

The letter follows:

ECONOMIC AID ANALYZED: U.S. GOODS AND SERVICES ACCOUNT FOR 90 PERCENT, BELL SAYS

To the EDITOR OF THE NEW YORK TIMES:

Some of your readers might have drawn incorrect inferences from figures you published in section IV of your July 21 edition regarding the relationship of economic aid to the balance of payments of the United States.

You showed "economic aid" as a debit in the U.S. balance of payments for 1962 amounting to \$3.5 billion—in a year in which the total deficit was \$2.3 billion. An unwary reader could easily have drawn the inference that all we need to do to remove the deficit would be to cut "economic aid" by \$2.3 billion.

Such an action would of course be ineffective. "Economic aid" as shown in your figures includes the outflow of surplus agricultural commodities under Public Law 480 (about \$1.3 billion in 1962), plus the outflow of goods and services—and dollars—financed by loans and grants under our foreign aid.

With the policies that are now in effect, more than 90 percent of total "economic aid" represents U.S. goods and services—not dollar outflow. Under these circumstances, a cut in congressional appropriations would principally reduce U.S. exports—without affecting the balance-of-payments deficit substantially.

EFFECT OF CUTS ON EXPORTS

Recognizing the difficulty of estimating precisely the effects of a change in a single factor in the balance of payments, it can be said as a rough approximation that a one-billion-dollar cut in "economic aid" would reduce U.S. exports by \$900 million and the deficit in the balance of payments by \$100 million. (If the hypothetical cut were assumed to affect what is ordinarily called foreign aid—and not to affect Public Law 480 and the Export-Import Bank—the proportions would be about \$800 million reduction in U.S. exports, and \$200 million in the U.S. balance-of-payments deficit.)

The conclusion is clear. Under present policies, with economic and military assistance to other countries almost entirely taking the form of U.S. goods and services, almost no gain to the balance-of-payments deficit can be achieved by reducing our foreign aid programs. Moreover, a foreign aid cut made on the mistaken assumption it would have a major impact on our payments deficit would instead serve chiefly to reduce U.S.-produced goods and services purchased for use abroad.

I should also like to point out the positive gains to the United States from the establishment of progressive, growing economies abroad—which is the main purpose of our economic assistance. U.S. exports to the Marshall Plan countries more than doubled from 1953 to 1962.

Our exports to Japan more than tripled from 1950 to 1962. In many of the countries of Asia, Africa, and Latin America, where our economic aid goes today, aid-financed U.S. exports are finding acceptance and becoming familiar to consumers—which will enhance our normal commercial export markets in the future as those countries increase their incomes and their international purchasing power.

DAVID E. BELL,

Administrator, Agency for International Development.

The Job of Ending Job Discrimination

EXTENSION OF REMARKS

OF

HON. WILLIAM FITTS RYAN

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Thursday, August 15, 1963

Mr. RYAN of New York. Mr. Speaker, the elimination of discrimination in employment is crucial to the civil rights battle. Until there is equality of job opportunity for all our citizens, full equality cannot be realized. A major barrier has been discrimination in the apprenticeship programs for skilled jobs. The worker of the future must be a skilled worker, and the Negro has been hurt in his search for a job because he is often, too often, unskilled. John F. Henning, Under Secretary of Labor and Manpower Administrator for the Department of Labor has written a searching statement of the problems facing Government apprenticeship programs which appeared in the July 1963 issue of the American Federationist, the official monthly of the AFL-CIO. I wish to bring his article to the attention of my colleagues:

EXPANDING APPRENTICESHIP FOR ALL AMERICANS

(By John F. Henning)

American Negro demands for fair employment have turned sharply to a precise area of dispute: apprenticeship training.

The new emphasis is hardly surprising. Skilled journeymen are the income elite of manual labor. They look to a brightening future. All responsible projections of U.S. labor force needs cite the continuing call for skilled labor and the declining proportions of unskilled work.

Back in 1957 the U.S. Department of Labor issued its now historic projections of the labor force requirements of the 1960's. The study estimated that in 1970 America will need 42 percent more professional and technical workers than in 1960, 24 percent more sales and service personnel, 22 percent more skilled workers, and 18 percent more semi-skilled. The percentage of the unskilled will be down.

The prophecy presumes a full employment economy in 1970. Without economic growth, both skilled and unskilled will suffer. But not alike. For example, during the past 5 years, the national unemployment rate has approximated a disturbingly high 5.5 percent, but in this period the jobless rate among the unskilled has been at least twice that of the skilled. Whatever the course of the economy, the days of the unskilled appear numbered.

Long ago Benjamin Franklin observed that he who hath a trade hath an estate. The difficulty is that he who hath a trade usually hath a white skin.

As in Franklin's time, the one certain road to journeyman training is the apprenticeship system. To some the road seems a narrow, twisted trail, bordered by bigotry and privilege. Whatever its hazards, more than 150,000 young Americans today are found in registered apprenticeship programs.

The average apprenticeship embraces 4 years of on-the-job training and normally entails 144 hours of related classroom instruction a year.

The tripartite forces of labor, management, and Government shape the character of apprenticeship training. But the shape of things does not satisfy any American sensitive to the demands of democracy.

Federal responsibility came to apprenticeship with the adoption of the Fitzgerald Act in 1937.

The Fitzgerald Act called for Federal and State Government promotion of labor-management apprenticeship programs. The Government role has been noncontrolling in that actual on-the-job training has been directed by the employer, usually under union-negotiated conditions.

The Government role has been significant in that the U.S. Department of Labor and the several State apprenticeship agencies fix minimum standards for program registration. Registration entitles apprentices in approved programs to employment on Federal public works projects and assures approved programs of the services of the Labor Department's Bureau of Apprenticeship and Training or the services of the pertinent State agency. Historically, Federal registration of programs has applied alike to State sponsored as well as federally directed programs.

Thirty States manage their own apprenticeship agencies. In the remaining 20, the Federal Government alone sponsors and guides apprenticeship.

Civil rights spokesmen long have held the idea that Federal registration should be denied any program stained by ethnic discrimination. AFL-CIO President George Meany agrees. Meany backed a 1961 attempt to write such a denial into Federal law. Meany noted, however, that discrimination in apprenticeship is only part of total job discrimination. He urged enactment of a National Fair Employment Practices Act with full powers of enforcement.

But the immediate question is, What can be realized in the absence of a national FEP law?

In July 1961, then Secretary of Labor Arthur Goldberg announced the Department of Labor would thereafter require the inclusion of a specific nondiscrimination statement in all apprenticeship standards of firms handling Government contracts. He further declared a similar provision would be required in the registration of any new apprenticeship program regardless of its relationship to Federal works.

Labor Department action did not die with the Goldberg pronouncement. The following achievements merit attention:

I. Within the past year, the Bureau of Apprenticeship and Training assigned four minority consultants to the task of opening opportunities to Negroes and other minority peoples. Now located in Washington, New York, Chicago, and San Francisco, they counsel with employers, joint apprenticeship committees and unions on a regional basis to encourage acceptance of qualified minority applicants. Additionally, they advise minority groups on apprenticeship fundamentals and admission processes.

II. Secretary of Labor W. Willard Wirtz on February 27, 1963, announced the appointment of a National Advisory Committee on Equal Opportunity in Apprenticeship and Training. The Committee consists of 15 members; 4 from management, from labor, 5 from minority organizations, and 2 from the public.

The Advisory Committee held its first meeting in Washington on May 14 under the chairmanship of the Under Secretary of Labor. The committee developed a five-point action program:

1. The establishment of apprenticeship information centers in certain critical cities throughout the Nation.

2. The fostering of apprenticeship information centers through State apprenticeship councils wherever feasible.

3. The creation of research programs to measure the present depth of minority participation in apprenticeship programs.

4. The implementation of present anti-discrimination provisions in apprenticeship programs registered with the U.S. Department of Labor.

5. The consideration of preapprenticeship programs for the training of young workers not qualified for admission to apprenticeship programs.

III. The Department of Labor, in cooperation with the District of Columbia Apprenticeship Council, the District of Columbia Commissioners and school authorities, the U.S. Employment Service, labor and management, opened its first Apprenticeship Information Center on June 17 in the Nation's Capital.

The Information Center, which the Department proposes to extend throughout the Nation, offers young apprenticeship applicants personal and group counseling, aptitude testing, information on educational requirements and related data pertaining to District apprenticeship programs. It also offers an orderly system of referral to joint apprenticeship committees and serves as a point of contact for unions, employers, and minority groups.

The values of the Information Center are intended for all young Americans, whatever their race, color, creed, or national origin. But the Center should be of particular value to Negroes and other minorities from whom the knowledge of admission procedures and requirements often has been withheld.

IV. Secretary of Labor Wirtz issued a directive to all joint apprenticeship committees of the District of Columbia June 5, 1963, on the discrimination crisis in the District jurisdiction. The Secretary listed the following requirements for programs hoping to enjoy Federal registration rights:

1. If apprentices are not selected by a merit system alone, selections must be made in a manner that demonstrates equality of opportunity.

2. Waiting lists which reflect previous discriminatory practices must be subjected to whatever action is necessary to offset such discrimination.

V. President Kennedy on June 4, 1963, directed the Secretary of Labor to require that "admission of young workers to apprenticeship programs be on a completely nondiscriminatory basis."

VI. Following Secretary Wirtz' order of June 11, 1963, the Bureau of Apprenticeship began a 50-city check of Negro apprenticeship participation in Federal construction projects.

The varied activities here cited indicate the commitment of the Kennedy administration to equality of opportunity in apprenticeship.

The President held a national conference with 300 labor officials at the White House June 13 in which he called for the end of job discrimination at every level of union jurisdiction. This was one of a number of conferences on civil rights held with businessmen, educators, clergymen, and lawyers.

However, the President noted that genuine equality of opportunity could be meaningful only in a full employment economy.

National morality and the times will permit nothing less than full job equality, but without full employment this means sharing job scarcity regardless of race, color, creed or national origin. Job equality must mean sharing the bounty, not the scarcity of national life. But apprenticeship at its fullest would hardly have the capacity to solve youth unemployment. The problem is beyond that.

During the calendar year 1962, teenage unemployment averaged 13 percent against an overall national figure of 5.6 percent. During 1962 the average teenage unemployment total was 816,000 workers.

Between 1957 and 1962 the total number of registered apprentices in training averaged 150,000.

Apprentices in training today average only 3 percent of the 5,077,000 teenage workers in the U.S. labor force. Of the teenage total, 3,017,000 are male.

The apprenticeship solution assumes even less promise when pictured against a 50-percent mortality rate. The consistent national experience suggests that only one-half of those now in training will know journeyman status.

The proportionate place of apprenticeship must also be seen in the perspective of the awesome burdens the American economy will confront in the 1960's.

The U.S. Department of Labor tells that the economy must provide 34.5 million new jobs in the 1960's to match the demands of population growth and technological change.

The labor force will realize a net increase of 12.5 million through population expansion. This involves an increase of 26 million young workers. Death and the retirement of older workers will determine the 12.5 million net figure.

The technological impact will be greater. The Labor Department estimates the annual rate of productivity increase will be about 3 percent throughout the 1960's. This means the output per man-hour will jump about 3 percent each year. The job displacement statistics become frightening when the 3 percent productivity rate is applied to an annual average employment figure of 74 million workers. For the 1960's this means the economy must provide 2.2 million new jobs each year to care for technological progress. The decade's demand will be 22 million jobs.

The statistics are germane because apprenticeship, unlike vocational education, always has been a job-related training system. Unless employers determine to hire apprentices there is no apprenticeship system. Further, unions relate the number of admitted apprentices to the number of employed journeymen.

Given full employment, apprenticeship could come to its greatness.

But at this hour, the immediate crisis of apprenticeship discrimination plagues the national conscience and cries for action.

The Kennedy administration reforms must succeed. There is hope and precedent in the experience of California.

Four years ago Gov. Edmund G. Brown named apprenticeship bigotry a special evil and called for remedies. Adoption of an FEP law in 1959 helped greatly but was not quite enough. The subtleties of apprenticeship bias often escape FEP enforcement.

California's plan has won national praise. It features (1) statewide and local committees on apprenticeship opportunities for members of minority groups; (2) local apprentice information centers for making vital data available to high-school students and graduates.

The statewide opportunities committee was founded in 1960. It is comprised, like the National Advisory Committee, of labor, management and minority group representatives and includes Government spokesmen.

The California committee last year developed two precedent-smashing surveys of the depth of discrimination.

The initial study approached the ethnic identity of the more than 20,000 apprentices receiving training in California. The second involved an ethnic sampling of journeymen who completed their apprentice training in 1955.

The first survey, based on a one-third return of questionnaires, revealed the startling evidence that there were 283 American

Indians participating in California apprenticeship programs as against 150 Negroes. Mexican-Americans numbered 521, Japanese-Americans 31 and Chinese-Americans 18.

The findings suggest that Negroes number just a bit more than 2 percent of California's apprentices. In the Federal census of 1960, Negroes formed 5.8 percent of the total State population and 4.7 percent of the State's male labor force.

The State committee data on minority representation among journeymen certified in 1955 also are revealing.

A one-fourth return of inquiries pegged Negro participation at 1.5 percent.

The journeymen survey indicates the rewarding nature of skilled employment. Seventy-two percent of the graduate apprentices were earning \$7,000 or more a year, while 52.4 percent were earning over \$8,000 per annum. Only 11.2 percent were earning less than \$6,000 per year.

Ninety percent were enjoying full employment on a yearly basis.

Both surveys confirm the skilled labor problem of the Negro. But the totals do not necessarily prove discrimination. For example, in certain survey areas Negroes had rarely, if ever, applied for apprenticeship admission. The failure could represent either resignation to bias or the absence of training qualifications.

Traditionally, Negroes have been the particular victims of hasty and frequently indifferent counseling in the high school systems. In California's soaring school population, a senior student is fortunate if he receives 1 hour of personal counseling in his final year. This obtains for any student whatever his race or skin. The national practice is scarcely different.

Each year thousands of young Americans emerge from the secondary schools without any sense of occupational direction. Adequate high school counseling would be of particular benefit to the children of Negro families recently removed from the agrarian South. These young people suffer the same lack of skilled labor tradition as did most of the 19th century European immigrants who poured into America searching for freedom and opportunity.

But where immigrant Europeans could seek manual labor in coal and steel and maritime employment, today's young Negro faces a labor market in which there is little future for the unskilled.

Not only because of discrimination but also because of lack of skills, Negro unemployment is consistently twice the overall national average. In the calendar year 1962 the rate of unemployment among Negroes was 11 percent against a national average of 5.6 percent. Negroes represent 11 percent of all American workers but represent 22 percent of all unemployed.

As indicated earlier, economic growth is the first requisite of full employment in the 1960's, the full employment that will give job opportunity to all Americans.

Economic growth, however, will not find employment for the unskilled.

America needs an active labor market policy to accompany the fiscal and monetary policies of growth. An active labor market policy would directly answer the training needs of the U.S. labor force. The rate of unemployment among unskilled workers in the calendar year 1962 was 12 percent against the national average of 5.6 percent.

An active labor market policy also would end racial and ethnic discrimination in employment.

But it would do more than that. It would also achieve these ambitions:

1. An updated labor market information service for workers and employers.

2. An employment service warning system for impending technological changes and other changes causing serious job displacement.

3. An effective informational service for career guidance and counseling.
4. An educational system, vocational as well as academic, which would answer current and upcoming manpower needs.
5. An expanded apprenticeship training program.
6. An improved system of job placement services.
7. A program for aiding the mobility of workers.

In summary, it is obvious that Negro discrimination in apprenticeship has its unique and general features. The Negro suffers because of his skin. But he suffers also because he often is an unskilled worker in an economy which has limited place for the unskilled. Finally, he suffers because he is a worker in a society which has not yet found the way to full employment.

The issue of employment discrimination is not peculiar to apprenticeship. It will be found everywhere, including the banking, insurance, and newspaper worlds. It will be found in the professions and the religions of America. Indeed, discrimination is often strongest in sectors of non-union employment.

American labor must persist in its efforts to realize full employment and the abolition of the last measure of job discrimination. The efforts must reach to the State councils, local councils, and local unions.

The matter is moral. For more than 100 years labor has served as the social conscience of the Nation. Unpurchased and unafraid, it has led the everlasting struggle to attain a society in which bread, security, and freedom shall be the right of all Americans whatever their racial, religious, or ethnic identity.

Labor holds priceless credentials of sacrifice and struggle. It must use these credentials now as mortal conflict shakes the Nation. The honor and duty of leadership rest with the trade union movement.

Diplomatic Relations With a Quisling

EXTENSION OF REMARKS OF

HON. EDWARD J. DERWINSKI

OF ILLINOIS

IN THE HOUSE OF REPRESENTATIVES

Thursday, August 15, 1963

Mr. DERWINSKI. Mr. Speaker, one of the proofs of retreat of the appeasement-minded dreamers of the New Frontier is their handling of the Soviet-imposed Eastern European Red governments.

The St. Louis Globe-Democrat, in an editorial on Monday, August 12, very concisely discusses our relations with Hungary, and under unanimous consent, I insert it into the Record at this point:

DIPLOMATIC RELATIONS WITH A QUISLING

As was widely predicted, the United States is seeking to resume full diplomatic relations with the Hungarian regime. Readers will recall that diplomatic ties were curtailed during the 1956 revolution against Soviet control.

The loss of that revolution yoked the Hungarians with a quisling regime run by the traitor, Janos Kadar, the liaison man with the Soviet tank commanders who decimated his people.

Doubtless, the new American move will be hailed by those who seek to avoid irritants in our relations with the Soviets. But what in the name of diplomacy do we have to gain by sending an American minister to

exchange views with the special toady of Mr. Khrushchev in Budapest?

Can anyone actually believe that 7 years after the Budapest bloodbath, the regime enconced at the point of victorious Russian bayonets is now the legitimate representative of the Hungarian people?

If this American palliative to the touchy Soviet sensibilities over their wretched role in Eastern Europe is to be typical of our moves to ease tensions, we would prefer to return to the cold war.

The Legacy of Project Mercury

EXTENSION OF REMARKS

OF

HON. CHARLES H. WILSON

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Thursday, August 15, 1963

Mr. CHARLES H. WILSON. Mr. Speaker, one of the companies actively engaged in the conquest of space is the Garrett Corp. of Los Angeles. This company employs more than 10,000 skilled personnel and produced the important environmental control system (ECS) for Project Mercury.

In the Spring issue of *New Frontiers*, a Garrett publication, an article dealing with the aspects of both the Project Mercury program and the Project Gemini program has caught my interest. I know many Members of the House are constantly searching for more information on the race to the Moon, and I therefore bring this article to the attention of my colleagues.

The article is as follows:

THE LEGACY OF PROJECT MERCURY

(By John W. Bold)

He was the last to go. Shepard, Grissom, Glenn, Carpenter, and Schirra already had experienced the tense countdown, the surge of rocketing into space, the exhilaration of weightlessness and the security of recovery. But Gordon Cooper's 22-orbit flight was the longest and most precise.

His was, for 29 hours, a textbook flight. But in the last few hours the NASA-McDonnell team used "all the pages in the book." In the last few minutes, an electrical problem forced the youngest astronaut to carefully position his spacecraft, fire the retro rockets and guide his Faith 7 spacecraft down through the atmosphere—all by hand. He completed his long 34-hour, 600,000-mile flight without the aid of automatic equipment.

It was a suspenseful epilogue to the 4 year saga of Project Mercury. Shepard's flight was the daring first. Grissom confirmed data and prepared us for an orbital mission. Carpenter's took a breathless "month" of minutes before recovery was accomplished in the Atlantic. Astronaut Glenn's was a "real fireball." Schirra flew the first "textbook" flight. All six, each in his way, contributed new data, new drama, to the story of manned space flight, told in an unprecedented frankness by NASA's Manned Spacecraft Center.

But now is the time for retrospection. The highly successful Project Mercury program has ended. During this 5-year program, what have we learned? What new theories have evolved from this Nation's first manned space program? What new engineering concepts will help us in future spacecraft development work? In particular, what have we learned

from Project Mercury that will aid us in Project Gemini?

An insight into the answers to these questions can be gained at Garrett-AiResearch, which produced the vital environmental control system (ECS) for Project Mercury, under contract to McDonnell Aircraft Co. It is now developing a similar system for Project Gemini, again under a McDonnell contract. Both programs are under the technical direction of NASA's Manned Spacecraft Center.

Naturally, the experience of both companies gained in Project Mercury transcends into the Gemini program. "Experience is the best schoolmaster, and it has taught us a great deal," reflects R. C. "Dick" Nelson, AiResearch's program manager for the Project Gemini environmental control system. "At an early meeting at McDonnell," he recalls, "we were able to sit down and quickly determine and analyze problem areas. Immediately we foresaw changes in the ECS which would be necessary because of changes in the mission profile and what we learned from Mercury."

"From our point of view," Nelson believes, "there's one important thing we've learned from Mercury. That's about the man. He has shown that a well trained 'test pilot,' who can think and act is more desirable than the most sophisticated, automatic equipment yet designed."

"As a result," Nelson continues, "the Gemini environmental control system will have less automatic control more manual operation. By reducing the complexity of the system we will increase reliability. Since the Gemini astronauts will have 'time on their hands' to think and act during their 2 week mission, less automation is required."

(Following Gordon Cooper's flight, Walter C. Williams, associate director for NASA's Manned Spacecraft Center, told the press that if a man were not aboard the Faith 7 he doubted if it could have reentered and been recovered.)

In Project Gemini, man's requirements will be basically the same. Thus the function of the ECS remains unchanged—to provide two astronauts a safe and comfortable atmosphere for 2 weeks in space.

The system will provide fresh oxygen, cabin and suit pressurization, thermal control, water management and toxic gas removal. To accomplish these functions, the Gemini ECS can be grouped into the following functions: the loop, or circuit, for suit cooling and pressurization; the cabin loop for cooling and pressurization; the fresh oxygen supply—primary secondary, and emergency egress; the water management loop; the coolant loop. The egress oxygen supply is part of the launch abort system, similar to aircraft type ejection seats. It will be used in Gemini in lieu of the escape tower system which was used in Project Mercury.

The learning curve which "lifted off the pad" with Mercury has dictated some changes in the Gemini system as compared to Mercury.

Nelson lists seven areas in which Mercury experience has resulted in improvements:

1. Coolant subsystems and thermal regulation.
2. Pressure regulation.
3. Moisture removal.
4. Suit compressors.
5. System geometry and installation.
6. Testing.
7. Reliability.

In addition, the longer mission profile has resulted in new concepts in the following areas:

1. Oxygen supplies.
2. Heat transfer equipment.
3. Power supplies.
4. System servicing.
5. Water management.

For oxygen storage, a different source replaces the high pressure system (7,500 pounds per square inch) used in Mercury. The new source, a supercritical system, will serve as the primary source of oxygen. A high pressure source (5,000 pounds per square inch) will be secondary. Supercritical storage defies definition in layman's terms. However, it is oxygen compactly stored in a state between a gas and a liquid. In orbit the supercritical storage provides enough oxygen with ample reserve for two men, for 14 days, in the Gemini spacecraft—occupying a minimum of space and weight. During reentry, the high pressure source, which also serves a backup for the supercritical system, will supply the necessary oxygen, pressurization and cooling.

In Project Mercury, cooling was totally dependent on a cabin and suit heat exchanger boiling water as the coolant. These water boilers were ideal for the weight and short mission of Mercury. In fact, in some instances, water will continue to be used for cooling in Gemini. However, the cooling burden in Project Gemini will fall on six heat exchangers using a recycling oil-type coolant instead of water. Heat absorbed by the coolant will be radiated into space instead of boiled off as steam as in Mercury.

The constant manual control of the heat exchangers will also be eliminated. This operation, similar to adjusting a home air conditioning system, will be replaced by an automatic system with manual override. This will eliminate excessive temperatures incurred before the boiling process stabilized temperatures in the spacecraft—usually before the end of the first orbit.

Expulsion of the coolant in Mercury was accomplished in a pressurized tank with a bladder forcing the water out. The Gemini system will comprise a closed loop unit including four parallel pumps—two in a loop—for more effective coolant circulation.

During each launch the Mercury lithium hydroxide canister required special attention. Engineers kept an accurate count on the time each cannister was used and tested. This way, launch personnel were assured sufficient lithium hydroxide was available for carbon dioxide removal for the entire length of the mission. In Gemini, lithium hydroxide will be used again; however, the amount installed in the re-entry module will be more than adequate.

The water separator, which was a pneumatically operated sponge type, will be replaced by a static type separator with no moving parts. This development is an outgrowth of Garrett's extensive aircraft air conditioning and pressurization experience. It eliminates the possibility of high moisture content (humidity) in the spacecraft, and with no moving parts, is more reliable.

Suit and cabin compressors will have greater capacity (23 and 88 cubic feet per minute respectively) but will require little additional power. Conservation of electrical power has been a design objective throughout the Gemini program. But it is not an easy goal.

In Mercury, AiResearch delivered 49 different ECS components to McDonnell where they were assembled. The Gemini system contains 114. However, as Dick Nelson puts it, "we are marrying many of the components here at AiResearch," so that 84 components will be integrated into 11 modules. This marriage, instigated by McDonnell, insures optimized design and better performance. The other 30 components will be delivered individually.

The marriage of components into compatible modules enables the subsystem to be quickly divorced from the spacecraft. Thus, during the countdown if a malfunction occurs in a module it can be quickly removed and replaced. In fact the entire Gemini suit module ECS can be replaced in 40 minutes. By comparison, in Mercury it required 24

hours to remove the carbon dioxide absorption canister alone.

What is the status of the Gemini environmental control system? In May, the first major segment of the Gemini environmental control system was shipped to McDonnell, St. Louis for testing. Dick Nelson took personal charge of the shipment. After telephoning several department heads to insure proper packaging and shipment, Nelson swung his 6-foot, 6-inch, 220-pound frame around and said, "I feel I'm sending my first child on a trip." Without a doubt, every AiResearcher who had nursed the production of the equipment along felt the same way.

Today, comprehensive manned tests are being conducted to prove the operational compatibility of the environmental control system to the man. These tests are being conducted in AiResearch, Los Angeles and soon reliability and qualification tests will begin in AiResearch's new lab in Torrance. This new multimillion-dollar facility is replete with clean rooms and high altitude chambers (capable of simulating 240,000 feet altitude). New data acquisition equipment electronically records more than 300 measurements on each test. This equipment enables detail-conscious engineers to analyze test data in hours when previously it required days, often weeks.

The meticulous task of designing, fabricating and testing the Gemini environmental control system is a carryover from Project Mercury. Much of the technology gained in Project Mercury ECS is directly applicable to Gemini. As an example, Nelson cites the Gemini testing program: "We are not trying to devise new testing procedures," he said. "Experience enables us to retain the valid concepts used in Mercury and add improvements."

"The experience we gained in Mercury has given us confidence in our Gemini work and in systems for the future," says Nelson.

And what of the future? Our national goal is to land a man on the moon. Just as experience gained from Project Mercury is applied to Gemini, so will Project Gemini data be applicable to Project Apollo. The Apollo Spacecraft, with an AiResearch environmental control system aboard, will carry three men to the moon.

Cost of the Nation's space program rests heavy on the Federal budget. Today, cost conscious engineers are optimizing their design and using their creative ingenuity to minimize development costs. Certainly, the carryover experience from Mercury to Gemini will result in vast savings.

Willard E. Wilks, in his new book "The New Wilderness—What We Know About Space" notes that it will require an average of \$7 billion a year to accomplish our national space goal. "It is less than the \$7.5 billion Americans spend annually on cigars and cigarettes," he wrote.

At first glance the cost of the Nation's space program seems as high as the apogee of Gemini itself. However, erudite planning on the part of the National Aeronautics and Space Administration has kept costs nominal.

Already, nine new astronauts are selected and are gaining from experiences of the original seven. (At a recent Cape Canaveral press conference, astronaut "Deke" Slayton, who is coordinator of Astronaut Activity, quipped to newsmen that they preferred to be called the "original" rather than "old" astronauts.) Of the original astronauts Wally Schirra was assigned the environmental control system as his special assignment. In the new group, John Young, a Navy pilot, will concentrate on the ECS.

But it took one of the "original" sages to place the manned space program in proper perspective. Astronaut John Glenn said, "But the greatest of all benefits from manned space flight will undoubtedly come from

some now-unforeseen discoveries occasioned by man's ability to assess the new things he encounters in the unknown."

For the present little is unforeseen or unknown. The Nation's space program stands strong, bolstered by legs of experience.

Civil Rights by Bishop Andrew Grutka

EXTENSION OF REMARKS

OF

HON. RAY J. MADDEN

OF INDIANA

IN THE HOUSE OF REPRESENTATIVES

Thursday, August 15, 1963

Mr. MADDEN. Mr. Speaker, the following are excerpts from a pastoral letter by Bishop Andrew G. Grutka of the Gary, Ind., Catholic diocese.

Bishop Grutka's diocese contains the great Calumet industrial region of Indiana. It is made up of many nationalities, races, and religions.

This great cosmopolitan region for over a quarter of a century has been actively making a sincere effort to practice civil rights. Our area is probably more free from racial agitation than any area in the Nation.

Religious leaders like Bishop Grutka, business leaders, public officials, and all segments of business have been making a sincere effort to practice civil rights.

The following is a news item on Bishop Grutka's message and also an editorial from the Gary (Ind.) Post Tribune commenting on the message:

GRUTKA ASSAILS RACE PREJUDICE IN PASTORAL LETTER

A pastoral letter issued today by Bishop Andrew G. Grutka of the Gary Catholic diocese brands racial prejudice and injustice as heinous crimes against God and man.

Divided into three parts, the letter follows the theme of racial justice and charity. It explains Christian teaching, areas of concern, and the roles of the church and the individual in eliminating racial discrimination, prejudice, and segregation.

The bishop wrote that the letter wasn't fulfillment of an official duty. "It is rather the expression of a deep and painfully felt concern for many sorely tried and shamefully treated members of our community, Negroes in particular."

He cited the fact that Negroes are pooling resources and energies and enduring hardships to get free exercise of human rights and dignities. He urged "right-thinking persons and practicing Christians" to lend Negroes a hand in this effort.

Admitting the message offers no simple or easy solution for the elimination of prejudice, discrimination, or segregation, the bishop said it hopes for a change in attitude and that Christians will follow the meaning of John 13:34: "A new commandment I give you that you love one another."

Grutka explains the unity of the human race by references to the teachings of the story of creation in the Bible, to statements by Pope Pius XXII, Pope John XIII and to action of the bishops of the United States in 1958. The equality of all men, the human dignity of all men and the honor of all men are cited in his explanation.

He explains how foreign immigrants, once rejected, have been assimilated into our society and are not easily recognized as distinct ethnic groups.

Then, he writes, "The Negro is faced with similar challenges in housing, employment,