

"There is no doubt that stature is inherited," he says. "Height is controlled by genetic factors. The more closely related two people are, the more similar their height. It is also true that Indian children living in the rural areas of most Central or South American countries are significantly shorter than the Indian children living in the urban areas of those countries."

According to Dr. Kagan, the flaw in Dr. Jensen's logic is that it suggests that the shorter stature of the rural children is due to a different genetic constitution.

**Dr. Kagan** finds the essential error in the genetic argument to be the conclusion that if a trait is under genetic control, differences between two populations on that trait must be due to genetic factors.

Prof. J. McVicker Hunt of the University of Illinois notes that the stature of human beings "appears to have increased by nearly a foot without benefit of selective breeding or natural selection."

Dr. Hunt also disagrees strongly with Dr. Jensen's assertions on genetic differences in intelligence among the races, as does Prof. Lee J. Cronbach of Stanford. "The genetic populations we call races no doubt have different distributions of whatever genes influence psychological processes," Cronbach says. "We are in no position to guess, however, which pools are inferior."

In Dr. Kagan's child psychology laboratory variations in test scores among white children of different backgrounds are observed as early as one or two years of age.

"Lower class mothers spend less time in face-to-face mutual vocalization and smiling with their infants: they do not reward the child's maturational progress, and they do not enter into long periods of play with the child," Dr. Kagan reports.

"Our theory of mental development suggests that specific absence of these experiences will retard mental growth and will lead to lower intelligence test scores."

**Applying this** argument to racial differences on such tests, Dr. Kagan notes that "the most likely determinants of the black child's lower I.Q. score are his experiences during the first five years of life."

Mental tests administered by Dr. Francis Palmer of the City University of New York to middle- and lower-class black children in Harlem resulted in few differences in scores after the examiners had established emotional rapport with the children. Dr. Kagan observes that such results lend support to the idea that it is important that a child understand the nature of the test he is taking, and that

he feel comfortable in the presence of those who are giving him the examination.

Another objection to genetic explanations of I.Q. scores is raised by William F. Brazziel, director of general education at Virginia State College in Norfolk, who points out that "if 90 percent of the black people in America have ancestors that include white people, how can we tell when black genes or white genes make for a wrong mark on a test score sheet?"

Dr. Jensen's criticism of Federal compensatory education programs draws a spirited dissent from Dr. Hunt.

## EUROPEAN AIRBUS

### A case of who-builds-what



Lockheed

*Pushing as many passengers as possible on short hops is the goal of the airbus.*

The rapid growth of air travel between the closely packed population centers of Europe has for years called for a special type of aircraft. This is the airbus, designed to carry far more passengers than today's airliners, but over short routes, many of which are shorter than the 500 miles from New York to Chicago.

A problem facing Europe, however, is that few if any of its countries can handle the development and manufacture of such a new plane individually. Besides an expensive research and development effort, manpower and production resources are necessary to turn out the planes rapidly and economically enough to capitalize on the market.

**Europe's major** aircraft industrial powers, France, Britain and Germany, have been talking about pooling their resources on a single aircraft. But there have been several flies in the ointment. One is nationalism; another is economics.

Even in consortium, the finances of each country will be severely tried by the costs of the airbus, now estimated at about \$430 million for development

"Compensatory education has not failed," he says. "Programs which made an effort to inculcate cognitive skills, language skills and number skills show fair success. If the parents are drawn into the process, the little evidence available suggests that the effect on the children, and on the parents as well, increases in both degree and duration."

In reply to critics who charged him with failure to give compensatory education enough time to prove its case, Dr. Jensen says: "These programs have already been evaluated by the Government itself, so I think it was appropriate for me to comment on them."

alone. Cost, in fact, was responsible for reducing the passenger capacity of the proposed plane from 300 to 250, a result of changing to an engine that is less powerful than the one originally planned, but on which the development costs have already been paid (SN: 2/8, p. 144).

The major uncertainty in the tri-nation plan, however, is Britain, which is considering backing an all-British plane, the BAC 311 of British Aircraft Corp., instead of taking part in the consortium's craft, dubbed the A-300B.

Meanwhile, France and Germany strive to keep Britain in the project. "They'd damn well better get the English in with them if they're serious about making it pay off," says an official of the McDonnell-Douglas Corp.

In February, the German cabinet announced that it would continue supporting the project even if Britain withdraws. Chancellor Kurt Georg Kiesinger confirmed the decision a month later, a move seen as a vote of confidence in hopes of retaining Britain.

French President Charles de Gaulle has made a similar decision for his

April 5, 1969/vol. 95/science news/327

country. "I still cannot believe," says French Minister of Transportation Jean Chamant, "that the British Government will abandon the airbus project and stay away from this big European deal."

In case Britain does, however, several other countries have become involved in discussions of reorganized participation, including Italy, Holland and Sweden (SN: 2/22, p. 190).

**Ironically**, Rolls Royce, the British company whose engines will power the twin-engine European airbus if England stays in, has already arranged to provide engines to Lockheed Aircraft Co. in the U.S. for Lockheed's three-engine airbus, the L-1011. It is this deal, in fact, which has paid the development costs for the engine, the RB-211-28, to be used in the European airbus.

But if England drops out, says Chamant, the European airbus will probably use U.S.-built Pratt and Whitney engines, resulting in American planes with European engines and vice-versa.

In addition, both Lockheed and McDonnell-Douglas, as well as Boeing, which is still studying the market before going ahead with its own 767 airbus, are considering two-engine versions of their planes for the European market.

Britain's decision—the big one—is not expected before mid-summer.

## WATER ON MARS

### Blue shift in springtime

Long sought, sometimes glimpsed, water has now definitely been found on Mars. Drs. Harlan J. Smith of the University of Texas, Ronald Schorn of the Jet Propulsion Laboratory of the California Institute of Technology and Stephen Little of the University of Texas have obtained evidence that convinces others in the field, Dr. Schorn reports.

The amount of water is very small. In volume it would come to about a cubic mile. Spread evenly over the planet's surface it would only be between 40 and 60 microns thick.

**Much of the water** appears to be frozen into the polar caps, previously thought to be solid carbon dioxide. "Definitely part of them is water ice," says Dr. Schorn. As spring progresses in one Martian hemisphere, its ice cap is seen to shrink and finally vanish. As this process takes place, water in the cap is vaporized and circulates through the atmosphere to be precipitated into the ice cap of the other hemisphere. In support of this supposition, the three astronomers point out that they have found twice as much water in the southern hemisphere as in the northern. It

is now spring in the Martian northern hemisphere, and its polar cap is almost gone. The southern hemisphere cap is large and growing.

Whether there is liquid water on Mars is still a moot question, says Dr. Schorn. It will remain so until atmospheric pressure at the surface is better known. If the pressure should be below a critical point, water would change from solid to gas and back again without passing through a liquid state.

The evidence comes from spectroscopic observation of light reflected from the planet's surface, taken at the University of Texas' McDonald Observatory in Fort Davis. The location is a desert at about 7,000 feet elevation, but even there exceptionally dry nights were needed for the observations because the earth's atmosphere absorbs light wavelengths characteristic of water far more strongly than does that of Mars.

## MEASLES

### British vaccine withheld

Millions of children around the world have been inoculated against measles since the first vaccine was cleared for use in the United States in 1963. One of the prime targets was not measles as such but the diseases that sometimes follow it, including encephalitis, which occurs in about one out of 3,000 cases.

Now, one kind of British measles vaccine is under suspicion of itself causing encephalitis.

**After one death** and two non-fatal cases of the brain inflammation, the British have withdrawn one of their vaccines from use. Vaccines currently used in the United States are not implicated.

The British Ministry of Health launched a campaign against measles in children last May, and has been inoculating about 31,000 children each week since then.

Encephalitis occurred in three children, following vaccination with one of the two live vaccine strains manufactured by British drug firms. The vaccine in question, Wellcovax, is produced by the Burroughs Wellcome Co. It was suspended from use March 18 pending an investigation. While the withdrawal of the Wellcovax vaccine is expected to cause a temporary shortage, the British immunization program will continue to use the Glaxo vaccine manufactured by Glaxo Laboratories in London, from a different viral strain.

**The action** by the British Department of Health and Social Security is regarded by virologists at the U.S. National Institutes of Health as a display of extreme conservatism, a display permitted by the availability of an alternative vaccine.

However, the earth is now approaching Mars, and there is a large relative velocity between them. The relative velocity causes the absorption lines of the Martian water to shift toward the blue end of the spectrum compared with the terrestrial lines, and the shifts are now large enough to allow the two to be distinguished from each other.

**Observations will continue**, says Dr. Schorn, to follow seasonal changes "until they land a weather station on Mars." Meanwhile the Mariner 6 probe, now moving toward Mars, carries spectroscopic equipment to look for water. The Mariner equipment will hopefully be able to distinguish local water abundance in smaller areas than the McDonald observations, which have only been able to separate the planet into two hemispheres. But Mariner will not be able to watch very long for changes. Thus, says Dr. Schorn, the two types of observation are quite complementary.

The efficacy of measles prophylaxis is strongly indicated by data gathered from 600,000 unvaccinated children who had the disease in 1967, of whom some 600 developed measles encephalitis. Brain inflammation is a severe complication of measles with mortality as high as 10 percent, and a higher rate of permanent damage ranging from clinical manifestations of disturbed brain function to more insidious effects such as subtle behavioral abnormalities or more susceptibility to illness.

Because of the link between measles virus and more virulent central nervous system disease, suspected as long ago as 1933 and only recently verified in electron microscope studies, the British caution does not seem unwarranted, particularly in view of the availability of other vaccines.

The vaccine in use in the U.S. is distinctly different from ones used in Britain; close monitoring of the measles program here reveals no evidence of associated encephalitis.

## POVERTY WAR

### Report card: not so bad

The Office of Economic Opportunity has survived the massive exploratory operation performed upon it by the auditors of the General Accounting Office, and is in surprisingly good condition for an agency that was thought to be moribund (SN: 3/8, p. 232).

Before the results of the 14-month, million-dollar audit were released, there were fears in the OEO camp that the poverty warriors would be cut to shreds in the microscopic ledger examination.