

major political breakthroughs, as in electing a black sheriff. Furthermore, when Governor Lurleen Wallace last year set up an education study commission for a major survey of future needs, none of the regular members chosen was a Negro.

Though Wallace frequently is spo-

ken of as a politician in the southern Populist tradition, to many academic people in Alabama his performance in the field of education has had a look of expediency, and, clearly, his relations with the academic community have been troubled and often marked by mutual suspicion. Other presidential

candidates have their committees of scientists and engineers, but Wallace has no such group of academicians touting his candidacy. In fact, this Deep South politician has moved from the provincial to the national scene without an academic brain trust even within his home state.—LUTHER J. CARTER

300 GeV: Europe Moves Closer to Getting Its Big Machine

Geneva. Europe's plans to build what would eventually be the world's most powerful particle accelerator appear to be successfully emerging from the same sort of cliff-hanging dramas that have become commonplace in American high-energy physics. As was the case with the 200-GeV machine now under construction near Weston, Illinois, and the 2-mile linear accelerator that went into operation at Stanford in 1966, the high cost and disputed value of high-energy physics dictate that no "frontier" machine can come into being without generating a good deal of scientific and political turmoil. Nevertheless, on both sides of the ocean, though politicians gag on the incomprehensibility and high costs of particle physics, the decisive elements are strikingly alike—namely, ominous, though vague, warnings of the afflictions that await nations that lag in this field; the military-based position of physics as the scientific discipline with the closest governmental ties; meticulous cost planning, which is, understandably, appreciated by national budget makers; and, finally, continental, even world-wide, cohesion among the practitioners of high-energy research.

What the Europeans are planning is a 300-GeV accelerator to be built by the 13-nation European Organization for Nuclear Research (CERN) as a successor to the 28-GeV CERN machine that has been in operation here since 1959. And, on the basis of what happened at a crucial meeting of the CERN Council here earlier this month, the odds now seem very good that they are going to get it. The latest Council

meeting, held on 2–3 October, was the first since last June, when Britain announced that, for financial reasons, it would not participate in the \$408-million project (*Science* 28 June, 23 August). Since Britain, which is CERN's second largest contributor, was to provide about 25 percent of the costs—a figure computed on the basis of national incomes of the CERN membership—the announcement stunned the organization. Atop this came rumors that the third largest contributor, France, with its economy disrupted by last spring's upheavals, would not be dismayed to find a gracious way out of fulfilling its previously stated intent to take part in the project.

With good reason, then, the June meeting ended in gloom and even gave rise to some talk that CERN, far and away the most successful example of European cooperation in big science, might ultimately wither away. The gloom, however, was short-lived, for not only did France show no sign of changing its decision but, in September, West Germany, CERN's largest single contributor, announced that, subject to a number of easily met conditions, it would come into the project. Along with the French commitment, and previous commitments from Austria, Belgium, and Italy, the German move brought CERN to within 60 percent of the original cost—not very close, but still not so bad in view of the fact that the CERN design group was revising its plans so that the project could proceed without the money that had been anticipated from the British.

Meanwhile, in mid-September, at the

14th International Conference on High Energy Physics, in Vienna, the particle physics fraternity put on a group press conference that was quite enough to chill any statesman concerned for the fate of his nation. Bernard Gregory, the Frenchman who serves as CERN's director general, warned, "if we do not have in Europe one of the best machines in the world, then I believe that activity in this field will slowly decay. I believe that some people will be invited to work on the U.S. [200-GeV] machine and will indeed participate in the work there, but in terms of the overall status of physics research in Europe, essentially this field will decay. . . . Moreover, we should lose our best people to other fields and to other countries and there will be little opportunity in the future of regaining the situation."

Robert R. Wilson, director of the 200-GeV project, was asked, "If the worst came to the worst, could in fact the American project accommodate a significant overseas participation?" Wilson grimly replied, "The answer is, with money 'yes,' without money 'no.' Without money we cannot even accommodate our own regional interest. . . . We should of course try and accommodate people from Europe if the worst came to the worst, but I think we should regard this as a pretty desperate circumstance." And so proceeded the mutual commiseration.

When the CERN Council convened for the 2–3 October meeting, the situation was as follows: the design group had reworked its plans so that the cost was reduced from the original \$408 million down to \$307 million. With five nations already committed to the project, 80 percent of this revised amount was assured.

None of the still uncommitted nations was prepared to declare itself at that meeting, but the general atmosphere was one of amiability, confidence, and solicitude for the problems that each delegation had to cope with in dealing with politicians at home. Thus, when the time came to approve

a new budget for CERN's current program, Director General Gregory set forth figures that called for an operating budget of \$51.1 million in 1969; \$54.2 million in 1970, and \$56.8 million in 1971. Whereupon Brian H. Flowers, the British delegate, who is sympathetically regarded by his CERN colleagues as the kid whose parents won't let him come out to play, made a plea for spending less. There is a need for "short-term economy," he said, so as to avoid abrupt changes in growth curves. Sharply upward changes arouse the concern of government and of other fields of science. "We must keep the sympathy of the scientific community as a whole," he stated. "I am not asking for symbolic reductions. I ask that we recognize a new situation and that we meet it with a slower rate of growth to prepare for a new future."

Specifically, Flowers recommended that, instead of budgeting \$51.1 million for 1969, CERN settle for \$50.1 million, with \$52.7 million for the follow-

ing year and \$55.2 million to close the triennial budget.

West Germany, whose high-energy expenditures are said to be arousing some concern among scientists in other fields, stated its support for Flowers' proposal. France, which has conditioned its audience to expect anything, was flatly opposed.

At this point, Gregory took over. "Both cases," he announced, "have validity." Therefore, he proposed, let's split the difference between the originally proposed budget and the cuts recommended by Flowers. With the head-phones ringing with trilingual simultaneous translations of praise for statesmanship, so it was done.

As things now stand, CERN's 300-GeV machine lacks a formal go-ahead decision, since the participating nations must each ratify a new convention for the accelerator laboratory. Still to be selected is a site, since the CERN reservation on the outskirts of Geneva is too small to accommodate the new

machine. It is not likely, however, that the site selection process will generate battles of the sort that preceded the Weston selection. Machiavellian regional boosterism of that intensity is yet to be numbered among Europe's acquisitions from the New World. (Interestingly, Britain's study of whether to participate in the 300-GeV project included a report which held that the venture might easily cost the host country more than it brought in.) Then, a project director has to be appointed, and administrative relations with the present CERN laboratory must be worked out, since it has been decided that the two high-energy centers will be coequals under the governing Council. Finally, and most important, the rest of the money has to be raised. On all sides, however, there is ample confidence that CERN is on the way to getting its 300-GeV machine, and plans are going ahead on the assumption that construction will start in the latter part of 1970.—D. S. GREENBERG

Federal Laboratories: Report Asks More Interagency Research

Mission-oriented federal laboratories have been reproved by a House of Representatives subcommittee for sins of omission. Criticism is directed, not at the scientific performance of the federal labs, but at the policies under which they operate and at their failure to do much interagency research or to deal effectively with great public problems such as environmental pollution and crime.

The criticism is contained in a report, "Utilization of Federal Laboratories," * released Sunday by the House Science and Astronautics Committee's subcommittee on science, research, and development, which is headed by Representative Emilio Q. Daddario (D-Conn.). The report is based on 6 days of hearings held in March and April.

The report argues that the leveling off of the federal research budget since

1966 makes it more important than ever that the federal laboratories be used effectively. (Out of the roughly \$17 billion in federal R&D funds spent in fiscal 1969, an estimated \$3.5 billion went to federal labs.)

The committee reserves some of its sharpest comment for the "let's build another laboratory" syndrome which, it finds, afflicts federal planners very often when a new agency is created or an existing agency starts a new program.

The cure that the subcommittee favors is the expansion of "cross-agency research" in existing labs. And a major part of the report is devoted to a discussion of the policies which have given rise to the present situation, which in their view is unsatisfactory.

The committee finds that the laws, Executive orders, and other directives which bear on the matter do generally encourage the sharing of major equip-

ment and facilities. But, as is so often the case with government-wide coordination of a scientific activity, responsibility is dispersed—shared, in this case, among the Bureau of the Budget, Office of Science and Technology (OST), Federal Council for Science and Technology and its Committee on Federal Laboratories, and the agencies which operate the labs.

The report recommends that the Bureau of the Budget and the Office of Science and Technology collaborate in issuing a "current restatement of policy for interagency use of Government laboratories so as to bring together in one coherent statement the present collection of law, Executive orders and other directives."

Another, much bolder, recommendation is that the Bureau of the Budget and OST arrange "to clearly and vigorously promote the effective use of Federal laboratories and to monitor agency performance. The responsible official or office would: (1) investigate and furnish advisory opinions to agencies requesting funds for new laboratory facilities as to the feasibility of obtaining the desired research and development from existing Government laboratories; and (2) appraise agency decisions about interagency use of laboratories."

* Copies of the report may be obtained from the House Science and Astronautics Committee.