

# The Great Sorting

The first mass administrations of a scholastic -aptitude test led with surprising speed to the idea that the nation's leaders would be the people who did well on tests

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SEPTEMBER 1995 ISSUE

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IN the April, 1948, issue of a publication called *The Scientific Monthly* an article appeared under the title "The Measurement of Mental Systems (Can Intelligence Be Measured?)." The authors, W. Allison Davis and Robert J. Havighurst, were well-known liberal educators; Davis had written a book about the plight of young Negroes in the South, called *Children of Bondage*, and was one of the first black professors ever to get a job at a white university; Havighurst had recently worked as a consultant to the president of Harvard, James Bryant Conant. The authors believed that intelligence tests were a fraud -- a way of wrapping the fortunate children of the middle and upper-middle classes in a mantle of scientifically demonstrated superiority. The article considerably troubled Henry Chauncey, the head of the fledgling [Educational Testing Service](#).

Even in 1948 the debate over IQ tests, which were not yet fifty years old, had an eternal quality. The leading intelligence-testing researchers tended to be true believers who thought they had found a way to measure the one essential human ability -- what the British psychometrician Charles Spearman, in a famous 1904 article, called "the general factor," or g. Most psychometricians considered intelligence to be a substantially inherited, biologically grounded trait.

The overall results of intelligence tests have always produced a kind of photograph of the existing class structure, in which the better-off economic and ethnic groups are found to be more intelligent and the worse-off are found to be less so. In his book analyzing the results of the intelligence tests that the Army had given recruits

during the First World War, for example, Carl Brigham, an early psychometrician and the father of ETS's leading test, the Scholastic Aptitude Test, reported that the highest-scoring identifiable group was Princeton students -- this at a time when, by today's standards, Princeton was a den of carousing rich boys.

One of the main findings of American intelligence testing in Brigham's day was that immigrants were less intelligent than native-born Americans, with the most recent crop of immigrants being the least intelligent ever. The highest-scoring group today is Jews, but in 1923, when most American Jews were recent immigrants, Brigham reported that "our figures ... would rather tend to disprove the popular belief that the Jew is highly intelligent..." Aggregate IQ-test results have always been held up as proof of the innate mental superiority of some ethnic groups over others; among the *g* men, eugenicist policies like stringent immigration restrictions and measures to discourage reproduction among people with low IQ scores have long found advocates. A taste of this view, in an especially ill-tempered form, can be had from a letter that Ben Wood, another founding father of testing and by then a crotchety old man, wrote in 1972 to someone at the Educational Testing Service:

It may be said in all soberness that professional "reliefers" and most other indigents who produce children thereby commit crimes against humanity which are fully as serious as many acts now considered felonies. They have no moral right to produce such children, and therefore should have no legal right to immunity from punishment that constructively "fits the crime," such as some form of painless sterilization of both guilty parents, which would be permanent....

By the 1920s, not long after the introduction of IQ tests, a sweeping liberal critique of them had appeared. Its three main tenets were: first, that the tests were measuring cultural conditioning rather than a biological trait; second, that there was no such thing as *g* -- a single human ability more important than all others -- but instead a group of human abilities; and third, that IQ tests could be misused to

classify millions of young people as mentally inferior and so to deny them opportunity. To liberals, IQ tests mostly measured the taker's education and language fluency, which explained why poor people and immigrants tended to score so low.

Not all critics of the idea that intelligence is inherited and immutable were psychometrically illiterate save-the-world types. As Stephen Jay Gould pointed out in *The Mismeasure of Man*, several of the fathers of intelligence testing, including Lewis Terman, H. H. Goddard, Carl Brigham, and even Charles Spearman, backed away from their *g* enthusiasm over time. Brigham, especially, became a vituperative critic of *g*. From the standpoint of ETS, perhaps the most important of the *g* critics was Louis Leon Thurstone, of the University of Chicago. A former assistant to Thomas Edison and a founder of the Psychometric Society and the journal *Psychometrika*, Thurstone was so austere dedicated to his work that he had a blackboard mounted in his house so that he could conduct seminars. Thurstone believed that human intelligence consisted of several distinct factors rather than any single one, and he helped to develop a technique called factor analysis that would enable this truth to be expressed statistically.

But at the time of the founding of ETS, in 1948, the IQ debate was dormant. IQ testing had been a major public issue in the early 1920s and would later become one again, but for some time there had been no great controversy about it. Congress passed laws severely restricting immigration in 1921 and 1924, with the result that people stopped worrying that the country was being flooded by the mentally inferior. During the Depression perhaps a third of all Americans were poor -- it was difficult to chalk up to feeble-mindedness the difficulties of so many people. And Adolf Hitler's embrace of eugenics put the movement in a bad light.

Because IQ was not an issue in the late 1940s, a curious situation obtained: the father of the SAT, Brigham, was on record as believing that there was no such thing as general intelligence, but the main promoters of the wide use of the SAT regarded it rather casually as an intelligence test. In 1937 Henry Chauncey, then an assistant

dean at Harvard engaged in persuading the Ivy League schools to adopt the SAT as a scholarship test, made the following notes:

- 1) Much less in the way of factual or formal learning is now felt to be necessary for the successful carrying on of college work than was expected a generation ago.
- 2) Possibly more intellectual powers -- ability to handle problems in a chosen field of study -- are required today than formerly.
- 3) Intelligence tests are an aid to admissions practically unknown a generation ago.

As Chauncey remembers it now, during the 1940s Conant, who had long since approved the SAT for use in Harvard's national scholarship program, used to say he suspected that the SAT was actually an achievement test. Chauncey would argue back that it measured a combination of innate and learned qualities. It was clear to Chauncey that the more Conant thought that the SAT measured native intelligence, the happier he would be with it.

## UNCOMFORTABLY SIMILAR TESTS

BUT now here was the article in *The Scientific Monthly*, attacking intelligence tests for measuring only "a very narrow range of mental activities" and for being "a strong cultural handicap for pupils of the lower socioeconomic groups." Without mentioning the SAT specifically, the article treated academic-aptitude and IQ tests as closely related -- which, in fact, they were and still are. IQ tests have always heavily stressed reading comprehension and vocabulary items like analogies and antonyms, and so does the verbal section of the SAT. Back in the early days Carl

Brigham published a scale for converting intelligence-test scores to SAT scores. Paul Diederich, a contemporary of Henry Chauncey's who was for decades a researcher at ETS, expresses a view common in the field: "IQ tests are reading comprehension and vocabulary doctored up to look like reasoning. To change the SAT to an IQ you'd simply divide the score by an age measure. Basically they're the same thing."

The similarity between IQ and academic-aptitude tests can be explained in part through the testing concept called validation. Even if a test produces a reliable score -- that is, one that changes little between administrations -- it isn't much good unless it can be shown to predict something. Validation is a comparison of the test score with some other outcome. IQ testers have always thought that IQ scores are a good predictor of overall individual success and achievement, but historically it has been difficult to validate IQ convincingly against much besides performance in school. (To make a very long story short, IQ scores tend to be somewhat predictive of job performance but much more predictive of school performance.)

By definition, of course, an academic-aptitude test like the SAT is validated against grades in school. To the extent that IQ testers know that their work will be validated against school performance, they construct their tests to predict school performance as accurately as possible. The SAT is constructed with prediction of school performance as the sole goal. All tests validated by school grades will necessarily be quite similar.

The *Scientific Monthly* article attacked intelligence tests on just these grounds: because they measure primarily "academic or linguistic activities" rather than general intelligence, the use of school performance to validate IQ scores is "circular." The validation is too similar to the test itself. "A teacher's rating of a pupil," the authors wrote, "is an estimate of the pupil's performance on the same kind of problems as those in the standard tests."

Davis and Havighurst represented the left-wing position in midcentury psychometrics: for example, they treated IQ as being much more the product of learning and culture than inheritance. But there were plenty of leading and not

particularly left-wing psychometricians who, for reasons similar to theirs, had reservations about the use of aptitude testing to sort students. Besides Thurstone there were, for example, Ralph Tyler, of the University of Chicago, and E. F. Lindquist, of the University of Iowa, both giants in the field. In the early days of ETS, Henry Chauncey offered both Tyler and Lindquist jobs, but each man, perhaps unwilling to leave academe, turned him down and went on to become a thorn in the side of ETS. In the late 1950s Lindquist founded the American College Testing Program; the company is today ETS's chief competitor in the college-admissions field.

The last thing Henry Chauncey needed in 1948, with ETS a shaky newborn calf, was for the IQ controversy to break out again. So, although he was not generally a defensive person, he reacted a little touchily to the *Scientific Monthly* article. "They take the extreme and, I believe, radical point of view that any test items showing different difficulties for different socio-economic groups are inappropriate," he wrote in his notebook, and went on to take a mildly hereditarian position on intelligence tests.

If ability has any relation to success in life parents in upper socio-economic groups should have more ability than those in low socio-economic groups. And if there is anything in heredity (such as tall parents having tall children) one would expect children of high socio-economic group parents to have more ability than children of low socio-economic group parents.

Chauncey was also a liberal, and conciliatory by nature, so he was eager to incorporate the more practicable of Davis and Havighurst's ideas into the operations of ETS. Like many liberal critics of testing over the years, Davis and Havighurst shared with the believers in an orderly social-scientific mind-set. They believed that the problems they perceived in testing were best addressed not by de-

emphasizing testing and letting society sort itself out in a more haphazard fashion but by constructing tests that were free of cultural bias.

The culture-free test on which the poor will get high scores has proved to be a chimera, for the obvious reason that educational tests measure a comfortableness in the classroom that usually doesn't go with growing up in difficult circumstances. But in 1948 Henry Chauncey, with his limitless belief in testing, naturally liked the idea of his organization's improving its tests. For example, new items might be developed that would be fairer to all groups. Chauncey thought that he was already well on the way to answering Davis and Havighurst's central accusation -- that tests were too narrowly focused on academic ability -- by having ETS develop new tests to measure other abilities, using different validating procedures. Aptitude testing was only a phase, beyond which the field, now entering its great era, would surely move. The point was not to drop aptitude testing but to add to it.

ETS therefore wound up in an odd position with respect to intelligence testing. Within the organization and its ambit there have always been pockets of belief in *g* as an inherited trait. Chauncey's extremely conscientious No. 2 man, William Turnbull, though not a *g* man, confessed in a 1963 memo to Chauncey that he harbored a "long-held conviction that 'native intelligence' has some point to it." But officially ETS has always been opposed to IQ testing and to the concept of general intelligence. (Only last year ETS's usually mild-mannered president, Nancy Cole, wrote a blistering attack in the organization's in-house newspaper on the latest manifestation of the *g* theory, Richard Herrnstein and Charles Murray's *The Bell Curve*.) The quality the SAT was measuring was "developed ability" -- not intelligence.

ETS's research department, the topflight group of psychometricians whose ability to work at the frontiers of testing was the rationale for creating a large nonprofit testing agency like ETS in the first place, pointedly did not settle any of the controversies about intelligence testing, such as whether IQ is something innate or learned. Instead its bread and butter was tightly looped validations of the SAT, beginning with a 1948 study called "The Prediction of First-Term Grades at

Hamilton College." These studies would produce a basic correlation coefficient between SAT scores and the grades of college freshmen. In the case of Hamilton College, for example, it was .30 for the verbal score and .27 for the math score. This meant that each score could predict about a tenth of the variance in grades among freshmen. If you combined high school grades and SATs into a single number -- an exercise Henry Chauncey had helped to invent back in the 1930s, in his assistant-dean days at Harvard -- you got a correlation with freshman grades of more than .50. The SAT, then, was an instrument that would add a few percentage points to the ability of the high school transcript to predict grades in the freshman year of college (the correlation between SAT scores and grades dropped off after the freshman year). That was a very long way from *g*.

The trouble with ETS's neat public distinction between developed ability and IQ is that because of the similarity in content between the tests, the correlation between SAT scores and IQ is very high. Arthur Kroll, an ETS official who has worked on the SAT, estimates that the correlation between the verbal score and IQ is .60 to .80 -- that is, much, much higher than the correlation between SATs and freshman grades. The correlation is rumored in *g* circles to be even higher than that. A sociologist named Steven Goldberg, in a 1991 book, wrote, "One can not but be impressed by the astonishing correlation of SAT scores and scores on the standard IQ tests, a correlation about as high a nontrivial correlation as one ever finds in the social sciences." But he didn't cite a source; finding a published study of the correlation is well-nigh impossible. (*The Bell Curve* also mentions the correlation; the source listed for it in the footnotes is a College Board publication that contains many statistics, but not that one.)

The similarity of the SAT to an IQ test can actually be seen as undercutting the *g* position. *G* is supposed to be immutable, but SAT scores vary demonstrably over time according to the degree of specific preparation for the test. If the same were shown to be true of IQ scores, then IQ would begin to look like a measure of developed ability rather than SAT scores looking like a measure of *g*. Those are merely matters of theory, though. Had ETS initially taken the position that the SAT is an IQ test, the result would have been the resurgence of the IQ debate, and the

SAT would not have gone into widespread use. As ETS later discovered, in America there is a strong note of populist resentment against intelligence testing (only last year it helped to make the movie *Forrest Gump* a big hit), and the organization has usually managed not to excite it. With remarkable uniformity ETS's university clients, too, have artfully blurred the similarity between the SAT and an IQ test; a slipup such as was made last year when Francis Lawrence, the president of Rutgers University, said that few blacks have the "genetic, hereditary background" to get high SAT scores can tear a school apart. Distancing the SAT from IQ has been crucial to its success.

If, in fact, the SAT is an IQ test, then the ironic result of ETS's (sincere) insistence that it is not one has been to produce, in the postwar United States, the most thoroughly IQ-tested society in the world.

## THE CENSUS OF ABILITIES

CHAUNCEY contemplated the IQ issue as part of an intensive program of reading and thinking he undertook during the late 1940s. After long, complex negotiations, the tiny College Board testing office in Princeton had become the Educational Testing Service (which opened for business on January 1, 1948; Henry Chauncey, president), home of all the leading educational tests in America. In past years Chauncey had relied on others -- chiefly Conant, his boss at Harvard -- to provide the educational vision he had helped carry out. Now Chauncey was the head of his own organization and needed a vision of his own.

During the war the idea had come to Chauncey of administering a grand national battery of tests to all of American youth. It was the chance to do this that made leaving Harvard seem worthwhile to him, and as ETS got under way, he thought about his plan more and more. He called it the Census of Abilities.

Conant's main interest was in expanding higher education to the point that it would become a new American opportunity structure, to replace the vanished frontier.

Every year testing would find the few hundred most promising youths, wherever they might be, and route them to schools like Harvard and Princeton. But this was only the first stage of Conant's plan. What he really wanted was to see the more democratic state universities expand to the point where they would set practically everybody on the path to success and the Ivy League would become nearly irrelevant.

Chauncey's idea for the Census of Abilities sprang from a deeper faith in testing and order. He wanted to test every American beginning in the ninth grade -- and to test not just for educational potential but for every human quality. A typical list of what he wanted the Census of Abilities to cover, from an entry in his notebook in 1947, is this:

... personal qualities, some of which may be drive (energy), motivation (focuses of energy), conscientiousness, intellectual stamina . . . ability to get along with others.... interests, such as aesthetic, religious, abstract, social, economic, political, manipulative.

Finding standardized tests of persistence and of sense of humor were also long-standing interests of Chauncey's. He wanted ETS to be as good at testing the human personality as at testing academic potential. Although he was no intellectual and rarely read for pleasure, he drove himself to keep up on the psychological literature of the day, because it might give him useful ideas for the Census of Abilities. Everything that might contribute to testing interested him, from graphology (the study of handwriting) and somatotyping (the study of the relationship of body type to personality type) to the deepest of depth psychology.

Unlike his minister forebears, he was unable to believe that religion provides humanity with its mainspring, but he did want there to be some other mainspring -- a core group of ennobling values that would raise people above the state of nature. Testing could somehow become part of a scientific substitute for religion, which

would perform the social function historically assigned to the Church, only better. In his notes he kept returning to a twist he had invented on William James's famous phrase "the moral equivalent of war": "What I hope to see established is the moral equivalent of religion but based on reason and science rather than on sentiments and tradition." The first step was to establish the Census of Abilities.

The ideal sponsor for the census, Chauncey had always thought, would be the federal government, with its reach and resources and high purpose. In May of 1948 he wrote out a prospectus for a "Census of the Abilities of the American People and Their Relation to Job Requirements," presumably to be undertaken by ETS with the backing of an unspecified government agency. The prospectus was wildly ambitious, making the current activities of ETS, which were themselves very ambitious, appear puny by comparison. The government would first administer, through ETS, "a battery of perhaps twenty to fifty tests" (few of which had yet been constructed) to more than 100,000 people in the labor force. Then it would test the educational attainments of a million eighth- or ninth-graders. This would pave the way for a grand technological match-up between the nation's human resources and its economic needs.

Chauncey received one expression of interest in the Census of Abilities from the Air Force and another from the Selective Service System, which drafted men into the armed services. Somehow he was able to parlay these nibbles into an appointment with W. Stuart Symington, the head of the National Security Resources Board and a protégé of President Harry Truman's, who later became a U.S. senator from Missouri. Chauncey sent Symington a detailed proposal and then called on him on July 6, 1950. The meeting was a terrible disappointment, as recounted in notes Chauncey made the next day:

He was about fifteen minutes behind-hand on appointments but greeted me with apologies in a very friendly manner. He is a strikingly good-looking and pleasant person.

Hardly had I explained how I happened to be there than he, after one question on what I meant by human resources, suggested that I write him a letter stating what I had in mind....

With that I bowed out, having taken about five minutes of his time and learned how top government executives operate.

That was the end of the Census of Abilities, at least as a founding project for ETS. It had a residue, however. The grandeur of purpose that Chauncey initially had in mind for ETS remained somehow attached to everything the organization did -- even when the job at hand was mundane or ill conceived. Henry Chauncey was always certain that he was doing what his minister father called the Lord's work. Although the Census of Abilities failed to materialize, ETS went forward with the full, almost messianic sense of mission that had been generated in Chauncey's mind. Instead of an all-encompassing Census of Abilities, what ETS wound up conducting, with consequences for Americans that were just as large but with none of the breadth of Chauncey's idea, was a national census of just one ability: the ability to get good grades in school.

## IQJOE

THE first couple of years were financially rocky for ETS. Its signature product, the SAT, was an admissions requirement for College Board schools, but the membership of the College Board itself was still small. The now-familiar graduate school tests, all offered by ETS in its early years -- the Graduate Record Examinations, the Medical College Admissions Test, the Law School Admissions Test, and the Graduate Management Admissions Test -- were either brand-new or still in development. Henry Chauncey was certain that ETS could become a nationwide mass administrator of educational tests within a few years; he was constantly pushing to expand the organization. ETS's first branch office was all the way across the country, in Berkeley, California. But Chauncey, a practical man,

realized that the federal government was potentially the biggest single customer for testing. With one contract the government could provide the kind of business that it would take years to build up in academia. In a March, 1950, letter to his counselor on financial matters, a Harvard Business School professor named Robert Merry, he wrote,

Incidentally, there are a number of activities in the air which, if they should materialize, would quite substantially change the picture, namely, a scholarship program in the National Science Foundation Bill, a Federal scholarship program, and classification testing for Selective Service.

The first of these possibilities was the closest to Chauncey's heart, because during the 1940s he had worked on the government commission that had recommended the creation of the National Science Foundation. But the last was the live prospect. The Selective Service System was run from 1941 until its abolition, nearly three decades later, by General Lewis B. Hershey. Hershey's artfully maintained persona was that of a country boy, a rumpled cracker-barrel philosopher; he spoke often of his humble upbringing, by a nearly illiterate father in rural Indiana, and he liked to deliver lengthy homespun discourses that rambled from military issues to the nature of farm life and back again. As his tenure demonstrates, Hershey was an extremely adept bureaucrat; and, appearances to the contrary, he was also a fan of intelligence testing.

Once the Cold War began in earnest, with the establishment of the Truman Doctrine in 1947, there was concern, even alarm, in official circles about the way America deployed its human resources. Many of the scientists who had worked on the development of the atomic bomb were European refugees, and thus not products of the American education system. In the future, the argument went, we were unlikely to be so lucky in our ability to import top scientific talent, and we would have to develop our own. But Ph.D. programs in physics and the other hard sciences were underfunded and underenrolled. Elementary and secondary

education were controlled by thousands of local school boards with widely varying policies, whereas the Soviet system -- at least as Americans then imagined it -- worked with ruthless efficiency to identify and nurture people who might as adults lend special abilities to the national struggle. Because of the Cold War, the United States now needed urgently to do two things it had never done: maintain a large standing army in peacetime and create a system for developing talent, especially in scientific fields with potential military applications.

At the forefront of the leaders who wanted to steer the nation toward these goals was Henry Chauncey's mentor, James Bryant Conant. Conant took the Soviet threat extremely seriously; he thought that beyond the danger that the United States might fall behind scientifically, the country's basic social cohesion was at risk. Any country that did not provide some opportunity to all would be ripe for a turn to Marxism -- even the United States. Conant wanted to see an expansion of higher education not just as a mechanism for producing a new technocratic elite but also as a way of expanding opportunity and thereby making the country stronger and more united. Universities would provide both elite selection *and* mass opportunity.

In the late 1940s Conant became one of the country's leading proponents of universal military training. If every young man had to fulfill some obligation to his country, he thought, it would generate a democratic, classless, burden-sharing spirit that would be both good on its own terms and a bulwark against communism. President Truman was also a supporter of universal military training. When Congress passed the Selective Service Act of 1948, which required universal draft registration but not universal training, it was a loss for Truman and a blow to Conant.

Among Hershey's first moves after the passage of the act was setting up a series of six scientific advisory committees to the Selective Service System. Henry Chauncey was a member of one of them. Although the committees didn't issue a public report until the end of 1950, the direction in which they were moving soon became clear to people on the inside: they would be recommending a draft deferment for college students who did well on an aptitude test.

This was the antithesis of Conant's vision, but it had its own Cold War rationale. Future scientists -- those most precious of military resources -- shouldn't have their training interrupted. They would be deferred, not exempted, from the draft; the implication was that by the time they did serve, their potential would be so clearly defined that they would not be put at personal risk in combat.

There was, of course, a long-standing military tradition of having people with specialized skills, such as doctors, serve in the area of their expertise rather than as infantry soldiers. But this was different. Despite the committees' rhetorical emphasis on scientists, the real idea was to defer a whole class of people -- those high in aptitude, no matter what their field. As Chauncey wrote in a memo about a talk by Hershey in January of 1949, people would be "deferred, not for a specific responsibility, so much as for their potential worth."

Hershey, who did not at the outset grasp the fine distinctions in testing, originally wanted to make an IQ test the basis for the deferment and to administer it only to college students. This was just seven years after Conant, in this magazine, had angrily described college attendance as purely a function of parental income. And Hershey wanted to make students who took the test pay for it out of their own pockets. As if to overcome Chauncey's potential objections, Hershey told him early on that he planned to recommend that a single testing agency be designated to conduct the broad-scale testing for the deferment program. In 1949 there was only one candidate -- ETS.

The situation had all the makings of an exquisite moral dilemma for Henry Chauncey. One can imagine him spending long nights agonizing over the conflict between the clear interest of his organization in the deferment program and his wish to avoid either the abandonment of the liberal democratic vision that he and Conant shared or a direct clash with Conant, who was the first chairman of the board of ETS. But Chauncey was not one for exquisite moral dilemmas. He was the head of ETS. The key to his behavior was his belief that his organization was good and that what was in its best interests was good for America and even for humanity. He and Conant began with similar premises about the importance of the Cold War

and the need to change traditional ways of doing things. It was difficult for Chauncey to imagine that a major testing program could have a bad result, even though its aim was to create the kind of student deferments that Conant feared would promote social divisions -- and added to this faith in testing was his institutional ambition for ETS. America did need to manage its human resources in a more orderly way, especially in this unsettled time.

In June of 1950 the Korean War began. Hershey's advisory committees, which hadn't done much for a year, quickly reconvened. By October they had produced a preliminary report that specifically recommended ETS as the agency to conduct draft-deferment testing. In December the committees issued the final, public version of the report, written in the lurid language of crisis. "We, the citizens of the United States now face the greatest test in the history of the Nation," it began. The committees anticipated and tried to answer the arguments against a deferment exam. To subject all college students to the draft "would virtually stop the production of superior scientific, professional and specialized personnel." It was important to exempt students in all disciplines, not just those on a brief list of militarily essential fields, because "to prepare such a list calls for an omniscience which sane men hesitate to claim." The committees acknowledged that the college population was not democratically selected or representative of all classes. But an "unwise manpower and Selective Service policy" should not be put in place because of an "inadequate national policy with regard to the distribution of educational opportunity."

Just as the report was coming out, Conant announced the formation of the Committee on the Present Danger, an organization of eminent members of the establishment concerned about the Cold War. Conant's committee was ardently in favor of universal military service -- not just training -- and opposed to the draft-deferment test for college students. On March 19, 1951, the Selective Service System signed a contract with ETS, and on March 31 Truman signed an executive order authorizing the test. The great trial by fire of Chauncey's life began.

## ETS ARRIVES

ETS first of all had to do the logistical work involved in a mass test administration: construct the test, print it under secure conditions, and line up testing sites. Because of the judgment-of-God importance of the test, the large number of takers, and the demands of the military, all of this was unusually difficult. Chauncey requested the help of the FBI in maintaining test security, and he made plans for the test takers to be fingerprinted at the sites. The test itself was to be based on the SAT, but the Selective Service wanted it to be scored -- or, in testing language, "scaled" -- in such a way that the results could be compared with those of the Army General Classification Test given to inductees, a more nakedly IQ-like test.

In the days preceding Truman's executive order Hershey publicly referred to the deferment test as an IQ test. Chauncey quickly put a stop to that, and also persuaded Hershey that the Selective Service should not charge the test-takers a fee. "The test should not be looked upon or referred to as an 'intelligence test,'" he wrote Hershey. "There are many kinds of intelligence; the ability revealed by this test is more properly called 'scholastic aptitude.' This means nothing more than the ability to do well in school or college." The same could be said about IQ tests themselves: during the Second World War 80 percent of college students, then thought to be a notoriously unmeritocratic group, had scored at or above 120 on the Army General Classification Test, as against 16 percent of all recruits. For the purpose of administering the deferment test smoothly, though, there was no need to question the concept of IQ. The point was to stress the distinction between it and scholastic aptitude. Thus the test was scaled so as to produce a score that wouldn't read like an IQ score: the scale was zero to 99, the mean was 50, and the "cutting score" at which a student would be deferred was 70, equivalent to an IQ of 120.

As soon as Truman signed the executive order, an immense outcry against the deferment test began. The editorial cartoonist for the *Sacramento Bee* showed Joe Stalin walking into his propaganda department with a self-satisfied grin, holding a piece of paper that said PRESIDENT TRUMAN ADVOCATES DRAFT

DEFERMENT FOR COLLEGE BOYS -- U.S. TO INITIATE CASTE SYSTEM. The *Philadelphia Inquirer's* cartoon showed THE AVERAGE GUY standing looking at JOE COLLEGE up on a pedestal that was labeled SUPER-CITIZEN FAR AND ABOVE THE CRASS AND SORDID DEFENSE OF COUNTRY. The local draft board in Beaver County, Oregon, resigned in protest. The draft board in Grand Rapids, Michigan, refused to issue deferments on the basis of test results. The president of Princeton attacked the idea, and so did America's most famous university educator, Robert Maynard Hutchins, a former chancellor of the University of Chicago. Conant submitted to a radio interview with a fellow member of the Committee on the Present Danger, Edward R. Murrow, of CBS, who got him to agree on the air that draft-deferment testing "stinks." The IQ-testing movement had been dogged from the very beginning by the charge that people high in IQ were prone to be intelligent misfits, scrawny, nearsighted, and weird; several commentators now revived this line of argument, saying that the test would be selecting and rewarding people like America's two leading domestic villains of the day, the brainy traitors Klaus Fuchs and Alger Hiss.

Henry Chauncey had previously demonstrated that he was a gifted administrator who could organize the complicated technical and logistical aspects of mass testing. But he had not been a public figure -- that had always been Conant's role. Now, with Conant on the other side and the unpolished Hershey prone to excessive frankness, Chauncey had to rush in to defend the test. Through the spring and summer of 1951 he was constantly speaking, conferring, and being quoted. Over and over he patiently and reasonably explained that the test was for draft deferment, not exemption; that making a score of 70 didn't mean a man had an IQ of 70; that people in the top half of their college classes would be deferred no matter what their test scores were; that the nation desperately needed to keep the pipeline of scientific talent flowing. When someone prominent criticized the test, Chauncey would never lose his temper. He would generally seek to meet with the person and explain his position -- ideally in Princeton, so that the meeting could be combined with a tour of ETS's operations and followed by a dinner at the Chauncey home or at a charming inn in the nearby countryside of Bucks County, Pennsylvania. Even

Conant, whose criticism Chauncey considered "unnecessarily violent," was quickly on good terms again with Chauncey.

The controversy over the test began to die down. Chauncey's efforts were no doubt part of the reason. Another part was that even if Conant had lined up most of the leaders of elite higher education against the idea of creating a new intellectual elite with a military deferment, mass higher education, as represented by the American Council on Education, staunchly supported the test. The state universities were just beginning two decades of remarkable growth, which would have been threatened by an exodus of students into the Armed Forces. The situation was ironic. When ETS was beginning, Conant had insisted on bringing in the American Council on Education and its tests, because mass higher education was so important to him. Chauncey had been unenthusiastic about the idea. Now the council, acting as a big, muscular education-interest group, was Chauncey's essential ally, without whose support the draft-deferment test might have languished. Whether or not the state universities provided opportunity to all, as Conant wished them to, they certainly provided ETS with institutional strength.

After the first test administrations, in the spring and summer of 1951, went off smoothly, the tone of press coverage changed, perhaps because ETShad hired its first public-relations consultant. There was less emphasis on the idea that the test was introducing a class division between, as one cartoonist put it, GI Joe and IQ Joe, and more on the wonders of testing and its importance as a tool in the Cold War. In the gee-whiz tone characteristic of coverage of industrial technology during the 1950s, the stories often discussed the use of IBM's scoring machine to do the grading.

About two thirds of the college students who took the test, in those days of minimally selective admissions, scored at or above the cutting score of 70 and so were deferred from the draft. In 1951 there was no interest, inside or outside ETS, in what would today be the main question about the test results -- score differences between ethnic groups -- and no women took the test. To ETS executives what leaped out from the results was the substantial regional differences in the pass rates:

73 percent of college students in New England made a 70 or above, but only 42 percent in the Deep South did. The other main finding was that education majors scored far below students in every other field of study. Fortunately for ETS, neither the South nor schools of education went on the attack against the test. The main residue of the test results was to leave Chauncey convinced that because the quality of the people who became teachers was so low, the best way to improve American schools would be to invent machines that could teach -- an interest he pursued for decades, in the characteristic hope that science could correct human frailty.

The terms of the contract between ETS and the Selective Service were unusually favorable to ETS. Because of this, and because the testing went so smoothly, ETS made a windfall profit on the contract: about \$900,000, an amount just below half of what the organization's annual revenues had been in each of the preceding years. This money instantly solved ETS's financial difficulties and allowed it both to continue its research on new tests and to expand its reach across the landscape of American education.

ETS had arrived, and not only financially. Everyone now knew that it was the scientifically impeccable, public-spirited nonprofit research organization that dominated testing in America, and everyone in higher education, at least, knew that Henry Chauncey was the statesman-technocrat who so ably ran it and spoke for the interests of testing in general. All the potentially most dangerous issues for ETS came up during the draft-deferment-test controversy, and they proved not to be crippling: the idea of sorting vast numbers of Americans, rather than just a few applicants to Ivy League colleges, on the basis of multiple-choice aptitude tests; the idea of a new national elite of the brainy; and the idea that a public function as important as mass testing could be performed by a private organization, rather than by government. If such matters had only a limited charge when the tests were being used to help decide who would be sent into battle, then they would most likely be even less nettlesome when the purpose of the tests was merely to aid admissions officers.

After the first year of administrations of the draft test, during a long meeting with Chauncey to discuss the future, Hershey said that he wanted to carry the principle behind the test further than he would have dared before Chauncey's adept handling of the controversy. He told Chauncey that he was making provisional plans to eliminate the deferment for fathers, which had been sacrosanct even during the Second World War, in order to make more room on the deferment lists for the intellectually gifted.

The issue never came to a head, because the number of combat troops in Korea, and hence the need for inductions, was by then rapidly decreasing. What is remarkable is how completely Hershey believed that in the atomic age there was a need to keep potential scientists out of the line of fire -- a need so pressing that it necessitated abandoning all previous American ideas about who should bear the burden of service in wartime. Once a principle is established, it quickly takes on the trappings of tradition, and also generates a constituency -- in this case consisting of universities and the broad upper-middle class from which most of their students came. That may help explain why there was barely any controversy during the Vietnam War over the deferment of college students and graduate students -- even though, unlike 1951, it was a time of dissent -- or later over the abolition of the draft in favor of a voluntary military, which meant that for the college-going class there would be no obligation to serve at all.

When ETS's contract with the Selective Service System came up for renewal, in 1954, a testing company on the way to becoming its arch-rival, Science Research Associates of Chicago, submitted a lower competing bid and won the job. The news came as a shock to Chauncey -- SRA was a private business out to make money, not to serve the public! -- but he quickly recovered and went to Washington to see General Hershey. "I explained that I just wanted to drop in and tell him how much we had enjoyed working with Selective Service on the draft deferment program and that I understood the reason for accepting a lower bid," Chauncey wrote in his notes of the meeting. "I went on to say that we were anxious to make the transition as smooth as possible." Chauncey's good sportsmanship paid off: ETS got the contract back five years later. In any case, SRA, because of its low bid, made much

less money from the draft test than ETS did. The Selective Service contract had gotten ETS over its initial difficulties, and now it was in a position to ride the expansion of higher education.

## AMERICA'S PERSONNEL OFFICE

IN 1951 there were 2.1 million Americans enrolled in institutions of higher learning, in 1956 nearly 3 million, in 1961 more than 4 million, and in 1970, the year Henry Chauncey retired from the presidency of ETS, 8.6 million. This growth was unmatched in any other country in the world, and it made higher education into something it had never been before -- the personnel office for white-collar America. The country's booming corporations began to require a college degree as a prerequisite for white-collar employment. The politics of expanding higher education was wonderful. Governors and legislators, and later the federal government, were able to deliver to middle-class constituents a much appreciated and at the time usually inexpensive benefit. Architects, engineers, and contractors (who often contribute generously to political campaigns) got work in enormous university-building projects in every state. As educational aspirations spread and universities sought to regulate the flood of people entering their gates, ETS grew too. University faculties had increased to the point that America had a real academic class for the first time in its history -- a class that generally supported the widespread use of standardized testing. Because the tests were financed by the fees takers paid, they cost ETS's customers nothing. And using them provided an objective explanation for tough decisions and obviated the need for administratively disruptive mass flunk-outs. In 1960 Chauncey's many years of lobbying in Berkeley finally paid off: the University of California system began requiring applicants to take the SAT, and thus was on its way to becoming ETS's single largest client by far. Annual administrations of the SAT passed one million in 1963-1964 and were 1.8 million in 1994-1995.

In retrospect what is striking about the expansion of higher education, and the concomitant reordering of a good portion of American society, is how sketchy the

rationale for it was. Perhaps, like most transforming social changes, it just happened, rather than being planned. Although the passage of the GI Bill of Rights, toward the end of the Second World War, is now remembered as a national commitment to provide a college education as a kind of franchise of citizenship, the bill was conceived as a temporary and fairly standard government reward and readjustment effort for veterans, and education was not thought of as its most important component. The argument made during the 1940s and 1950s for a change in national policy toward higher education was essentially the same argument about the need for Cold War scientists and administrators that was used to justify the Korean War draft test. The bill that finally established the practice of large-scale federal aid to education, the National Defense Education Act of 1958, was passed soon after the launching of *Sputnik*.

It quickly became clear that the supply of new scientists was coming from schools that specialized in science; Hershey's idea that if the generally able were sought out, nurtured, and protected, they would wind up using their abilities in a national-security-enhancing manner turned out not to be true. A study done at the time of the passage of the National Defense Education Act, for example, showed that only one Ivy League school -- Cornell -- was even in the top fifty in the production of scientists. What the new national elite did with their lives, in the main, was go into law, medicine, finance, and liberal-arts scholarship -- what Ivy League graduates had done for decades. In 1991, upon his retirement as president of Harvard, Derek Bok wrote a book complaining that graduates of elite colleges could not be induced to pursue careers in public service. Conant's vision for Harvard and places like it has been substantially realized in the intake, but not in the outflow.

## THE GOLDEN AGE

THIS didn't matter at all for any of the players in higher education, including ETS. In the years following the first administrations of the draft-deferment test Henry Chauncey's life and that of his institution entered a golden period. Chauncey's marriage had long resembled a miniature Cold War; he and his wife, Elizabeth,

lived essentially separate lives under the same roof, raising their three sons and one daughter. Elizabeth had no interest in the ceaseless activities that went along with being a chief executive's spouse. In the spring of 1953 she told Chauncey she wanted a divorce. Those were the days when only a few states had the lenient divorce laws that prevail now, so it was decided that Henry Chauncey would spend eight weeks over the summer living in Wyoming, where his Harvard roommate operated a dude ranch, and would obtain the divorce there. His friend put him to work doing jobs for the ranch, including picking up guests at the nearest airport. When he was on one such mission, a young woman from New York named Laurie Worcester, who had recently graduated from Smith College and was working at *Life* magazine, stepped off the plane. She and Chauncey, who was about twice her age, fell in love. In 1954, after they both visited a psychiatrist at the insistence of her parents, to make sure that she was not merely under the sway of a father fixation, they were married. Chauncey had a second set of four children, all girls.

In 1955 Chauncey persuaded ETS to buy a 340-acre farm a few miles outside Princeton, and ETS began constructing a landscaped campus-style headquarters, with the main buildings named for James Bryant Conant, Carl Brigham, Ben Wood, and L. L. Thurstone. The Chaunceys lived in the old farmhouse, in a setup quite like that of the president of a university and his wife. Laurie Chauncey took a special interest in the landscaping of the ETS campus. They entertained frequently; at the annual employee picnic Henry Chauncey would put on a chef's hat and cook the hamburgers. Some of the flavor of the Chaunceys' life can be gotten from a letter Laurie submitted to *Ladies Home Journal* in 1957 for a best-husband contest. "It's an objective fact that he is the most remarkable man alive," she wrote. "'Alive' is a pretty feeble word to use for the combination of vitality and humanity that is unique with Henry...." (Laurie Chauncey died, of cancer, in 1975; Henry Chauncey, now aged ninety, lives in Shelburne, Vermont.)

During the 1950s and 1960s the College Board added hundreds of new member universities, many of which would send representatives to see firsthand the wonders of the ETS operation. Chauncey went on lengthy official visits to Australia and New Zealand and, three times, to the Soviet Union. ETS's competitors were in a

near-constant state of agitation; after much urging by them, the Internal Revenue Service undertook an investigation of whether ETS really deserved to be a nonprofit institution, and so to pay no taxes. (ETS hired a former IRS commissioner as its special Washington counsel, and was able to retain its nonprofit status.) But after the initial outcry over the draft test there was only the barest hint of adverse public reaction to the spread of testing. When a critic would emerge, Henry Chauncey would usually right away invite him or her to visit ETS, and after they had talked, the criticism would at least take on a more muted and responsible tone.

Until 1957 the takers of the SAT were not even informed of their scores. Neither were their high schools. The test-prep industry consisted of a self-employed teacher named Stanley H. Kaplan who offered SAT tutoring (which ETS regularly assured the public was ineffectual) out of his mother's basement, in Sheepshead Bay, Brooklyn. The role of ETS in American society, though less pervasive than Chauncey had originally hoped it would be, nonetheless was considerable, and it was established with great speed and smoothness. ETS became the agent of what one College Board official liked to call "the Great Sorting," providing higher education with a national standard for measuring the scholastic aptitude of millions of people.

Chauncey certainly did not see himself as being involved in a social-engineering operation, a deliberate, if quiet, effort to remake American society. In 1992 Chauncey wrote Gregory Anrig, then the president of ETS, "I tend to be a little wary of people who use the word meritocracy." But he also wanted to feel that he was doing something grander than helping schools to improve their ability to predict the first-year grades of potential students. In 1961 *Time* magazine published an article on the twelve most outstanding college seniors in the country; after it appeared, Chauncey ordered up their SAT scores (something the president of ETS can't do anymore, because the scores are protected by a series of elaborate and ever-changing security measures) in order to satisfy himself that the SAT was predictive of real leadership as well as academic ability. Ten of the twelve did have high scores (Martin Feldstein, a future head of the Council of Economic Advisers, had a 723 verbal and a 759 math), and one of the two low scorers was an immigrant from

Poland whose performance could be explained by his lack of enough language familiarity to score well on the verbal portion.

## TESTING'S MIXED RESULTS

CHAUNCEY'S own feelings notwithstanding, the great success of the SAT and other tests that selected people on the basis of their predicted grade-point averages achieved distinct social results. One was that the Episcopacy -- the American elite that prevailed during the first half of the twentieth century -- faded in importance. It had thought of itself as meritocratic, and its definition of merit involved nonintellectual qualities like character and leadership. Now many of the institutions it had dominated passed into the hands of people high in academic ability. Thanks to the Episcopacy's good sportsmanship (as always, this contained an element of self-interest: its members obtained far gentler treatment than displaced elites usually get), the power shift took place with remarkably little of the rancor that usually accompanies such things. Henry Chauncey gamely accepted the wait-listing of one of his daughters by Harvard College, whose second president had been a Chauncey.

Today the academically selected elite does not control America to nearly the extent that is commonly assumed. Business, either corporate or entrepreneurial, isn't really its territory, and neither is career government service or elective politics. (The exceptions in these areas are small patches of ground that were formerly the domain of the Episcopacy and have now been turned over to high-test-score meritocrats: the career diplomatic service in government, and investment banking in business. Not coincidentally, in both cases ETS has been involved in the means of entry: the Foreign Service Examination and the admissions test for graduate business schools.) But in certain areas, mainly the professions, it does make up a recognizable class -- brainy, isolated, coast-dwelling, culturally liberal, and economically less so. Its rise has coincided with the economy's increasing need for and rewarding of high levels of skill. Still, the particular skills that SATs and similar

tests measure are most consistently found in those fields that use such tests to decide who will enter. Rather than being an inevitable product of the forces of economic history, the professional elite was *created*, in large part through the efforts of Chauncey, Conant, and their colleagues.

Just as important as, or more important than, the effect of the Great Sorting on the composition of the American elite has been its effect on everyone else. We have a different social order now. Henry Chauncey -- who, when ETS was beginning, privately compared the situation in testing to that of railroads in the 1850s -- helped to create the human equivalent of the standard gauge, which nationalized and systematized the mobility of people instead of goods. The railroad standard gauge created big business, and then economic concentration of power became controversial; mass educational testing gave America's long-standing obsession with opportunity an institutional structure, and then education and employment became controversial. Frustrated aspirations now have a target. It's no accident that the civil-rights and feminist movements, and their oppositions, have fought so many of their battles over the new system of rationalized admissions and employment. Many of the dozens of Supreme Court cases on civil rights over the past four decades have involved the issues of access to education and the proper use of test scores; the current controversy over affirmative action would not be taking place if there were no standardized tests. The most poignantly naive of the expectations of the founders of the system was that an ordering of American opportunity, if it was based on scientific principles, would be universally appreciated and would make the nation less contentious -- would even provide it with a strong moral center.

Broad-scale testing in America was intended to be two things at once: a system for selecting an elite and a way of providing universal opportunity. The second purpose generates the public consent that supports the first. Controversy about one produces instability in the other. An irony of the American meritocracy, now that it has been in operation long enough to produce not just future leaders but present ones, is that the leaders chosen by a mechanism designed to be perfectly open and fair are widely regarded as a pampered, out-of-touch, undemocratic in-group --

much the way Conant regarded the Episcopacy. American politics is now like an upside-down version of Plato's *Republic*: the party of the common man is led by the first President to be a pure product of the postwar meritocratic apparatus, and the party of business is led by a speaker of the House who did much less well than the President at accumulating meritocratic credentials, and who regularly delivers blistering attacks on "elites."

One consequence of the public's doubts about the meritocratic system and the leaders it has produced is an unwillingness to pay the taxes that are needed to support the great public-education machine that Conant thought would replace the frontier as a guarantor of opportunity in America. As the resistance has caused the dream of a first-class free education for all to fade, the people who have suffered are those at the bottom of the social structure. They don't really have a frontier.

It was Henry Chauncey's good luck, in a lucky life, not to have to think about much of this while he was running ETS: the new elite hadn't emerged, and the arguments hadn't started. Whenever there was public grumbling about testing and education, though, he took it seriously. In 1955 a liberal weekly called *The Reporter* published an article called "The Quizmasters Fasten Onto Higher Education"; Chauncey persuaded the ETS board to let him hire another public-relations adviser to ponder the implications. The man he hired, Earl Newsom, in 1957 produced a report that was prophetic about what lay in store for ETS after Henry Chauncey retired.

Newsom said this:

Its tests have influenced and in many cases determined the careers of millions of people including many of those who will provide the national leadership of the future. As an institution of national scope dealing in the guidance of human lives, it has no close parallel in our society.

Under the circumstances it is well to remember that the idea of any center of power, perhaps particularly one which classifies people, is historically viewed with

misgivings by Americans. It has gotten both governmental and private institutions into trouble again and again.

Trouble in fact rained on Chauncey's quiet, bespectacled successor, William Turnbull. Chauncey would have turned aside some of it, because he was better at the things for which there were no standardized tests, such as being adept with people. But some of the trouble was unavoidable and, in a way, was Chauncey's fault, because it stemmed from a fundamental misreading of the country's character. Chauncey took the helm at ETS believing that we were witnessing, as he once put it in his notebook, "The Dawn of Social Science": a new historical age was beginning in which rationality would become the leading force in human affairs, and people would gratefully accept the guidance provided by the amazing new ability of technology to assess their capabilities. Chauncey thought that America was just waiting to be put into a rational order, if only the right system could be devised. He did help to devise a system, and America adopted it. But the country didn't stop being fundamentally unruly.

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The Atlantic Monthly; *September, 1995; The Great Sorting; Volume volume 276, No. 3; pages 84-100.*

