hoses could not connect with emergency water pipes at the plant.

Finally, TVA's critics ask whether the agency's commitment to the breeder reactor is too partisan and propagandistic for an agency charged with looking after the resources and the people of the valley. The TVA is supplying power to the Clinch River project at rates far lower than those local residents have to pay. TVA is the leader among a consortium of 270 utilities that are participating in nuclear power development activities—part of the Energy Research and Development Administration's plans to familiarize the power companies with breeder design. Finally, when the breeder is constructed, which its advocates say will be in 1986, TVA will distribute its power. TVA officials tend to be breeder advocates. Wagner, for example, has often been quoted as saying that the breeder must not be delayed. What all this ignores, say the critics of TVA, is that the breeder is one of the most hotly contested federal energy programs. They say the government has been spending lavishly on the breeder, drawing vitally needed energy research money away from work on solar, geothermal, heat storage, and other promising technologies. The critics just wonder whether TVA has any business injecting itself into this debate, and have urged TVA itself to put more emphasis on alternative technologies such as solar power, methods of electrical storage, and waste heat utilization.

Rate reform. TVA argues that demand for power will go up despite conservation efforts, and that its proposed nuclear power plants will therefore be needed. TVA's critics counter that, if the agency would use its existing generating plants more efficiently, all this new ca-

New Medical Admission Test Unveiled After 5 Years of R & D

The 30-year-old MCAT (Medical College Admission Test) is being cast aside for a new, modernized, longer MCAT, 5 years in the development, that will be administered for the first time next spring.

The Association of American Medical Colleges (AAMC), sponsor of the test, says the old MCAT has become obsolete, and a new one is needed to keep abreast of scientific advances, to adapt to the increasing flexibility in medical school curricula, and to better test "the ability to confront and solve the kinds of problems that face the physician" these days.

The test was developed at a cost of $1 million by the American Institutes for Research in the Behavioral Sciences of Palo Alto, California, which spent 2 years developing specifications in consultation with medical schools, premed faculties, doctors, and students; and 3 years developing the actual test.

The new MCAT will take 6 hours to complete—twice as long as the old one. The number of items has been increased from 221 to 363. The new MCAT, which reflects recent refinements in testing procedures, is far more sophisticated than the old one. Although it does not require more knowledge on the part of the student, it will test a much greater array of skills relating to ability to assimilate knowledge, to perceive relevance, consistency, accuracy, and objectivity, and to recognize relationships and trends.

The science section of the old MCAT has been broken into two parts—science knowledge, and science problems. The latter is more a test of ability than knowledge and contains new kinds of questions.

One sample question, for instance, describes ways in which drug resistance may be acquired by a fungal cell and outlines what happened when a neomycin-resistant strain of fungus was cultured. There follow three multiple-choice questions containing further hypothetical elaborations of the phenomenon which require the student to extrapolate from the data. This is certainly a far cry from the old-style "A carbonium atom is . . ." (select the answer from four possibilities).

The verbal portion of the test has been expanded from 20 to 90 minutes. Instead of simple vocabulary and analog questions ("hoof is to cow what paw is to . . .?"), the test contains short essays followed by statements the student is required to relate to the information by deciding whether they support it, contradict it, or neither.

The "quantitative" section of the old MCAT required the ability to solve simple mathematical, algebra, and geometry problems, and read charts and graphs. The new quantitative section puts these concepts in contexts that require additional analytical skills. The idea, says an AAMC official, is to test "the ability of medical school applicants to analyze and evaluate information in much the same way that a physician in practice might diagnose a medical problem." A chart, for example, must not only be understood, but conclusions must be extrapolated from it.

AAMC officials emphasize that the test is not designed to weed out those unsuitable for medical education but to give admissions officers a finer tool for evaluating a student in light of his or her experience and professional goals. Now that medical students can no longer be expected to learn "everything," the trend is toward much more individualized curricula.

The new test leaves out the old MCAT's section on "general knowledge." Officials found that this factor had a very low priority among the other factors influencing selection; also, they said, medical students are coming from such diverse cultural backgrounds that it is impossible to devise a standard measure for general knowledge.

The test is now being evaluated at 20 medical schools, and continuing evaluation studies "will be directed at identifying as precisely as possible the constraints that should be placed on the use of the scores reported," says James Erdmann, director of AAMC's Division of Educational Measurement and Research.

Measuring the Medical Personality?

Meanwhile, says Erdmann, AAMC is taking a look at the possibility of developing a test that goes beyond measuring achievement and cognitive skills—to measuring the "personal qualities" that make for a good doctor. Erdmann says the development of this test would rely on the study of practicing clinicians to "identify clusters of behaviors" that correlate with success in treating patients, that is, relating to them nicely, diagnosing them correctly, instilling confidence, and persuading them to follow treatment regimens. Translating all this into a test would involve quantification of such things as the relationship of a doctor's biographical characteristics to the stability of his or her personal qualities. That test, obviously, is still down the road.—C.H.