectorate.

The British have made some effort in the last several years to reduce the amount of this shipping, but they have not gone far enough. In the first 6 months of 1968, 62 British-flag vessels unloaded their wares in Haiphong, North Vietnam. In the same period in 1969, 42 ships called on North Vietnam bringing essential items for the war.

The first 6 months of last year saw another decline to 26 British ships and

that trend has continued into the latter half of the year. Without a doubt this is a substantial improvement, but the British should not permit a single vessel bearing their flag to enter the ports of North Vietnam.

The Communists in Southeast Asia can survive only with the supplies being continually brought to them. The Soviet Union, Red China, and other Communist countries cannot supply sufficient amounts of materials and food. Without the aid of America's so-called friends in the free world, Hanoi would have fallen long ago.

I, for one, cannot and will not tolerate a supposed ally aiding and abetting an enemy. If your neighbor whom you valued as a friend helped a robber and murderer enter your house, steal your belongings and kill your family in exchange for a few dollars, you would not tolerate it.

Yet, on an international level, we are willing to tolerate just such actions by our supposed friend, Great Britain. I sincerely hope that the State Department will begin putting more pressure on the British to end this disgraceful slap in the face of the United States. Peace we all want, but peace we will not get while friends aid the enemy.

TREATMENT OF POW'S

HON. JERRY L. PETTIS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. PETTIS. Mr. Speaker, Mr. Richard G. Capen, Jr., the Assistant to the Secretary of Defense for Legislative Affairs, addressed a joint session of the California State Legislature to call attention to the status of our brave men who are prisoners of war and missing in action.

Dick Capen has been delegated by Secretary Laird himself to lead a movement that will mobilize the sentiment of the American people on this crucial issue. Through speeches such as the one I am commending to you, he is seeking to focus the attention of the American people on the inhumane and illegal treatment our loyal servicemen are receiving. Hopefully, world opinion can be marshaled to demand proper treatment of these prisoners and action can be taken to secure their safe release.

Mr. Capen and our Government must be supported in this effort, and I encourage all my colleagues to digest his remarks.

I include the article as follows:

ADDRESS BY MR. RICHARD G. CAPEN, JR., ASSISTANT TO THE SECRETARY OF DEFENSE FOR LEGISLATIVE AFFAIRS BEFORE A JOINT SESSION OF THE CALIFORNIA STATE LEGISLATURE, SACRAMENTO, CALIF.

It is a personal privilege for me to have the honor today of addressing this unprecedented joint session of the California State Legislature. Through this meeting you honor the dedicated service of a brave group of more than 1,550 Americans who today are prisoners of war or missing in action.

Furthermore, you honor the personal courage of their families—the thousands of

wives, parents and children who have lived so long not even knowing whether their loved ones are dead or alive. More than 500 of these relatives live right here in California.

The enemy has referred to our captured and missing Americans as "just 1,500 men." They cannot understand how we in America can be so concerned about "just 1,500 men."

Well, we are concerned. We are concerned about each and every one of them. Other civilized nations would expect the kind of mounting protest which we have seen in America over the enemy's barbaric treatment of helpless human beings.

Our entire way of life is founded on the dignity and freedom of man. Our nation's heritage is rich with voluntary efforts of those who have given their lives so that others might live in freedom.

The United States has made clear its hopes for an early end to the war through negotiation. In the absence of such progress in Paris, we have made it equally as clear that the U.S. intends to withdraw its forces from Vietnam, a program made possible through the success of Vietnamization.

We believe it serves no useful purpose to go back and debate the issues that led to the decision of the early 1960's which involved the United States in Southeast Asia. Since that time a large number of Americans have served their country in that part of the world. We honor the thousands who have given their lives. Other thousands have risked their lives and risked the possibility of being captured.

I am here today to review briefly this country's determination to defend those helpless Americans who have sacrificed so much and who are now prisoners of war or missing in action.

The enemy has completely misjudged our country's attitude on this issue. They have totally misread the American mind, grossly misjudging the mounting opinion that has turned so strongly against the North Vietnamese, the Viet Cong, and the Pathet Lao for their heartless treatment of war prisoners.

Perhaps there has been division of opinion on the political and military aspects of the war. But, there is no division whatsoever on the enemy's cruel handling of the American prisoners. The tide has turned against the enemy and they should know it. If the other side expects to be treated like a civilized nation, it will have to act like a civilized nation.

The enemy has not made the slightest pretense of complying with the humanitarian provisions of the Geneva Convention dealing with prisoner of war treatment.

There never has been a complete and official list of known prisoners released by the enemy. There never has been an impartial inspection of enemy prisoner camps. There never has been the release of sick and injured prisoners, and there never has been a regular flow of mail between the prisoners and their families.

These four standards are minimum provisions, not just of the Geneva Code, but of what any civilized nation would respect. And, I might add, the North Vietnamese are signatories to that Geneva Convention.

American prisoners have been physically tortured. They have been kept in total isolation for months at a time. Broken bones have been rebroken and fingernails removed. Medical attention has been denied and proper diets ignored. War prisoners have not been fully identified.

Because the enemy's propaganda has almost exclusively focused on a few men held by Hanoi, there has been a tendency to believe the prisoner of war problem has involved only North Vietnam. We must never forget that nearly half of the 1,550 American prisoners of war or missing servicemen were lost in South Vietnam and Laos. We are

as vitally concerned about their plight and equally insistent that the Viet Cong and Pathet Lao be held accountable for their treatment of our men.

The other half of our captured and missing men were shot down over North Vietnam during the extensive bombing raids as long as five and six years ago. Some of our men have been held prisoner by the enemy for more than six years. Some have children who are now four and five years old and have never seen their fathers.

In just a few weeks one man, who is believed to be a prisoner in South Vietnam, will pass his seventh year of captivity. This is twice as long as any American was held a prisoner in all of World War II. In fact, more than 300 Americans have now been captured or missing longer than any U.S. serviceman was held during World War II.

Yet time marches on, bearing down on the men and their families. It is not difficult at all to understand the severe emotional distress to the wives and children who have lived with this uncertainty for so many years. In desperation, more than 300 family members have knocked on embassy doors around the world in a futile search for information, merely asking to be told by the enemy whether their loved ones are dead or alive.

Those who have had face-to-face meetings with communist officials in Paris and elsewhere have been subjected to a heavy barrage of propaganda and false promises. How tragic it is that the enemy has chosen to add to their miserable record of inhumanity by ruthlessly exploiting these relatives.

When the Nixon Administration came into office in early 1969, the plight of our prisoners of war and missing men was thoroughly reviewed by the Defense Department. Until that time little had been said publicly about Americans who were captured or missing in Southeast Asia. The Government's position was that a quiet, low-key diplomatic approach was more likely to achieve results than public discussion of the problem. Regrettably, this policy brought no significant progress.

We felt it was critical that the Government change direction particularly when realizing that, by early 1969, some of the men had been listed as prisoners or missing for nearly five years. The vast majority, of course, were lost prior to November 1968 when the extensive bombing of North Vietnam was being carried out.

The new approach taken by the U.S. Government in the past two years has focused world-wide attention on the callous and inhumane attitude of Hanoi and its communist allies in Southeast Asia.

Since that time the flow of mail from some of the men has shown improvement. However, the letters received have been severely restricted and carefully censored. And, of the almost 800 prisoners and missing men in South Vietnam and Laos, only one has ever been allowed to write at all.

Although the North Vietnamese have announced that families may send small packages to prisoners every month, there is evidence that certain items are removed and there is no provision whatsoever for packages for the men missing or captured in South Vietnam and Laos.

Recently, the North Vietnamese have stepped up their propaganda efforts in an attempt to convey the impression that our men are being well treated. No one should be deceived when viewing the limited number of highly controlled and carefully censored interviews which Hanoi has released from time to time.

Such interviews have included only a brief glimpse of a very small number of men. The same faces show up time after time. Only those who, at least outwardly, appear healthy are interviewed. Their comments are limited to superficial generalities which give little assurance that our men are, in fact, being

humanely treated. Regrettably, there is no news about the vast majority of prisoners who are not paraded before the cameras from time to time.

The films, themselves, are a violation of the Geneva Convention which prohibits the exploitation of prisoners of war for propaganda purposes or the exposing of prisoners to public curiosity.

If the enemy is truly providing humanitarian treatment for our men, why should they have to resort to releasing carefully controlled propaganda films? Why should they be afraid to permit impartial inspections of prisoner of war camps? Why do they continue to claim humane treatment when we have strong evidence to the contrary?

In recent months a number of lists of men reported to be held in North Vietnam have been released to the public. Included have been indications that some men apparently have died in captivity. Tragically and cruelly, the enemy has even refused to provide essential information about those men. What possible reason could the enemy have for not officially identifying men who may have died three or four years ago?

In contrast to the enemy's approach, the Government of South Vietnam has consistently abided by the Geneva Convention in their treatment of North Vietnamese and Viet Cong prisoners. Today, the Republic of Vietnam holds some 38,000 prisoners of war. The camps are regularly inspected by the International Committee of the Red Cross. More than 200 sick and injured prisoners have been returned by the South Vietnamese despite numerous obstacles set up by the other side.

I visited one of the camps in South Vietnam and can attest to the humanitarian treatment of the prisoners, a fact verified regularly by the ICRC inspection teams.

The immediate release of all prisoners of war has been discussed weekly by our negotiators in Paris for over a year. The release of all prisoners of war has been an integral part of the President's forthcoming and generous proposal for ending the war in Southeast Asia through a negotiated settlement. Our Government's comprehensive peace proposal for the immediate exchange of all prisoners would result in the release to the other side of ten times as many men as they hold.

The U.S. Government has made it absolutely clear that its goal is to restore peace, that its goal is an early end of the war through negotiations.

Lacking any meaningful response in Paris, the United States has moved forward to end its involvement in Southeast Asia through Vietnamization.

As a result of its success, five targets for withdrawal of American forces have already been reached ahead of schedule and the sixth will be attained within the next few weeks. By May 1, the authorized troop ceiling of U.S. forces will have been reduced by more than 265,000 Americans since the Nixon Administration took office. These troop withdrawals will continue.

The United States is turning over the combat responsibility, it is withdrawing Americans and it has substantially reduced U.S. casualties. These efforts in bringing American troops home from Southeast Asia, together with our country's forthright peace initiatives, have convinced other nations—friends and critics alike—that the U.S. seeks an end to the war.

As others understand this goal, they also understand and support our determination to seek the immediate release of all American prisoners of war and, in the interim, to assure humane treatment of the Americans held captive. Even those sympathetic to the other side have become increasingly intolerant of the enemy's cruel handling of the prisoner question.

Because the enemy has consistently refused to negotiate seriously on any subject—in-

cluding the prisoner question—other actions by the U.S. Government have been necessary. One approach has included prisoner of war rescue attempts deep in enemy territory. We will continue to consider similar actions in the future, realizing that such rescue operations become increasingly important as this Government receives information that Americans apparently are dying in the hands of the enemy.

The humanitarian involvement of private citizens and organizations around the world have added measurably to our Government's efforts in behalf of American missing and captured men.

The International Committee of the Red Cross passed—without a dissenting vote—a resolution supporting humane treatment of war prisoners. A similar resolution was adopted by the United Nations. Measures, calling for the humanitarian treatment of prisoners of war, have been approved by numerous State Legislatures. In addition, the U.S. Congress has devoted considerable attention to the prisoner subject, passing numerous resolutions and holding an unprecedented joint session to hear a report by Colonel Frank Borman who travelled around the world as a special emissary of the President of the United States on behalf of American POW's.

At the same time there has been continued support from the news media through newspaper editorials, magazine feature stories, and television news coverage.

The support which you have shown today, as the elected leaders in California, serves as strong encouragement and hope for these men and for their families who live not just in California but across the Nation. I know this from personal experience because I have met with more than 2,500 of these brave American wives, parents and children.

The three most recently released American prisoners, who were freed by Hanoi in August 1969, left us with one message which I shall never forget.

Despite all the personal hardship they endured; despite all the mental and emotional suffering; despite the long separation from their families; and despite the total lack of communication with others, these men never gave up hope.

They endured their captivity through a strong faith in God, through an unending dedication to their country, and through an enduring love of family. Those men who remain behind in captivity have kept their hope. They have proven their faith in America. Have we proven our faith in them?

We in the Defense Department feel a strong responsibility to these men for their dedication and sacrifice. We insist that everything possible done to assure the proper treatment of our men in captivity, to obtain their eventual release, and while they are gone, to give every possible assistance to their wives, children and parents.

We appreciate the concern expressed here today in California and we welcome your support of our determination to resolve the plight of these men whose courage we so deeply admire and whose suffering we so deeply regret.

These men have served our country well. Their families have suffered long, and all Americans are determined that our brave men will not be forgotten.

MAN'S INHUMANITY TO MAN— HOW LONG?

HON. WILLIAM J. SCHERLE

OF IOWA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. SCHERLE. Mr. Speaker, a child asks: "Where is daddy?" A mother asks:

"How is my son?" A wife asks: "Is my husband alive or dead?"

Communist North Vietnam is sadistically practicing spiritual and mental genocide on over 1,500 American prisoners of war and their families.

How long?

THE CAUSES OF POVERTY IN THE MILITARY

HON. WILLIAM A. STEIGER

OF WISCONSIN

IN THE HOUSE OF REPRESENTATIVES

Wednesday, February 17, 1971

Mr. STEIGER of Wisconsin. Capt. Fletcher Hamilton, a doctor in the U.S. Army, has written a most penetrating analysis of the conditions under which our GI's must exist in Europe. As former Chief of Army Community Services for about one-fifth of Germany, and as current chief of social work of the neuropsychiatric clinic at the Nuernberg Army Hospital, Captain Hamilton has had a great deal of experience in dealing with the social and emotional problems of soldiers and their families.

In listing the facts which confront our GI's, the first item Captain Hamilton mentions is:

The total income of married enlisted men in the grades of E-1 through E-3, and married E-4's and E-5's with children, is below the poverty level as given by the U.S. Social Security Administration.

Another problem is the unwillingness of the military to extend travel and family moving allowances to lower ranking personnel. As a result:

In Europe, there is a definite "poverty cycle" for many of the married enlisted men. . . . The soldier usually borrows money to get his family to Europe, then must borrow money to pay the very high rent for housing. . . . When a man has more debts than he can pay, he is often demoted in rank for letters of indebtedness, making his financial situation still worse.

Mr. Speaker, it is intolerable that we allow a continuation of the conditions which have impoverished those whom we ask to defend our Nation. Regardless of the draft, the pay recommendations of the Gates Commission must be enacted so that military service no longer imposes a financial penalty on our men in uniform.

I include the article as follows:

A STUDY OF THE POVERTY OF ENLISTED FAMILIES IN EUROPE

1. Problem: The poverty situation of many lower ranking U.S. military families in Europe.

2. Facts:

a. The total income of married enlisted men in the grades of E-1 through E-3 and married E-4's and E-5's with children is below the poverty level as given by the U.S. Social Security Administration.

b. Married servicemen in the grades of E-1 through E-4 and E-5 who do not have three years of service left when assigned to Europe do not receive the following help that is provided to nearly all officers and NCO's:

(1) Dislocation allowance—one month's housing allowance to help expenses of coming to Europe.

(2) Pay for travel of family to and from Europe.

(3) Shipment of household goods to and from Europe.

(4) U.S. government housing.

(5) A station allowance when living on the economy in a high cost area.

(6) Family separation pay if the family stays in the U.S. with the serviceman in Europe.

c. Percentage pay raises across the board that have been passed by Congress do not help the poverty pay of the lower ranking EM. 7.9% of \$143 is "bread crumbs" as compared to 7.9% of an officer's pay.

According to officers at Hq., USAREUR, in January 1971, there were approximately 126,500 enlisted men in the grades of E-1 to E-5 in the Army in Europe. This does not include members of the other services.

e. According to figures provided to this writer, 50% of E-5's in the U.S. Army are married, and 25% of E-4's and below are married.

f. Nearly all married servicemen in the grades of E-4 and below would qualify to buy Federal Food Stamps. There is no way at present for U.S. servicemen to purchase food stamps in Europe, even though military commissaries are accepting food stamps in the U.S. There are military commissaries in Europe near almost all military units.

g. There are no U.S. Welfare Departments in Europe even though many families qualify for public assistance in the U.S. Servicemen in Europe pay federal and state taxes, yet cannot receive welfare services available to them in the U.S.

h. Very limited financial assistance is available in Europe through American Red Cross and Army Emergency Relief. Financial help from these services is usually a loan, on a one-time basis, and only for an "emergency."

i. German welfare services do not provide financial assistance to U.S. service families in Germany.

j. A study done last year by the Army in Europe on the average cost of economy housing in Germany revealed an average housing cost ranging from approximately \$115 to \$130 per month.

k. There is a shortage of economy housing in almost all parts of Germany. In the Nuernberg area alone, there are approximately 172 families on waiting lists for economy housing at Family Housing. For the month prior to 10 February 1971, the housing office was able to find only 12 families economy housing. In the Nuernberg area, as of 31 December 1970 there were 1119 U.S. military families living on the German economy. A study done by this writer in January 1971 of 40 E-5's and below in Nuernberg, revealed an average economy housing cost of \$112 per month. This is more than the total family allotment (Class Q) of the married E-1 through E-3.

l. Most civilian jobs on U.S. installations in Europe are held by local nationals or by persons from another European country. These jobs are classified as local national jobs and American dependents cannot fill the jobs because of this classification. Many of these jobs could be done and done better by American dependents.

m. Lower ranking enlisted men in Europe have to pay more for car insurance than any other group of military. Automobile insurance is extremely expensive in Europe.

n. Many soldiers are being sent to Europe immediately following duty in Vietnam. The "Stars and Stripes" printed an article that stated approximately 4500 soldiers were scheduled to come to Europe from Vietnam in the month of February 1971.

3. Discussion:

Numerous studies by mental health professionals in the United States have demonstrated the correlation between poverty and mental illness in civilian life. Poverty in the Army has equally destructive effects on the physical and emotional well-being of the soldier. Although all lower ranking enlisted men are poorly paid, the poverty of the sol-

dier stationed in Europe is far more flagrant than that of his counterpart in the United States or even in Vietnam. Moreover, the contrast between the living standard of the GI and that of officers and NCO's is much greater in Europe than elsewhere.

Unlike Vietnam, the soldier's tour in Europe is not limited to 12 months; it may be two years or longer, and frequently follows directly after duty in Southeast Asia. Unlike Vietnam, there is no "good reason" why a married man cannot be accompanied by his family while in Europe. The families of officers and NCO's are not only encouraged to come to Europe, but have their families and household goods brought to Europe at government expense, and are given government housing to live in. This assistance is not given to the great majority of the married lower ranking enlisted men sent to Europe. If an officer of NCO has a delay in having his family join him, he is paid a family separation allowance to help his income; not so for the married lower ranking serviceman who is separated from his family. A hospitalized psychiatric patient made the point so clearly when he asked, "Does the officer need his wife more than I need mine?" This man's wife and children were in the U.S.

In Europe, there is a definite "poverty cycle" for many of the married enlisted men. They wish their families to be with them in Europe. In a foreign country it is very lonely for a man to be without his family for extended periods of time. The soldier usually borrows money to get his family to Europe, then must borrow money to pay very high rent for housing. To move into most apartments in Germany, there is a deposit of one to three months rent, plus one month's rent fee to an agent for finding the apartment, plus the first month's rent! The lower ranking servicemen does not have his household goods brought to Europe at government expense, so he must buy his household appliances in Europe. If these soldiers can afford to buy transportation, it is usually an automobile 10 to 20 years old. These are very dangerous and there are many car repairs. The insurance rates are the highest for the lower ranking serviceman. When a man has more debts than he can pay, he is often demoted in rank for letters of indebtedness, making his financial situation still worse.

In the United States lower ranking servicemen have much help that is not available in Europe. In the U.S., second jobs are available for the soldier, and jobs are available for his wife. In Europe, jobs are very scarce, if available at all. Most civilian jobs with the U.S. military in Europe are occupied by local nationals (Europeans). Most of these jobs could be done—and probably done better—by American dependents because of the language problems of many local nationals. If American soldiers and dependents had these jobs instead, it would bring many of the enlisted families out of poverty. Another point is that it would decrease millions of dollars in gold flow. An article in the "Stars and Stripes" on 14 February 1971, on jobs for dependents quoted a Department of Defense official as saying that post exchange and non-appropriated fund jobs were filled by American dependents if possible. This is a small minority of the civilian jobs in Europe with the U.S. Forces. Most civilian jobs are appropriated-fund jobs and most of these jobs are filled by Europeans.

To help lower ranking enlisted men in the U.S., there are many welfare services available. Federal Food Stamps and public assistance are available in many states. Military commissaries in the U.S. have been authorized to accept Federal Food Stamps from military families. In Europe there are commissaries near almost all military units, yet there is no way provided for families to buy food stamps in Europe. Even though U.S. servicemen in Europe pay federal and state

taxes, they do not receive the many helpful services of the Department of Health, Education and Welfare or the services of the state welfare agencies.

The points so far mentioned in this discussion place a great deal of emotional stress upon the soldier, his family and his marriage. Nearly all of the married, lower ranking enlisted men are in the early years of their marriage—the adjustment period. The problems of the enlisted men mentioned in this paper are deterrents to the marriage adjustment of the U.S. soldier in Europe. Prolonged separations and financial difficulties in marriage are recognized by mental health professionals as deterrents to a happy marriage in the great majority of cases.

4. Conclusions:

a. There are many military families living in poverty in Europe.

b. There are few jobs available in Europe for soldiers and American dependents to supplement family income.

c. There has been an ever-widening gap between the incomes of the lower ranking servicemen and that of the officers and NCO's.

d. Officers and NCO's receive many financial benefits that the lower ranking servicemen do not receive.

e. Welfare services for military families in Europe are few and inadequate.

f. The effectiveness of U.S. Forces in Europe is being lowered by the social and emotional problems caused by the poverty of many of its members.

5. Recommendations:

a. A sizable pay increase for lower ranking enlisted men to raise all military families above the poverty level.

b. "Command sponsorship" for all married servicemen to include these financial benefits: dislocation allowance, travel pay for all dependents, station allowance for high-cost housing areas, government, shipment of household goods.

c. End of sending a soldier on two consecutive overseas assignments, unless requested by the soldier.

d. Unless all military families have their incomes raised above the poverty level, Federal Food Stamps and other financial welfare services should be provided to the families in Europe.

e. Make changes in civilian jobs with the U.S. military in Europe so that all jobs possible will be given to American dependents instead of Europeans.

This study is the personal work and opinion of the undersigned and does not represent the views of the U.S. Army, Europe.

Capt. FLETCHER HAMILTON,
MSC Social Worker.
Maj. STEVE S. SIMRIN,
MC Psychiatrist.

ESTONIA'S INDEPENDENCE DAY

HON. HAROLD R. COLLIER

OF ILLINOIS

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. COLLIER. Mr. Speaker, today is the 53d anniversary of the independence of Estonia, one of the three Baltic Republics. Unfortunately, Estonia and its sister nations, Latvia and Lithuania, are today independent only in theory. While their status as separate and free entities is recognized by the United States, the cruel fact remains that these countries are today controlled by the puppet regimes of the Soviet Empire.

During the seven centuries from 1219 to 1918, Estonia was controlled, in whole

or in part, by Danes, Germans, Poles, Russians, and Swedes. It declared its independence from Russia on February 24, 1918, but many difficult days passed before freedom became a reality.

Later in 1918 the infant republic was attacked by Germany, but that nation collapsed as World War I came to an end. On November 28, 1918, just 17 days after the armistice was concluded, Estonia was invaded by the Soviet Union, which had made an earlier peace with Germany.

With help from Finland and a British fleet, Estonia fought back and by February 1919, the invaders had been driven out. Soviet attacks continued throughout the spring, however, with fighting first on Russian territory and then on the soil of Estonia. An armistice was declared on December 31 and peace concluded February 2, 1920.

Freedom for the Estonians lasted for but two decades. Soviet troops occupied Estonia on June 16 and 17, 1940, and the Communist invaders set up a new government which staged a one-party election on July 14. The parliament that resulted voted a week later for incorporation in the Soviet Union. Absorption into the Soviet Empire followed on August 6.

National Socialist Germany invaded Estonia in 1941 and remained until 1944 when the Soviet Union again took over its small neighbor. Since then scores of new nations have become independent in Africa, Asia, and the islands of the sea, but Estonia remains a Soviet colony.

As a result of the Soviet conquest of this little nation, 120,000 Estonians were deported and replaced by people from other parts of the huge Soviet Empire. Agriculture has been collectivized, industry nationalized, education communized, religion discouraged, and the standard of living lowered.

Mr. Speaker, may God speed the day when Estonia and the other two Baltic States will once again be truly free members of the family of nations.

**HORTON COMMEMORATES THE
150TH ANNIVERSARY OF FOUNDING
OF MONROE COUNTY**

HON. FRANK HORTON

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. HORTON. Mr. Speaker, today is the sesquicentennial anniversary of the founding of Monroe County, N.Y. I am honored to represent the 36th Congressional District of which Monroe County is a part.

Today the county legislature paused in its work to honor this day. Past and present supervisors, village mayors, historians, city and county officials, judges, department heads, and others joined in the observation.

Throughout the year, towns and villages will hold festivals and other celebrations to commemorate this anniversary.

The founding of Monroe County occurred 150 years ago today when the leg-

islature in Albany officially recognized Monroe County and formed it from parts of Ontario and Genesee Counties.

One historical account says of the events leading up to the founding that "as early as 1816 agitation had begun for a new county to be carved out of Ontario and Genesee Counties much to the objection of Cananadaigua and Batavia, affluent communities whose power and influence posed as formidable rivals."

A signed petition was taken to the State legislature the following year and was rejected. The next spring follow-up efforts proved equally fruitless. In 1819 another petition failed. Finally after five other attempts, success came. On February 23, 1821—150 years ago today—the bill creating a county named for President Monroe was approved.

Since those days when work and leisure centered around the banks of the Genesee River, Monroe County has grown in prominence in many fields. With a population of more than 700,000, including the city of Rochester, it leads the world in many areas of manufacturing—photographic, business copiers, optical, scientific, dental equipment and automotive products to name only a few. It also ranks high in the manufacturing of communication and electronic equipment and men's clothing and accessories.

With several outstanding centers, for learning and performing, Monroe County has gained eminence in the fields of culture and the arts. With eleven institutions of higher learning, the county offers a wide range of educational opportunities.

And year round, Monroe County is a scenic wonderland. It is a winter sportsman's delight in the winter and a garden of color in the spring and summer.

The 150th anniversary of the founding of Monroe County is a time to note these many contributions and to recognize what Monroe County offers to residents and visitors to the area. I know that Monroe County will continue to make contributions in these and many other fields.

I ask that my colleagues join me and the people of Monroe County in commemorating this special day in the history of New York State.

MAN AND SPACE EXPLORATION

HON. OLIN E. TEAGUE

OF TEXAS

IN THE HOUSE OF REPRESENTATIVES

Tuesday, February 23, 1971

Mr. TEAGUE of Texas. Mr. Speaker, Dr. Wernher von Braun, Deputy Associate Administrator for NASA delivered the primary address to an audience at Texas Christian University as a part of the 1971 Ministers Week and TCU/Fort Worth Week observance. Under leave to extend my remarks in the RECORD, I wish to include the text of Dr. von Braun's remarks.

MAN, AND SPACE EXPLORATION

(By Dr. Wernher von Braun)

Man has ever looked upward for the source of his being.

Heaven and the heavens have inspired in him a longing for good, in the one, and comprehension of existence in the other. His awe of the Infinite, the desire to know God and to understand His works, are among the noblest passions of mankind.

Today, in the space program, we are learning there is no absolute "up" or "down" but only an "outward" and "inward," a discovery that reinforces the concept of the Creator's abiding concern with the human soul, and of His pervading Will throughout the universe. The old sense of up and down is symbolic of man's parochial view of God's works, and his limited ability of comprehension, from which, through the generations, we are being led.

In the space program, in exploring the heavens, we see an activity that probes outward into the cosmic design to bring about an understanding of its events, its laws and principles; and inward to comprehend the basic "building blocks" of life. In the perspective of history, the objectives of the space program are as old as man himself, constituting a search into the essential nature of existence and of man's place in it.

These are not frivolous goals. Learning is a fundamental need, serving many practical human requirements, but even more important, learning serves the human spirit by broadening our vision and increasing our comprehension. It is the conscious, yet instinctive, movement of the human soul toward the light from the dark of ignorance.

As a people, we can be proud of the policies and objectives set forth by Congress in the National Aeronautics and Space Act of 1958. That Act includes not only concern for the general welfare and security of the United States, but makes it national policy that all our activities in space should be devoted to peaceful purposes for the benefit of all mankind. It sets forth as an objective that our activities in aeronautics and space shall contribute to the expansion of not just American knowledge of phenomena in the atmosphere and space, but to the expansion of human knowledge. It specifically requires that the United States cooperate with other nations and groups of nations in work done pursuant to the Act and in the peaceful application of science and technology derived from our space efforts.

This is a far-seeing expression of national will. It insures that what might well have been a secret and selfish endeavor is instead an open and enlightened one devoted to the increase and useful application of knowledge of the air and space for the benefit of man. It isn't every day that a nation, of its own free will, declares it will share the fruits of a technological program so powerful and so significant as space flight.

That the space program offers great new power and significance to the life of a nation and its people can be discovered if we take the time and trouble to examine its achievements, and what these mean in terms of the human spirit, culture, economic strength, the quality of life, and security, to name but a few of our major concerns. Science is the search for an understanding of nature, and with this search we acquire mental and manual skills that underlie the strength of society. Knowledge of scientific facts and development of technological techniques gives us the high standard of living we enjoy today. But the human spirit is the key to whatever we can accomplish.

We may argue that our standard of living is inadequate, that there are many deficiencies glaringly apparent in society today, and I would be the last to deny it. However, we should also recognize that all the most underprivileged, poverty-stricken nations are the very ones whose science and technology are the most backward and primitive, or which are solely the instruments of a dictatorship that places state above people.

It may be pointed out that modern technology is responsible for the major ills of society and ecology, and poses the grim peril of global holocaust and annihilation; I would modify the assertion only by saying the use of some technology has resulted in these problems in society and the ecology. But the other side of the coin is that modern science and technology are producing the knowledge and the tools and the wealth by which we can hope to control and eliminate these ills, and perhaps avert others that are bound to arise as the world's population increases. We need not less science and technology; we desperately need more if we are to surmount the pressing problems that grow with our growing cities, and if we are to arrest the deterioration of the global environment. At the same time we must learn to use science and technology more responsibly so as to avoid harmful effects when they are put to the wrong use.

Already the space flight program has opened the hearts and minds of earth's people to a broader comprehension of their planet earth and of human relationships. The descriptions of this most beautiful of planets as viewed from far out in space by our astronauts has brought home to all of us the uniqueness of man's home in the solar system.

The Apollo landings on the moon, the sight of earth's first men walking on its desolate surface, brought all mankind together in closer brotherhood. For those brief hours, brotherhood was translated from an ideal into an emotional experience, reaching into the souls of all who watched, in all those hundreds of millions of people.

How do we evaluate such a spiritual experience brought about by modern science and technology? And was the presence of man there so minor a factor that the same effect could have been accomplished by landing robots on the face of the moon?

And again, when the Apollo 13 astronauts were in peril of being lost in space, the prayers and deep concern for three fellowmen occupied the hearts and thoughts of earth's people for days on end until the astronauts returned safely in their crippled spacecraft. These are moving demonstrations of how men of many tongues and races were drawn together on a scale and in the same instant in time never before experienced.

Of course, the Apollo program was not designed with these spiritual values in mind. Apollo was conceived for a number of very mundane, but still relevant purposes to fulfill. Others have since been added as our vision expanded with a growing realization of the exceptional capabilities it was creating for man's use. The spiritual returns were indeed a happy surprise, and serve to remind us that nothing exists in a vacuum—neither the works of God nor the works of man. Everything is related in some way to all other things, both in being and in effects, and Apollo is no exception.

If Apollo has contributed in a small way to increased spiritual awareness of the brotherhood of man, it has contributed substantially to his material well-being. Man may not live by bread alone, but it goes a long way in sustaining his corporeal existence. Apollo, and the space program as a whole, are of course technological programs which create new resources, and are characteristic of all research and development activities. They bring about technological change that for the most part has lightened the task of providing the necessities of food, clothing and shelter, as well as the luxuries to which most of our people have become accustomed—tasks that once were supplied through drudgery and even slavery.

Social welfare programs, on the other hand, for the most part redistribute existing resources among those who for one reason or another are unable to provide for themselves. A responsive and responsible

government, of course, must carry out both activities—one that produces technological change, to ensure continued economic growth, and the other to bring about social change, to ensure the care of the needy.

There is a proverb that describes these separate activities quite aptly:

"Give a man a fish, and you feed him for a day;

Teach a man to fish, and he can feed himself for a lifetime."

To this we might add a third line to include, symbolically, the benefits of our space program:

"Discover new fish and new ways to fish, and you ensure his and his children's diet."

In essence, this is one of the principal aims of both manned and unmanned space exploration: to discover new enterprises and new, more efficient ways to achieve peaceful objectives that benefit all mankind. NASA's space program is providing the capabilities and the vehicles by which the resources of space can be tapped and used for human good.

It would be natural to think there can be no resources in space since "nothing" is there. But, on the contrary, there is a great deal there, as we are finding out. At this time and distance into the space program, the greatest resource we have discovered is knowledge, of which there is an apparently limitless supply placed there by the Creator. To gain this knowledge and to use it for man's benefit, we are learning to reliably place men and equipment into earth-orbit, and to send both out into the solar system.

Much of what goes on in space, especially in the Earth-Sun relationships, and cosmic rays from deep space, affect our environment and ecology, probably even our biology. It is wise and prudent to learn the mechanism of these relationships and radiation, and what trends they may cause in the earth's evolution and climate. Space is an infinite laboratory into which we are bringing the instruments, the equipment and machines, and eventually the trained experimenters to unravel mysteries that we can only guess at here on the earth's surface.

So we are sending automated, unmanned spacecraft to the planets and around the sun, observe the earth through specially designed instruments and the eyes and brains of astronauts placed in earth-orbit, and explore the moon by manned and unmanned expeditions. Many scientists now believe the moon is the "Rosetta Stone" of space by which we shall be able to decipher the ancient inscriptions of creation.

You might well ask whether it is worth all the trouble and expense to try to read these old inscriptions. Aren't they pretty far removed from the very practical and urgent problems we face here on earth? Scientists can get very excited about such esoteric matters as moon rocks, the solar "wind," and being able to measure the distance of the moon from earth to an accuracy of less than a foot, but just how do these rate alongside urban decay and environmental pollution?

Answers to these questions are beginning to get clearer now that there has been a chance to study the vast amount of data and material brought back by the first two Apollo expeditions. And Apollo 14 is certain to further clarify the value of lunar exploration when the results of its mission to the Fra Mauro Hills have been examined, as will also the following missions of Apollos 15, 16, and 17.

The fact that we can now measure the distance to the moon so accurately, for instance, means that it should be possible to measure accurately the amount of continental drift that has been going on for eons here on earth. If we can know for sure how much the continents are drifting apart year by year and decade by decade, as a geochemist has pointed out, we'll get a better idea of

some of the mechanics involved in earthquakes and volcanic activity. We may also be able to measure accurately the "wobble" of the earth as it turns on its axis, and this could help further in understanding these sometimes catastrophic events, perhaps even predict them. Such knowledge, of course, would be of very direct importance to humanity.

The possibility of doing this came about when our astronauts left the laser reflector experiments on the moon's Sea of Tranquility and Ocean of Storms. Scientists from different parts of the world have been able to direct their laser beams to these reflectors and correlate the measurements.

The laser experiments lead us to another aspect of lunar studies. Science is a comparative activity. We learn by comparing one thing with another. Now, for the first time, scientists around the world have been able to directly study rocks and dust from another, known heavenly body, material which has evolved under conditions quite different from earthly conditions. This helps us to understand our own planet and its development in very profound ways.

Is this of secondary importance to our earthly problems? Well, let's look at some things we are finding out about lunar material. Experiments going on show that the moon dust produces an astonishing effect on certain plants. They grow bigger and stronger and greener than the same plants grown in the best fertilizers agriculturists have been able to create to date. The Department of Agriculture's chief plant pathologist at NASA's Manned Spacecraft Center, Dr. Charles Walkinshaw, says he doesn't know what it is the moon dust has, but it does something to plants that nothing else can duplicate. The Forestry Service plans to set up its own project to find out what it is that lunar dust has that earth soil and fertilizers lack, and I understand the Chevron Chemical Company—which makes fertilizers under the Ortho name—is thinking of financing a program to understand how it acts. If they can discover the mechanism by which moon dust works, then it may be possible to imitate it, and this could be as great a discovery as the Green Revolution which has caused an enormous improvement in rice growing.

Here's another discovery. Just recently, Dr. Gerald Taylor reported to the second annual Lunar Science Conference in Houston that moon material from core samples collected by the Apollo 11 astronauts has some unknown ingredient that kills bacteria. Two virulent germs that are very hard to kill by earthly antiseptics were easily killed in the material from the core sample. Again, if we can discover what this unknown ingredient is, it may be possible to create an antiseptic that will aid in the medical treatment of patients with hard-to-cure diseases. Such a discovery would rank with the discovery of penicillin.

I hope from these few examples of the results of our lunar studies you can agree with me that exploration of the moon doesn't automatically detract from the attention we should give to our human problems. It really isn't incompatible with such urgent priorities as feeding the poor, healing the sick, or even improving the environment. It may be as significant to you as it is to other observers, that the public has suddenly become aware of our environmental situation in just the past year or so. In the same time that a half-billion people had a view of our planet earth taken by the Apollo astronauts, and heard their inspired descriptions of its lonely beauty in the black of space, we find many people becoming very much interested in environmental problems and the growing peril to our ecology.

Was this just coincidence? Did humanity, which for tens of thousands of years had

regarded the lands, the rivers, the seas, and the air all about, as a gigantic waste disposal, suddenly and spontaneously by the millions become concerned about the environment? It isn't as though ecologists had not been crying for years about what we were doing to pollute the environment and waste its resources. Few paid any heed until after the Apollo flights. Only then was the earth revealed visually as a closed system, a single entity on which we all lived, and where—for generations, at least—there is small likelihood we shall live anywhere else.

Now, the point I would like to leave with you is that none of these discoveries or results of our manned lunar exploration program were anticipated. Going to the moon was literally going to a new world. We haven't begun to sort out everything found there that will be significant to our lives here on earth. But we can be sure that the most significant are yet to be revealed.

Anyone familiar with the history of science and technology knows you can't predict what discovery, or what piece of knowledge, or what invention is someday going to be important. Discovery, knowledge and invention are vital to human survival. Research, development, and the space program, which is a synthesis of almost all the disciplines, are activities that play a large role in leading men from the dark of ignorance toward the light of comprehension. As that remarkable "comprehensivist," Buckminster Fuller, points out, those who decry science and technology should think of the consequences of not having either of them. Few are the social reformers today who don't take electric power for granted in their plans to improve the human condition. But a hundred years ago James Clerk Maxwell was asked what good was the electromagnetism that he was investigating, and he replied, "What good is a 'baby'?" Today the wealth of nations is measured partly by the amount of electric power they consume, and the wealth of individuals by the number and sophistication of the electrical devices they use.

Without the Maxwells, the Faradays, and even our own Ben Franklin, who was an early experimenter with electricity, and hosts of other explorers, discoverers and innovators, there would be fewer people on earth today, and drudgery would be the lot of most of us in making a living. A smaller earthly population, it is true, would solve some other problems, but I don't think that is an answer acceptable to our souls, at least under those circumstances.

Too many environmentalists and ecologists arouse themselves to such a fervor that they blindly oppose every nuisance they detect or imagine exists in technological developments. For a time they may carry the unwary with them, but there is danger of a backlash when it is discovered the cures they advocate are too high in their human cost. There is need for a more harmonious and cooperative relationship between scientists, engineers, and ecologists that the greater public good will be ensured.

Environmental problems, urban decay, the depletion of resources, the disposal of wastes—all these and more—call for a national commitment first, after which the programs mounted to solve these problems will require many millions of tax dollars to pay for them. Where will those tax dollars come from?

In the first decade of the space age, we saw our gross national product grow from \$460 billion to more than \$900 billion. Today it has reached a trillion. Approximately half of the real growth of the GNP, say the economists, can be attributed to the stimulus of new technological knowledge from research and development investments. Twenty-five per cent of this country's total research and development expenditures was invested in our space flight program.

People who complain about "spending on space" seem not to realize that as an earth-bound activity, NASA has generated more than \$40 billion in goods and services over the 12 fiscal years of 1959-1970. All of this money returned to the economy as wages and salaries to an average of 250,000 people a year. More than 90 per cent of the "spending on space" funds went to 20,000 industrial and business firms in 30 states and 177 cities. This spending contributed to advanced development and new industrial products in computers, process control, a new form of communications by satellites and advanced weather observation, new materials, greater mechanization, and new management techniques. One important development is the growth of the computer industry, primarily as a result of NASA's requirements in its space flight programs. This industry now provides gainful employment for 800,000 Americans.

These are the activities that will help pay for the programs needed to improve the quality of life. The worst folly we can commit is to stop investing in creative programs of research and development which stimulate the growth of new enterprise and new jobs. Here with us today is one of the most enlightened and informed Americans, one who has long recognized that the discovery of new knowledge is an undertaking of prime importance to the human spirit and condition. I think it is especially meaningful that Olin Teague—known as "Tiger" Teague to his friends, colleagues and thousands of constituents—is among the best liked Members of the House. In his responsibilities as a member of the House Committee on Science and Astronautics, and as Chairman of the Subcommittee on Manned Space Flights and NASA Oversight, he keeps NASA on its toes. Because of his extensive knowledge and understanding of the issues, Congressman Teague has developed an insight enabling him to spot the weaknesses as well as the strengths in our manned space flight program. He is one of our most gifted legislators because of his earnestness and painstaking attention to very complicated details.

Speaking of government, I think it is no accident that the rise of science and technology over the past 200-300 years has been paralleled by the rise of truly democratic governments, governments whose premise is the recognition of human dignity and worth. As knowledge of the universe and of life replaced legend and superstition, people came to think and act differently. Where once poverty and disease were looked upon as inevitable, for example, it was learned they could be relieved and eradicated. Injustices were no longer so easily tolerated.

There is a distinct connection between present-day ideals of the quality of life, and the activities of science and technology. You probably have noticed how the achievements of science and technology are often accompanied by increased determination to move on to attainment of even higher ideals. One of the most telling expressions of this relationship followed our first Apollo landing on the moon which brought forth the chorused query: "If we can go to the moon, why can't we . . ." and the list of things to be done would bring Heaven to earth. So now, where once science and technology appeared to be running ahead of our moral and social standards, the field seems to be reversed: Our humane goals are advancing more rapidly than the ability of science and technology to keep up, not to mention the ability of our economy, social and political institutions and skills.

These are signs that tell me that the future of our country and of our people—indeed, the future of mankind everywhere—depends heavily on how well and diligently we build our scientific and technological foundation today. It must be kept in mind that it usually takes two or three decades before

there are major, practical returns on basic research activities. This is as true of the space sciences as it is of any other scientific activity in earth-bound laboratories. We have seen only the rudimentary results of space satellite communications and weather satellite operations, and especially of manned space flight. The potentials of both unmanned and manned space operations are enormous and of immense consequence to the human race.

Let me finish with a brief description of our coming programs.

Our manned explorations of the moon will continue through 1972, ending with Apollo 17. These final missions, starting with Apollo 15 later this year, provide for much more extensive area coverage by the astronauts, and longer stay times on the lunar surface. The astronauts will use a four-wheeled, battery-powered roving vehicle that can take them miles from their landing site, although in this first trial of the rover they will venture no further than the distance they can walk back from should anything go wrong. But they will be able to collect a greater variety of rocks and material, and carry a larger load of scientific instruments and experiments to chosen locations.

The Apollo lunar program has evolved rapidly from its initial engineering and operational phase when we were learning how to build and fly a vehicle to the moon, land men on its surface, and bring them back safely to earth. The scientific phase was necessarily very limited in Apollo 11, especially, and in Apollo 12, despite which fact these missions resulted in more scientific knowledge of the moon than was obtained in all previous unmanned vehicle missions combined. The experience with Apollo 13 showed the need for exercising greater concern and caution in the opening stages of lunar exploration, just as the early navigators found it necessary to build up experience in sailing before venturing far from shore into the trackless, unknown oceans. Apollo 14 has added another increment to our experience and confidence, permitting even further emphasis on the scientific aspects.

For our post-Apollo manned flight activities, NASA will launch an earth-orbiting, three-man space station called Skylab. Skylab is an adaptation of Apollo program hardware in which the Saturn V's third stage is converted into a space laboratory and living quarters. An outstanding feature of our first space station will be the Apollo Telescope Mount; the successful launch of this instrument in Skylab will climax some ten years of hard work and deep commitment by a large number of scientists and engineers. The ATM, as it is called, will be devoted to solar observations, considered by scientists to be of prime importance to earth-dwellers. This, of course, is not a new discovery. The Sun has been regarded as of prime importance to man since antiquity, but now for the first time it is planned to provide intensive, continuous observation of the whole solar envelope across the entire electromagnetic spectrum.

There are a number of puzzling mysteries to be solved about the Sun's behavior which Skylab will seek to unravel. One of these is the mechanism that creates the Sun's corona. This is an astonishing large and expanding envelope of gas having a temperature of two million degrees that surrounds the earth and extends out to the ends of the solar system.

Another question to be answered is how and under what circumstances the Sun manages to quickly transform vast quantities of stored magnetic energy into heat, which happens when it sends forth a giant flare, bathing the earth and interplanetary space with X-rays and highly energetic particles.

The solar mysteries to be solved are almost endless, and effect most of the natural processes occurring on earth. The ATM studies may supply the key to understanding the de-

velopment, containment, the trigger mechanisms, and decay of the Sun's hot plasmas in both quiet and flare periods.

Solar observations will be the most important single task on board Skylab, in which the crew will play a crucial role in obtaining data and working in conjunction with ground observing teams. However, other important objectives will also contribute to the advance of science and technology in many ways. One of these is to find out how men and equipment perform in a condition of weightlessness for periods ranging from an initial 28 days to 56 days. Other experiments include observation of the earth in connection with NASA's Earth Resources Technology program; medical studies; astronomy; materials processing under zero-gravity conditions, and many others too numerous to mention now.

Skylab will be boosted into orbit, using the first two stages of Saturn V, and a day later the crew will arrive in an Apollo spacecraft placed into orbit by a Saturn IB. The Apollo command and service module will rendezvous with the space station and dock by means of a multiple docking adapter, through which they will slip into an airlock and then into the workshop.

When the 28-day initial mission is completed, the crew will return on board their command module, landing in the ocean for pickup. Three months later another crew will go up for 56 days, to be followed by a third visit of 56 days, after which the station will be placed in orbital storage for possible use in the future.

Skylab will be the last manned mission for the United States until NASA's space shuttle is launched later in this decade. Assuming the Congress approves, the first horizontal test flight of the shuttle will be made in 1975, sub-orbital vertical flight in '76, and orbital flight in 1977.

Much has been said about the space shuttle as just another manned extravagance having minimal usefulness. Actually, the shuttle is a new concept for putting scientific and technological payloads into space at costs far lower than we presently pay per pound of payload. For example, automated scientific and technological spacecraft now cost around \$15,000 and \$30,000 a pound just to build because we have to design into them such high reliability to guard against failure and loss of the entire experiment. To these costs we have to add the cost of the booster, amounting to \$20-\$30 million. Just last year we lost an expensive Orbiting Astronomical Observer because a shroud on the rocket failed to separate.

The monetary cost is perhaps the least of it. Scientists and engineers had been working on the OAO for almost ten years, and in a few seconds a good part of their careers became a useless piece of space junk. There is no way now to retrieve such a situation.

But if a shuttle had been available, the mission could have been saved by men in space, or the OAO brought back to the ground for whatever repairs necessary. Moreover, the shuttles can be launched for no more than about \$5 million as against the \$20-\$30 million for the conventional rocket booster.

The real savings will come, however, because automated spacecraft can be built with more conventional structural design and more off-the-shelf equipment. Also, when an experiment is completed, the shuttle will bring back the spacecraft from its orbit, and a new experiment installed, thus saving the cost of building a new vehicle. The same would be true of communications satellites or weather satellites that go wrong.

The shuttle system is a type of rocket transportation designed to operate for multiple missions. It will do away with the large stable of different boosters the United States now maintains because it will be able to put into space both automated, unmanned vehicles and scientists and engineers, and return them to the ground base when their missions are completed. They will land like airplanes on runways, and just as easily. It is a concept that will revolutionize space transportation, paving the way for increased use and usefulness of space to mankind.

In addition to NASA's manned space flight program, we have some very exciting programs to develop the practical applications of space technology and further scientific investigations into the grand design of the universe and of our own tiny corner of it called the solar system.

I mentioned a few moments ago the Earth Resources Technology program. This involves a satellite system that could lead to the intelligent survey and management of earth's natural and cultural resources. A global geological survey, for example, would be a natural application. This service would make available to each country an insight into its own resources they could not otherwise obtain as cheaply or rapidly.

Studies have already shown that the use of satellites for monitoring and managing water resources could fully pay for itself. In addition, crops and forests could be monitored by remote satellite sensing devices which could distinguish between healthy and diseased plants and trees as well as the different types. Geographic and hydrographic mapping by satellite, a process that now takes years to complete, would be both quicker and more accurate and up-to-date. Even the state of environmental pollution could be identified and monitored, a necessary part of pollution control programs.

The potentials of these aspects of space technology are not only inspiring, they are breathtaking. In achieving them, science and technology will advance on a broad front, providing mankind with additional tools to care for both himself and the environment.

On the scientific side of NASA's activities, we shall have further investigations of Mars and other planets. This year we plan to send two Mariner spacecraft to Mars, this time to orbit the planet instead of making the usual flyby mission. We hope they will perform like our Lunar Orbiters did several years ago, and send back thousands of pictures so that we can map the whole of Mars rather than to get only a brief glimpse of limited areas. Later, NASA would like to send Viking spacecraft to Mars which not only would orbit the planet but would send down a lander equipped with instruments to analyze the surface material. The data then would be radioed to the orbiting Viking which in turn would transmit it back to earth over tens of millions of miles. The information would permit further comparisons of earth with another body in the solar system, adding to our understanding of man's home planet.

Another spacecraft is planned to be sent by Venus and on to Mercury, using the gravitational pull of Venus to help swing it on to the innermost planet that swings around the Sun in an orbit of only 33 million miles or so.

Toward the end of the decade, we hope to take advantage of a relatively rare lineup of the outer planets that takes place only once every 179 years. The last time this occurred, John Adams, second President of the United States, was in office, and it offers scientists the opportunity of launching spacecraft on certain trajectories that will enable them to collect data from all five of the outer planets of Jupiter, Saturn, Uranus, Neptune and Pluto. It involves using the powerful gravitational field of Jupiter, which is so large that it is bigger than all the other planets combined, to swing the spacecraft onto courses that take them past all the rest. One operation will take the spacecraft to Jupiter in a precise approach so that two will be boosted on to Uranus and on to Neptune, while two others will take a somewhat different approach, causing Jupiter's gravitational pull to send them flying on to Saturn and Pluto, and right out of the solar system itself.

By this method, using a kind of interplanetary billiards shot, it is hoped we can visit all these planets in something like nine years, a tremendous saving in time and money, since a single shot at Pluto, for example, would take about 40 years to accomplish its mission.

Today, our manned and unmanned space flight programs are enriching mankind's knowledge of earth and the universe, and of man himself. They are helping us to form a more accurate concept of the Creator's physical works, and of our place in this incredible Design. We are standing only at the beginning of a comprehension of Works that inspire increasing awe the more we learn.

HOUSE OF REPRESENTATIVES—Thursday, February 25, 1971

The House met at 12 o'clock noon.

Rabbi Haim Kemelman, the Jewish Center, East Brunswick, N.J., offered the following prayer:

O God, bless this House, for here democracy is made to work.

Here, votes are counted, but ideas count;

Here, the majority rules, but the voice of the people overrules;

Here, history is lived and the future is perceived.

Here, free men ask: "Why?" and noble men dream: "Why not?"

Here we pray that God shed His grace

upon this dome, under His heavens, and inspire our representative leaders to unite us in a moving dream so that we may move forward from our Apollo-moon project to an Apollo-man project: to banish dread disease; to conquer the dark craters of the mind; to heal bruised hearts; to master the inner space of man for peace in trust-power, as we have mastered the outer space of the moon with thrust-power; to see a new heart-rise of man, as we have seen a new earth-rise from the moon.

For Thine is the kingdom on this earth; and ours is the power to establish it in our midst, and the glory to rec-

ognize that it is more important to bring heaven down to earth than to bring man up to heaven.

God bless America. God bless the American dream.

THE JOURNAL

The SPEAKER. The Chair has examined the Journal of the last day's proceedings and announces to the House his approval thereof.

Without objection, the Journal stands approved.

There was no objection.