

CHAPTER I

INTRODUCTION

In June of 1988, the Scholastic Aptitude Test turned sixty-two years old. This was not a birthday that many Americans celebrated; in fact, in its seventh decade it would seem that the SAT¹ has few friends, indeed. Educators are appalled at the antics of Virginia teachers who dressed up as cheerleaders to build morale among their students prior to taking the examination.² Secondary school administrators are horrified by talk of connecting their salary adjustments to their students' performance on these examinations.³ Students shudder at the potential lifelong implications of less than sterling performances on this three hour examination. And parents watch with dismay as independent college consultants charge as much as \$2,500 for "full-service" college admissions packages including preparation programs for the SAT.⁴

The criticisms of the SAT range from the refined, and sometimes only implicit concerns of such prominent psychologists as Princeton's Leon Kamin,

¹ Throughout this manuscript the author will use SAT as opposed to S.A.T. when abbreviating Scholastic Aptitude Test. This is consistent with current usage by Educational Testing Service which is downplaying the meaning behind the three letters.

² Edward B. Fiske, "America's Test Mania," The New York Times Section 12 (April 12, 1988):18.

³ For a discussion of the effect of standardized tests in general upon the curriculum, see Daniel Koretz, "Arriving In Lake Wobegon: Are Standardized Tests Exaggerating Achievement and Distorting Instruction?" American Educator: American Federation of Teachers 12 (Summer 1988):8-15.

⁴ John Stickney, "Guides to the Admissions Maze," Money, (June 1988):127.

Yale's Robert Sternberg, and Harvard's Howard Gardner who question the limited concept of aptitude or intelligence that underlies the SAT, to the strident statements of Ralph Nader and David Owen who criticize the integrity of the test and the motives of the test marketers. But, despite these criticisms, recent trends in college admissions have increased the significance placed on the SAT.⁵ In 1987 the number of students taking the SAT increased eight percent over the previous year to a total of 1,080,426.⁶ Along with this increase in numbers, the SAT has increased in significance; a rise in applications to the selective schools has placed increased pressure on students to perform well on the test. The New York Times in April of 1988 reported that "a rise in applications allows colleges to be more selective," highlighting individual cases of outstanding students being rejected by all of the institutions to which they had applied.⁷

Such changes exacerbate the tension surrounding the examination; as the SAT's gatekeeping role is accentuated, parents, secondary teachers and students themselves become increasingly aware of the awesome distinctions that

⁵ For an early discussion of this simultaneous growth and criticism, see Edward B. Fiske, "Student Testing Unit Assailed as Influence Grows," New York Times, November 14, 1979, p. 1, and, Robert L. Jacobson, "Selective Colleges' Use of SAT Is Unshaken by Controversies: Popularity May Be Growing," The Chronicle of Higher Education 32 (July 2, 1986):1. For critical appraisal of the SAT coupled with a prediction that the SAT will be deemphasized, see: Ernest L. Boyer, (Guest Columnist) "Why We Need A Test to Replace the SAT," USA Today, (April 10, 1984). Boyer, President of the Carnegie Foundation for the Advancement of Teaching, argues that "the aim of a standardized test should not be to screen students out of options, but to help them move on with confidence to college--and to jobs."

⁶ Deirdre Carmody, "Better Students Finding Colleges Reject Them," New York Times Education Section (April 20, 1988):1.

⁷ Ibid. See also: Dean Whitla, "The Admissions Equation: Will fewer students, shrinking budgets, and tougher standards alter the old formulas?" Change, (November/December 1984):22-30; and David Stipp "College SAT's Grow in Importance Despite Long History of Criticism" The Wall Street Journal Section Two (February 5, 1985):1. Both Whitla and Stipp predict increased relevancy for the SAT.

the SAT makes and defends.⁸ Such increased awareness and criticism from those three publics do not, however, threaten the existence of the SAT because the only clientele that the SAT must please are the admissions officers of America's universities and colleges, and the test continues to be a success in these quarters.

The Problem of Selection

Selecting and admitting students for programs in higher education are processes that involve many interests, publics, and constituencies. For selective colleges this process involves what Harvard's Robert Klitgaard calls "choosing elites."⁹ Society in general, dependent on universities for the development of expertise, has a significant stake in assuring that the resources it marshals for education are used to promote a general welfare and to safeguard fairness to the individual.¹⁰ In 1931 Carl Campbell Brigham, the author of the SAT, made clear what he felt was at stake in college admissions when he "called attention to the economic loss to society and to the expense to the colleges and universities resulting from the admission of students who were subsequently dropped."¹¹

⁸ For a perspective on the potential of the SAT to distort secondary education: See: Dan Morgan "If you Want Good Schools, Stop Doting on a Test Like the SAT" The Washington Post National Weekly Edition, (February 20, 1984):23. Morgan argues that emphasis on the SAT "gets in the way of finding out what students know."

⁹ Robert Klitgaard, Choosing Elites: Selecting the 'Best and the Brightest' at Top Universities and Elsewhere (New York: Basic Books, 1985).

¹⁰ For a discussion of the interaction of individual and broader social goals from the perspective of one who believes that "the testing system as an important instrument in the democratization of society," see: Joseph Katz, "The Admissions Process--Society's Stake and the Individuals Interest," in Herbert Sacks, ed. Hurdles: The Admissions Dilemma in American Higher Education (New York: Atheneum, 1978), p. 318-348.

¹¹ Minutes, College Entrance Examination Board, October 26, 1931, p. 5. College Board Archives. Brigham continued and "claimed also that every candidate should pay not only for his own examination but also to devise better tests for the future."

In a country where higher education serves as a gatekeeper to social status, the decisions regarding who will be admitted to which colleges have profound implications for particular individuals. Moreover, the admissions procedures and the type of students ultimately selected have a significant impact on each college or university. A desire to test for college admissions can be based on a variety of different motives or on an amalgamation of seemingly contradictory motives. In choosing those to be admitted to a group for a specific task, whether it is a specialized profession or specialized training, an institution might be: 1) looking for those individuals who have aptitudes and abilities most suited to a required task; 2) attempting to reward a certain segment of society or to reinforce an existing social structure; 3) seeking to discover talent that otherwise might go unrecognized; or 4) trying to achieve social justice by redressing previous social inequities.¹²

According to Educational Testing Service, the SAT's parent company, part of the test's role within this process is to discover students of high ability who might otherwise remain unrecognized.¹³ ETS further contends that their tests serve the individual, arguing that "individuals of limited capacity, but solid work habits, are being guided into institutions where they have a high probability of success."¹⁴ Critics such as educational psychologist Joseph Renzulli, however,

¹² For an Educational Testing Service perspective on how admissions testing fits into these goals, see Winton H. Manning and Rex Jackson, "College Entrance Examinations: Objective Selection or Gatekeeping for the Economically Privileged" in Cecil R. Reynolds and Robert T. Brown, eds. Perspectives on Bias in Mental Testing (New York: Plenum Publishing, 1984), p. 189-219.

¹³ Educational Testing Service Annual Report 1960-61, p. 56. Cited in William E. Coffman, "Research and Development Report--The Scholastic Aptitude Test - 1926-1962" Test Development Report TDR-63-2, (June 1963):3. E.T.S. Archives.

¹⁴ *Ibid.*, p. 3.

indicate that the admissions tests (or I.Q. test used for admissions to gifted programs) may be overlooking talent, or worse, systematically discriminating against talent.¹⁵

The Critics of Testing in General

The current critics of the SAT include those who question the precepts of psychometrics in general. Intelligence tests and aptitude tests such as the SAT reflect Binet's concept of a unilinear measure of intelligence with two contributing components--verbal and quantitative abilities. Criticism of this concept first emerged in the 1920s and today is widespread among psychologists. Louis L. Thurstone and J.P. Guilford led the early critics. Thurstone posited "multiple ability factors" and Guilford subsequently proposed that there were more than 120 distinct components to intelligence.¹⁶

In many cases, with only minor adjustments of terminology, the criticisms of the 1920s are interchangeable with those of the 1980s.¹⁷ In 1986 Daniel Goleman writes that "new views about the nature of being gifted have spawned a skepticism toward the I.Q. test score, once sacrosanct among educators. The idea that a single number can summarize a person's intelligence and abilities has

¹⁵ Quoted in Daniel Goleman, "Rethinking the Value of Intelligence Tests" The New York Times Education Life, (November 9, 1986):26.

¹⁶ For a discussion of Thurstone's and Guilford's concepts of intelligence, see Joseph D. Matarazzo, Wechsler's Measurement and Appraisal of Adult Intelligence (Fifth Edition) (New York: Oxford University Press, 1972), p. 49-54. Matarazzo notes (p. 51) that Guilford's approach to the mystery of intelligence methodologically the opposite of Binet's. "Binet developed a test the 'worked,' but its useful ingredients have remained obscure. As a result psychology has a pragmatic tool, but psychological science is little advanced. Conversely, building from empirical results and his own hunches, Guilford has produced an *a priori* theoretical model."

¹⁷ For an anthology of articles and documents relating to these controversies, and for a good introduction to the themes, see N. J. Block and Gerald Dworkin, eds. The IQ Controversy: Critical Readings (New York: Random House, 1976).

come under intense criticism from many psychologists."¹⁸ Goleman notes that the efforts of such psychologists as Harvard's Howard Gardner and Yale's Robert Sternberg, "are gathering momentum."¹⁹ Criticism of testing generally has been consistent enough throughout the twentieth century to warrant consideration in Jenne K. Britell's Teachers College dissertation.²⁰

Gardner, a leading cognitive psychologist and current proponent of new approaches to the study of cognition, distinguishes seven major intelligences in his influential book *Frames of Mind*.²¹ In addition to the traditional verbal and mathematical abilities, Gardner includes such far ranging abilities as "spatial abilities," "inner attunement" and "interpersonal abilities."²² This leading advocate of the concept of multiple intelligences points out that a major inadequacy of the "I.Q. Movement" is that it is "blindly empirical. It is based simply on tests with some predictive power about success in school, and only

¹⁸ Goleman, "Rethinking the Value of Intelligence Tests," p. 23.

¹⁹ Ibid., p. 24.

²⁰ Jenne K. Britell. "Never Quite a Public Dialogue: The Discussions of Testing in American Education 1897-1964." Ph.D. Dissertation, History of Education, Teachers College, Columbia University, 1980. Britell, former ETS Director of Information Services presents an intelligent, balanced treatment of the controversies. For a College Board perspective, see: Kenneth H. Ashworth, "The Pit and the Pendulum: Testing Under the Knife," College Board Review 117 (Fall 1980): A14-A17.

²¹ Howard Gardner, Frames of Mind: The Theory of Multiple Intelligences (New York, Basic Books, 1985). For a discussion of the ways in which advances in the field of cognitive psychology could influence testing see: Robert Glaser, "The Future of Testing: A Research Agenda for Cognitive Psychology and Psychometrics," American Psychologist 36 (September, 1981):923-936. For a discussion of the distinction between the psychometric approach and that of the cognitive psychologists, see: Robert J. Sternberg, "The Nature of Mental Abilities," American Psychologist 34 (March 1979):214-230; and, Robert J. Sternberg, "A Contextualist View of the Nature of Intelligence," International Journal of Psychology 19 (1984):307-334.

²² Gardner, Frames of Mind. Since the publication of Frames of Mind Gardner has increased the number of intelligences he posits from seven to twenty.

marginally, on a theory of how the mind works."²³ Gardner contends that "the tasks featured in the intelligence test are decidedly microscopic, are often unrelated to one another, and seemingly represent a 'shotgun' approach to the assessment of human intellect."²⁴

In addition to doubts about the conceptual foundations of testing, other issues in psychometrics have included those of test bias, reliability, validity and the impact of testing upon our society.²⁵

Criticisms of the SAT Specifically

In the mid-1970s, popular criticism of the Scholastic Aptitude Test itself emerged. Steven Brill's article, "The Secrecy Behind the College Boards," broke new ground in the popular press by aiming specific criticisms at this one particular examination.²⁶ In September 1976, Ralph Nader highlighted what considered to be problems with Educational Testing Service in a speech to the American Psychological Association, questioning, in the words of ETS President William Turnbull, "the integrity and competence of the organization."²⁷

²³ Ibid., p. 17-18.

²⁴ Ibid., p. 18.

²⁵ See, for example: Banesh Hoffman, The Tyranny of Testing (New York: Crowell-Collier, 1962).

²⁶ Steven Brill, "The Secrecy Behind the College Boards," New York, (October 7, 1974):67-80.

²⁷ William W. Turnbull, "Response to Remarks of Ralph Nader About Educational Testing Service at the Meeting of the American Psychological Association September 3, 1976," ETS Archives Microfilm File. Princeton, New Jersey.

In the early 1980s specific criticisms of the Scholastic Aptitude Test, coming from both academic and non-academic writers, mounted.²⁸ Allan Nairn, in a Princeton University Senior Thesis that became the core of Ralph Nader's report on Educational Testing Service, raised many significant points regarding the equity with which the SAT functioned within society. David Owen, in a series of articles in journals ranging from *Harpers*²⁹ to *Rolling Stone*³⁰ and culminating in an important 1985 muckraking book *None of the Above*,³¹ followed up the Nairn/Nader work with more detailed analyses of the structure of the test. Because of the earlier work of Nader and others in achieving "Truth in Testing" legislation in New York State, Owen had the benefit of having actual SATs to analyze. With intelligence and stridency reminiscent of the best muckraking traditions, Owen highlighted problematic aspects of the SAT such as the test's validity, the proper use of the test, the degree to which coaching can affect a score and the secrecy surrounding the exam.

As important as many of these recent critical works on the SAT are, they share a superficial historical treatment of the examination. A pattern of focusing on Carl Campbell Brigham's early work, *A Study of American Intelligence*, has become so common that some who know little else about the SAT can remember

²⁸ For an academic criticism from two sociologists, see Christopher Jencks and James Crouse "Should We Relabel the SAT. . . Or Replace It?" in: William B. Schrader, ed. *New Directions for Testing and Measurement: Measurement, Guidance, and Program Improvement* (San Francisco: Jossey-Bass, 1982).

²⁹ David Owen, "1983: The Last Days of ETS," *Harper's*, (May 1983):21-37.

³⁰ David Owen, "Adam and John Say Put Your Pencil Down: The SAT is Easier Than You Think," *Rolling Stone*, (March 28, 1985):76-80. See also: David Owen, "Cheat on the SAT? Impossible!," *The Orangeburg, South Carolina Times and Democrat*, (November 18, 1984):1-5.

³¹ David Owen, *None of the Above: Behind the Myth of Scholastic Aptitude* (Boston: Houghton Mifflin Co., 1985).

this connection to eugenics. In this 1923 study, Brigham took the results of Army testing during World War I and proceeded from strongly hereditarian assumptions to rank order the intelligence of different nationalities.

Brigham himself recanted and thoroughly repudiated his early work, and by the mid 1930s Brigham was clearly in the camp of the environmental psychologists.³² To indict the SAT simply because of its author's earlier work runs the danger of committing the logical fallacy of *argumentum ad hominem* and is equivalent to implying that the problem with analogy questions is that they were originally formulated by the charlatan British psychologist Cyril Burt. Although it is certainly tempting to repudiate the SAT because of the repugnant implications of an early ill-founded work of the test's author, such criticism diverts attention from far more substantial issues involved in the history of the test.

Present Controversies With Historical Antecedents

Although the critics of the Scholastic Aptitude Test may give only superficial treatment to the history of the examination, they do raise important issues regarding the test's construction, interpretation, and use. These issues have important antecedents that this monograph will trace through the historical development of the test.

³² David Owen, for example, criticizes Brigham for publishing "an article on the Army Mental Tests in Eugenical News, a journal that in 1933 reprinted an item called 'Text of the German Sterilization Statute,' by Adolf Hitler." Owen, None of the Above, p. 187. What Owen very misleadingly does not mention is that the Brigham article in this 1928 issue was actually the first report on Brigham's misgivings about his earlier conclusions. The report indicates that Brigham "stated that the discovery of these inconsistencies in the army tests completely upset his previous analysis of the foreign born in the white draft published in his Study of American Intelligence." See: Carl Campbell Brigham "Army Tests by States" Eugenical News 13 (May 1928):68. The report noted that Brigham "stated that the discovery of these inconsistencies in the army tests completely upset his previous analysis." In this researcher's opinion Brigham's expressing outspoken doubts in this specific journal about his earlier racist conclusions is an indication of the psychologist's intellectual courage.

Controversy: Predictive Validity

One of the controversies surrounding the SAT is over its predictive validity. The SAT has little face validity; i.e., the tasks that the students perform do not look like the tasks that students perform in higher education.³³ Without face validity, the SAT must be sold on its "predictive validity." Just how much of a student's later performance is predicted by his or her performance on the examination? ETS contends that the predictive validity of the SAT is excellent. That company maintains that, because it encourages schools to conduct validity studies before joining the College Board, "there have been literally thousands of studies!"³⁴ An internal research memorandum of 1963 notes, "the SAT provides useful information in an extensive range of institutions and for an extensive range of purposes."³⁵ Because predictive validity is at the heart of the rationale for the SAT, non-psychologists such as Robert Klitgaard in his Choosing Elites and James Crouse and Dale Trusheim in their The Case Against the SAT have addressed this issue directly. Crouse and Trusheim, two University of Delaware sociologists, break new ground among the criticisms of the SAT. Using powerful statistical analysis, they provide, for example, "Cross-Tabulation of Predicted Freshman Grade Point Averages," and "Mean r^2 in Regressions of Grade Point Average on High School Grades and SAT Scores for 2,212 Project Talent

³³ The SAT's lack of face validity can be contrasted with the obvious face validity of the old form of College Board essay examination. These essay examination tested, in a manner that could be understood by all educators, the same skill that students would be called upon to use in college.

³⁴ Coffman, "Research and Development Report," p.5.

³⁵ Ibid.

Students."³⁶ Crouse and Trusheim carefully argue that the SAT does not, in fact, work, concluding their chapter entitled "The SAT Does Not Help College Make Better Selection Decisions," with the statement that "most colleges could ignore their applicants' SAT score reports when they make selection decisions without appreciably altering the academic performance and graduation rates of the students they admit."³⁷

Crouse and Trusheim's work is important not only because of its statistical analysis of data showing problems with the functioning of the SAT, but also because among the genre of SAT criticisms, the two sociologists have provided the best treatment of the test's history. In their chapter devoted to the history of selective admissions from the turn of the century through the present, they analyze factors in the success of the SAT rather than simply dismissing the development of the test as the malevolent plot of psychologists run amuck.³⁸

Robert J. Sternberg illustrates another aspect of the controversy over predictive validity--the problem of educators putting more faith in the "predictor" of academic performance than in the actual performance itself. Sternberg presents the case of a student who was specially admitted to a Missouri teacher's program after substandard performance on the Miller's Analogy Test. The student completed the program with distinction but was informed prior to graduation that she would have to retake the entrance examination and pass it with the score required for admissions or she would not be allowed to graduate.

³⁶ James Crouse and Dale Trusheim, The Case Against the SAT (Chicago: The University of Chicago Press, 1988), pp. 123-145.

³⁷ Ibid., p. 68.

³⁸ Ibid., pp. 17-39.

"Consider the logic here," Sternberg notes. "The test score had come to surpass in importance what it was supposed to predict: school performance."³⁹

Countering such criticisms, Educational Testing Service contends that their instrument is valid, reliable and important. In analyzing the success of his company's test, William Coffman concludes, "The SAT has kept its focus broad but its direction clear. It provides a salutary corrective to the narrow, and sometimes erratic, beam thrown by other predictors."⁴⁰

Controversy: Overuse and Misuse of the Test

Present day critics of the Scholastic Aptitude Test point out that the very educators who use the test have little understanding of its limitations.⁴¹ Brigham, himself, foresaw such a situation if the test was widely marketed. In the 1930s he fought for "wise use" as opposed to "wide use." Brigham did not, however, ultimately win this fight.

In 1978 ETS researcher Henry Dyer commented that, "I think this is the great problem that all testing agencies have in trying to get their numerous publics: teachers, parents, children, school administrators, everybody, to try to know what the limitations are, and what the proper uses of tests are."⁴² One

³⁹ This incident was reported in Goleman, "Rethinking the Value of Intelligence Tests," p. 27.

⁴⁰ Coffman, "Research and Development Report," p. 21.

⁴¹ Owen, None of the Above, p. 69 and Allan Nairn's The Reign of ETS: The Corporation that Makes up Minds (The Ralph Nader Report on the Educational Testing Service, chapter III).

⁴² Henry Dyer, and Gary D. Saretzky. Oral History with Henry Dyer, September 25, 1978, ETS Archives Oral History Program Educational Testing Service, Princeton New Jersey, 1980. p. III-2. For a discussion of present misuses of the scores see: "Testers Asked to Deny Scores to Colleges Misusing Them," The Chronicle of Higher Education, (November 9, 1983):3; and for a report on ETS's reaction to misuse of scores, see: Edward B. Fiske, "Test Misuse is Charged by its Maker," The New York Times Education Section (November 29, 1983):1.

misuse that has raised the ire of secondary school administrators is the practice of evaluating schools according to the SAT scores of their students. In some cases tremendous pressure is placed on teachers and administrators to produce high scores.

Controversy: Coachability and Score Changes

A controversy about the Scholastic Aptitude Test that has recently received wide public attention is over the degree to which students can increase their scores through preparation.⁴³ Central to the issue of the impact of preparation is the genesis of academic ability and aptitude. This issue, closely related to longstanding debates over heredity vs. environment,⁴⁴ has taken on tremendous economic significance in the last decade as a huge test coaching industry has developed.

The roots of this debate over preparation go back to the introduction of the SAT; Carl Brigham, believing that preparation could affect scores, required

⁴³ For an overview of the literature on the "coachability" of the SAT see Owen, None of the Above, pp. 89-112; and, Robert L. Bangert-Drowns, James A. Kulik, and Chen-Lin C. Kulik, "Synthesis of Research on the Effects of Coaching for Aptitude and Admissions Tests," Educational Leadership, (December 1983/January 1984):80-83. Two studies within the last five years by educational psychologists are worth reading even for the lay person: Dersimonian and Laird, "Evaluating the Effect of Coaching on SAT Scores," pp. 3-19; and Kulik, "Effectiveness of Coaching on Aptitude Tests," pp. 179-188.

⁴⁴ For an important treatment of the "heredity" vs. "environment" debates, see: Leon Kamin, The Science and Politics of I.Q. (Potomac, Md.: Lawrence Erlbaum, 1974). This work pointed out implausible aspects of Cyril Burt's research that had provided the underpinning of the hereditarian position. Burt's final defrocking came at the hands of his generally sympathetic biographer, L.S. Hearnshaw, who in 1979 indicated that the famous twin studies that had been the foundation of the hereditarian position were complete fakes. For a discussion of both sides of the "nature vs. nurture" controversy as it relates to intelligence testing generally, see: H.J. Eysenck and Leon Kamin, Intelligence: The Battle for the Mind (London: Pan Books, 1981). Eysenck and Kamin are, respectively, the foremost spokespersons for the hereditarian and environmental positions. See also: John Egerton, "The Misuse of IQ Testing: An Interview with Leon Kamin," Change, (October 1973):40-43.

candidates to complete a practice test prior to the real examination. By 1933, however, this practice was abandoned.

From the mid 1930s through the end of the 1970s, Educational Testing Service contended that there was nothing that an individual could do on a short term basis to prepare for the SAT. Recently, as the preponderance of professional evidence has indicated otherwise, Educational Testing Service has begun a measured retreat from its earlier position.⁴⁵ Ironically, that testing firm is currently broadening its services to sell preparation programs for its own tests.

As ETS has sought simultaneously to minimize the impact of coaching and to convince a public that preparation has no statistically significant effect,⁴⁶ others, both within the discipline of psychology and within the popular press, have argued differently.⁴⁷ Two recent studies have attempted to sort out the evidence regarding the impact of preparation. In 1983 two Harvard researchers, Rebecca

⁴⁵ Lawrence Biemiller, "Test-Takers May Ask for and Get Answers to SAT's Next Year, College Board Decides," Chronicle of Higher Education, (April 6, 1981):1. The measured nature of the change in ETS's official position is intriguing. In 1981, ETS began publishing and selling past copies of the SAT for students to use in preparation; the company, however, made no mention of the value of their use. By 1987, in its 5 SAT's, ETS conceded that "independent study in addition to regular academic course work could result in some increase in your scores." ETS does not state the reasons for the tempo of their concessions; conceivably, however, a rapid reversal could have provided clearer grounds for legal action from individuals who had not prepared because of the ETS advice. For an indication that Educational Testing Service recognized that coaching can influence scores while simultaneously making public statements to the contrary, see: Cheryl L. Wild, Spencer S. Swinton, and Madeline M. Wallmark, "Research Leading to The Revision of the format of the Graduate Record Examinations Aptitude Test in October 1981" GRE Board Professional Report No. 80-1bP, November, 1982.

⁴⁶ Coffman, "Research and Development Report," p. 10.

⁴⁷ See: Owen, None of the Above, chapter six "Coaching," and chapter seven "Beating the Test." Owen discusses current literature on the coaching debate and illustrates current coaching techniques. See also: Arthur Whimbey and Linda Shaw Whimbey, Intelligence Can Be Taught (New York: Dutton, 1975); and David Owen, "SAT Coaching Guides: Do They Work?" The Washington Post Education Review Section (August 12, 1984):1-3; and Douglas J. Lederman, "SAT Coaching, A New Assessment," The New York Times Education Supplement (January 6, 1985):1-2.

Dersimonian and Nan M. Laird, employed the research technique of "meta-analysis" to conclude that the data "support a positive effect of coaching."⁴⁸ In March of 1984, three researchers from the University of Michigan reached similar conclusions.⁴⁹

The controversies among psychologists over the impact of test preparation remain unresolved. Meanwhile, American families, hoping that a respectable score on the SAT will open doors to social mobility for their children, proceed to invest large sums of money in test preparation programs.⁵⁰

Controversy: National Score Declines

Beginning in the mid 1960s national scores on the SAT began a twenty-year decline that produced hand-wringing among educators. Analyses of the causes of the decline ranged from political statements regarding underfunding of education to pedagogical statements about the need to return to basics to statements about the social environment in which prospective test takers grew up. These latter analyses ascribed the decline in scores to everything from the impact of the Viet Nam war to the introduction of junk food to the effect of nuclear

⁴⁸ Rebecca Dersimonian and Nan M. Laird, "Evaluating the Effect of Coaching on SAT Scores: A Meta-Analysis," Harvard Educational Review 53 (February 1983):18.

⁴⁹ James A. Kulik, et. al. "Effectiveness of Coaching on Aptitude Tests," Psychological Bulletin 95 (1984):179-180.

⁵⁰ For an insight into the significance of the coaching industry, see: Federal Trade Commission, Bureau of Consumer Protection. Effects of Coaching on Standardized Admission Examinations Revised Statistical Analyses of Data Gathered by Boston Regional Office of the Federal Trade Commission (Washington, DC: Federal Trade Commission, Bureau of Consumer Protection NTIS no. PB-296196). For a discussion of the investigation of the Federal Trade Commission into this issue, see: Nader and Nairn, The Reign of ETS, pp. 93-108.

fallout from atomic weapons testing.⁵¹ Remarkably, throughout this anguished discussion, few questioned the reliability of the SAT itself.

The SAT as an Example of "Commodity Science"

Although the ranks of outspoken friends of the SAT are limited and its critics are many, it enters its sixty-third year with its hegemony intact as the major arbiter of college entrance decisions. The test must be viewed as one of our society's greatest marketing successes, having clearly enlisted the "right" friends. The SAT's pattern of playing a large role in corporate fortunes has been consistent since the test's introduction. With the number of students having taken the SAT now exceeding forty million, the SAT has provided the underpinning of a national testing agency with annual revenues in 1985 exceeding \$163 million.⁵² In fact, in 1976 Forbes referred to the SAT's parent company, Educational Testing Service, as "one of the hottest little growth companies in U.S. business."⁵³

⁵¹ For a discussion that combined political with social analyses, see Harold Howe II, "Reagan, Big Macs and SAT Scores," The College Board News 13 (Winter 1984-85). Howe, a former U.S. Commissioner of Education, notes that scores began to decline with the cohort of students old enough to be raised on MacDonald's food; the score decline turned around after the introduction of the "filet of fish." Howe, therefore questions the wisdom of President Reagan's curtailing the funds for school lunch programs. For discussion of the atomic fallout theory, see Ernest J. Sternglass and Steven Bell "Fallout and SAT Scores: Evidence for Cognitive Damage During Early Infancy," Phi Delta Kappan 64 (April 1983):539-45; and the ensuing commentary in Phi Delta Kappan 65 (January 1984):372. Sternglass, a radiologist and professor of medical education and Bell, a psychologist, present what they describe as "new evidence to show that nuclear radiation is associated with impaired cognitive functions." p. 539.

⁵² ETS has demonstrated consistent growth in revenues in the 1980s. Between 1980 and 1985 revenues increased by over sixty percent. See: Educational Testing Service Annual Reports for 1984 and 1985. That revenues for "College Board Testing Programs" has consistently exceeded the revenue of all other ETS testing combined demonstrates the importance of the SAT as the companies leading product.

⁵³ Forbes, (November 15, 1976):89.

As historian Michael Smith noted, "When science itself is commodified, the products of a market-aimed technology are mistaken for the scientific process, and those products, like science, become invested with the inexorable and magical qualities of an unseen social force."⁵⁴ According to Smith a rise of "commodity scientism," in which marketing and promoting a product dominate and overshadow true science, has meant the "eclipse of technological literacy" in the American public as it is besieged by an endless procession of miracle-promising experts and products. Advertisers, marketers, and even governments have been able to assign to their products "social attributes that are largely independent of the products' technical design or function."⁵⁵ Intelligence tests and aptitude tests represent a "commodity science" product that has undergone the process described by Smith.

Those who authored the examination and those who subsequently marketed it saw an unmet need within society, developed a product to meet that need, then sold it. The parallels in American industry are many; but this product--this gatekeeper for American higher education--is not toothpaste or breakfast cereal. It differs from these retail products in that the consumers of the SAT are not individuals; rather, the consumers are America's undergraduate institutions. The SAT has historically responded to a market demand, but this demand has not been from the individual test takers; although individual households pay the testing fee and purchase the right to take the test, they do not make this

⁵⁴ Michael L. Smith, "Selling the Moon: The U.S. Manned Space Program and the Triumph of Commodity Scientism," in Richard Wightman Fox and T.J. Jackson Lears, eds. The Culture of Consumption: Critical Essays in American History, 1880-1980 (New York: Pantheon Books, 1983), p. 179.

⁵⁵ Ibid.

purchase based on free choice. The market for the SAT consists of college admissions officers seeking to make and justify the manner in which they apportion scarce resources to numerous applicants who actually create the market.

One of the most striking characteristics of the Scholastic Aptitude Test is its unchanging nature. Throughout its six decades, the test has, in fact, changed little since the College Board first administered it to 8040 applicants in June of 1926. Thus, the SAT continues to represent a concept of psychometrics prevalent in the 1920s.

The relative static nature of the basic assumptions behind the structure underlying the SAT is most striking when juxtaposed with the vitality and innovativeness of the parent corporation, Educational Testing Service. Educational Testing Service prides itself on its leadership role in educational testing; it emphasizes the importance of its research and development components. The Spring 1988 issue of Examiner, an internal publication of Educational Testing Service, is jammed with headlines indicating "New ETS products, services and research." This same issue announces "New Test is first statewide effort to measure the quality of college students' learning skills,"⁵⁶ and "New Interactive Videodisc Prototype Requires Sight, Sound and Touch to Measure Skills and Abilities."⁵⁷ Another ETS public relations bulletin from 1986

⁵⁶ "New Test is First Statewide Effort to Measure the Quality of College Students' Learning Skills" ETS Examiner, (Spring/Summer 1988):3. This article reports on the College Outcomes Evaluation Program (COEP), a test developed for the New Jersey Department of Education.

⁵⁷ *Ibid.*, p. 11. The ETS Examiner also announces a new Test for International Communication and a new qualifying test for the National Board of Podiatric Medical Examiners. See also: "Landmark Program Offers Alternative to Traditional Paper and Pencil Tests," *Ibid.*, p. 1.

entitled "ETS Research--Assessment, Instruction and Equity" highlights the significance of the research component of America's largest non-profit research organization. A brochure, available at the reception desk of the ETS headquarters in Princeton, New Jersey, declares on pages labeled "research: a top priority," that "since its inception, ETS has had a strong commitment to educational research."⁵⁸ ETS has, in fact, been innovative in the area of assessment research; innovation has not, however, affected the company's flagship product--the Scholastic Aptitude Test. This test directly reflects, in its item choice, its format, and its scoring, decisions made by psychometrists over fifty years ago.

As a product of "commodity science" is marketed, the public draws inferences that go beyond the product's scientific foundations. In the case of the SAT, the public often infers more about the test's power and significance than even the scientists who produce it would claim.

The History of the SAT: A History Largely Untold

Considering alternatives to the Scholastic Aptitude Test, or even conscientiously opting for no changes, necessitates an understanding of the genesis of this gatekeeper. The history of the SAT deserves attention because of the impact that it has on our society and on individuals. The SAT can appropriately be described, using terminology and a metaphor from a heated issue within psychometrics, as an outgrowth of both its "heredity" and its "environment."⁵⁹ The development of the SAT reflects the "germ plasm" it

⁵⁸ ETS Today, Publicity Brochure distributed as of June, 1988.

⁵⁹ For what this author believes to be the first connection of this metaphor to the history of the SAT, see David Hubin, "The SAT: A Product of Environment or Heredity?" Visiting Scholar Lecture Series, Educational Testing Service, Presented March 29, 1985. ("Germ Plasm" as

inherited from the early intelligence tests through its author Carl Campbell Brigham, and the tests acceptance and success reflect the environment into which this "germ plasm" was insinuated.

Despite the SAT's importance, and despite increasing professional and public criticism of the test, little has been written specifically on the history of the development of the test. Further, the few existing historical treatments have either been written or commissioned by the developers of the test. For example, Claude Fuess, in his 1950 commissioned history of the College Board, touched on the development of the SAT as he discussed the tremendous progress that the College Board had made during its first fifty years.⁶⁰ Matthew Downey, in his 1971 biography of Carl Campbell Brigham--a biography commissioned by Educational Testing Service for the occasion of the dedication of the Carl Campbell Brigham Library at the corporate headquarters in Princeton--devotes several pages to the development of the test.⁶¹

Along with such commissioned histories, two other genre on the SAT's history are available; both, however, are of interest primarily to researchers. First, within Educational Testing Service writers have produced technical histories of contemporary test development issues. The most important of such works is Peter Loret's 150 page "Test Development Memorandum" called "A History of the

used in this sentence was a common expression among hereditarians at the beginning of this century.).

⁶⁰ Claude M. Fuess, The College Board: Its First Fifty Years (New York: College Entrance Examination Board, 1967).

⁶¹ Matthew T. Downey, Carl Campbell Brigham: Scientist and Educator (Princeton: Educational Testing Service, 1961).

Content of the Scholastic Aptitude Test."⁶² Loret provides examples of the item types contained in thirty-four years of SAT. Second, as the first wave of test developers aged and retired, Educational Testing Service archivist Gary Saretzky, a trained historian, had the foresight to begin an outstanding oral history program.

The other historical treatments of the development of the SAT have been limited to discussions of that test within the context of broader issues, including its relevancy to the growth and professionalization of the discipline of psychology, the history of secondary curricula, higher education admissions, the social history of eugenics, and the role of corporate foundations in education.

Until quite recently, the history of the development of psychology was a subject left to the psychologists themselves. Most of what was written suffered the whiggish traits common when a discipline writes its own history.⁶³ In the last decade, historians from outside the discipline of psychology have focused on aspects of the development of that discipline. This external examination has placed the development of psychology within a broader historical context and has influenced the internal discipline histories.⁶⁴ Moreover, the historians are

⁶² Peter G. Loret, "A History of the Content of the Scholastic Aptitude Test: Research Development Reports: Test Development Memorandum" (TDM-60-1) Princeton, New Jersey: Educational Testing Service, October 1960.

⁶³ The history of the discipline of psychology has until quite recently suffered a "whiggish" interpretation written by psychologists themselves. Joseph Matarazzo's sections on history in his Wechsler's Measurement and Appraisal of Adult Intelligence, are illustrative of such interpretation. For example, Matarazzo states, (p. 278) "At present intelligence scales such as the WAIS fall in the middle stages of what philosophers of science call the process of validation. That is, the WAIS constitutes a more predictive or heuristic operational definition of the subjective essence called intelligence in adults than did its predecessors. . . Army Alpha, and the Binet-Simon Scales."

⁶⁴ Examples of recent internal histories that avoid the type of difficulty encountered in Matarazzo are numerous. See for example: Eliot Hearst, The First Century of Experimental

producing a body of literature themselves that treats the development of psychology per se and that examines themes in psychology's development as they relate to such issues as the history of foundations, the history of the professionalization in America, the intellectual and social history of eugenics, and the history of education.⁶⁵

Professionalizing the discipline of psychology was such a visible process with clearly observable stages that many general works on professionalization in America have highlighted the psychologists' quest for professional status. The SAT, as with all "intelligence tests," must be viewed as a product of the psychologists' purposeful efforts to professionalize their discipline. As Daniel Kevles has pointed out in his "Testing the Army's Intelligence" and Thomas Camfield establishes in his "Psychologists at War: The History of American Psychology and the First World War," psychologists saw the mental test as a means to demonstrate their discipline's foundation in quantified knowledge and to demonstrate their field's usefulness.⁶⁶

Psychology (Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1979); Daniel N. Robinson, An Intellectual History of Psychology (New York: MacMillan, 1976); and Raymond Fancher, The Intelligence Men: Makers of the IQ Controversy (New York: W.W. Norton, 1985).

⁶⁵ Important recent examples of historians focusing on psychology per se include Michael M. Sokal, ed. Psychological Examining and American Society: 1890-1930 (New Brunswick, New Jersey: Rutgers University Press, 1987). For recent examples of the history of psychology within histories of other themes, see: John C. Burnham, Paths to American Culture: Psychology, Medicine and Morals (Philadelphia: Temple University Press: 1988); and JoAnne Brown "The Semantics of Profession: Metaphor and Power in the History of Psychological Testing, 1890-1929." Ph.D. Dissertation, The University of Wisconsin at Madison, 1985. For an important analytical history of the role of testing within our society, see: Clarence J. Karier, "Testing for Order and Control in the Corporate Liberal State." Educational Theory 22 (Spring 1972):154-180.

⁶⁶ Daniel Kevles, "Testing the Army's Intelligence: Psychologists and the Military in World War I," Journal of American History 55 (December, 1968):565-581; and Thomas Marley Camfield, "Psychologists at War: The History of American Psychology and the First World War." Ph.D. Dissertation, The University of Texas at Austin, 1969. For a more recent work on this topic, see: Richard T. Von Mayrhauser, "The Manager, the Medic, and the Mediator: The Clash of

Two important historical monographs relate the SAT to the theme of articulation between secondary and higher education. John Valentine's The College Board and the School Curriculum, a history of the relationship between the College Board and the curricula of American secondary education, sheds light on aspects of the development of the College Board. His brief chapter titled "Enter the Psychologists" builds on the work of Fuess and provides better documentation.⁶⁷ Harold Wechsler's The Qualified Student: A History of Selective College Admission in America describes anti-Semitic attempts during the 1920s to limit the numbers and the influence of Jewish students at Columbia and elsewhere, in part through the use of aptitude testing.⁶⁸

Daniel J. Kevles' recent study of eugenics, In the Name of Eugenics: Genetics and the Uses of Human Heredity, exemplifies a work that, while never mentioning the SAT, covers the earlier work of Carl Campbell Brigham. Harvard's prolific Stephen Jay Gould, writing on the history of psychometrics, also discusses the impact of Brigham's early work. Gould, in his Mismeasure of Man, develops a thesis that prejudice and prior-conceptions influence scientific inquiry by using psychometrics as an example.⁶⁹

Professional Psychological Styles and the Wartime Origins of Group Mental Testing," in Michael M. Sokal, ed., Psychological Examining and American Society: 1890-1930 (New Brunswick, New Jersey: Rutgers University Press, 1987), pp. 128-157.

⁶⁷ John Valentine, The College Board and the School Curriculum (New York: College Entrance Examination Board, 1987).

⁶⁸ Harold Wechsler, The Qualified Student: A History of Selective College Admission in America (New York: John Wiley, 1977), pp. 155-166. Similarly, Marcia Graham Synott's The Half-Opened Door treats anti-semitism and enrollment restriction; this monograph too, although less directly addressed at such issues as the formation of the College Board than Wechsler's, is relevant to an understanding of the acceptance of the SAT. See: Marcia Graham Synott, The Half-Opened Door: Discrimination and Admissions at Harvard, Yale, and Princeton, 1900-1970 (Westport, Connecticut: Greenwood Press, 1979).

⁶⁹ Stephen Jay Gould, The Mismeasure of Man (New York: W.W. Norton, 1981).

Several historians have addressed the role of corporate capital through foundations in the growth of testing in America. Both Howard Savage, in his Fruit of an Impulse, and Ellen Lagemann, in her Private Power for the Public Good, highlight the large financial role that the Carnegie Foundation has played in the development of educational testing.⁷⁰ Caroline Hodges Persell stresses the role of foundations and points out in her Education and Inequality that "following such 'seed money' as this, test publishers found the development of IQ tests sufficiently profitable to do it themselves."⁷¹

These historians, while addressing the themes of testing within education and society, have not directly treated the history of the SAT. In contrast, another genre addressing specific issues related to the SAT has been simplistic in its historical interpretations. In many cases the historical aspects of these works have presented interpretations of the SAT's history that, while providing a palliative for the hagiography of the internal histories, have been somewhat superficial.

This Researcher's Perspective

There are no villains or "smoking gun" to be found in this analysis of the development of the SAT. Those who wrote the SAT and those who embraced it so rapidly and completely were generally looking for individuals who were well-suited to succeed in America's colleges; they were not intentionally setting out to perpetuate a social hierarchy. However, it is no coincidence that the examination

⁷⁰ Howard Savage, Fruit of An Impulse: Forty -Five Years of Carnegie Foundation 1905-1950 (New York: Harcourt, Brace , 1953), p. 47; and, Ellen Lagemann, Private Power for the Public Good: A History of the Carnegie Foundation for the Advancement of Teaching (Middletown, Connecticut: Wesleyan University Press, 1983)

⁷¹ Caroline Hodges Persell, Education and Inequality: The Roots and Results of Stratification in America's School (New York: The Free Press, 1977), p. 57.

that educators embraced so quickly did, in fact, reinforce a social structure. As Ralph Nader and Allan Nairn demonstrated in 1980, SAT scores and socio-economic status correlate positively and strongly.⁷² Of course, were the correlation weak or negative, the SAT would not have survived in its original form. Whether coincidental or intentional, this correlation itself leads to serious social concerns about continued use of SAT.

Although it is entirely outside the scope of this dissertation to either recommend an alternative to the SAT or to establish a foundation for an alternative, it seems appropriate to briefly answer that question "what would you put in its place?" Like many recent critics of the SAT, including David Owen, James Crouse, and Dale Trusheim, and like many even within the College Board, I would advocate the use of achievement examinations as opposed to the "aptitude tests," if such tests were scored on a criterion-referenced basis rather than on a normative-referenced basis.⁷³ The danger, of course, with achievement tests is that unequal access to good schools will distort the scores. I would rather see pressure placed on schools and districts to improve the foundations that support good scores on achievement tests, however, than to improve scores on the SAT. Students, parents and society often read more into

⁷² For psychologists' treatments of the controversies and for counter arguments to criticisms such as Nader's see: Robert L. Linn "Admissions Testing on Trial," American Psychologist, (March 1982): 279-291; see also: Robert M. Kaplan, "Nader's Raid on the Testing Industry: Is It in the Best Interest of the Consumer?" American Psychologist, (January 1982):15-23; and Robert J. Herrnstein, "In Defense of Intelligence Tests," Commentary, (February 1980):40-51.

⁷³ See Owen, None of the Above, chapter thirteen, "Testing and Society: What Can be Done?," and James Crouse and Dale Trusheim, The Case Against the SAT, chapter eight "What Is to Be Done?" Educators distinguish between "criterion referenced evaluation" in which individuals are assessed against a standard of performance and "norm referenced evaluation" in which individuals are ranked within the performance of a group. Intelligence tests and aptitude tests are currently constituted are entirely "norm" based.

the meaning of the SAT score than is appropriate; they often infer that the SAT measures intellectual worth. Using an achievement test lessens the potential for this misinterpretation. Achievement tests, combined with instruments that determine specific academic strengths and diagnose weaknesses without subjecting the student to a normative scale, would be more useful to institutions and less detrimental to individuals.

For admissions tests to be most useful, they should also be diagnostic. As Marion Trabue, a Teachers College psychologist expressed in 1922, "a test of general health, which gave no more specific information than that the patient was very sick, would not be any more useful in medical practice than a general intelligence test would be in educational practice."⁷⁴ The SAT does not have the power to diagnose; it can only classify. Tests that classify without diagnosis are separated from advances in our understanding of cognition and learning and therefore have the potential to be educationally detrimental.

I concur with Carnegie Foundation President Ernest L. Boyer who argues that non-selective colleges that do not truly make use of the SAT should drop the test altogether.⁷⁵ Further, I would argue that selective colleges should develop admissions process that do not rely on a test that reflects quite dated concepts of measurement. Thus, I am encouraged by the actions of Bates and Bowdoin in dropping the SAT, and of Johns Hopkins Medical School and the Harvard Business School in making optional the Medical College Admissions Test and the

⁷⁴ Quoted in Edwin G. Boring, "Intelligence as the Tests Test It," New Republic, (June 6, 1923):35.

⁷⁵ Ernest L. Boyer, College: The Undergraduate Experience in America, [Quoted in The Oregonian (November 2, 1986):A24].

Graduate Management Admissions Test. In each of these cases the admissions officers are treating admissions decisions on a highly individual basis.

Admissions tests should, in the unheeded words of the SAT's author, usher students to their appropriate educational seats, not simply take tickets at the door.⁷⁶ As Howard Gardner has convincingly argued, "we should spend less time ranking children and more time helping them to identify their natural competencies and gifts, and cultivate those. There are hundreds and hundreds of ways to succeed and many, many different abilities that will help you get there."⁷⁷

Terminology in the History of the SAT

The title of the test under consideration, Scholastic Aptitude Test, suggests what the test purports to measure--aptitude. The SAT's roots are in the examinations of the first decades of this century, which were variously referred to as "psychological examinations," "mental tests," "mental alertness tests," and "intelligence tests." Presently, Educational Testing Service goes to great lengths to disassociate its examination from the phrase "intelligence test."⁷⁸ The SAT was, however, one of the many intelligence tests that developed after World War I. According to an ETS internal research memorandum, "it is clear that the originators of the SAT knew exactly what they were about. They wanted, not a

⁷⁶ Carl Campbell Brigham "Report of the Associate Secretary" in: Thirty-third annual Report of the Secretary of the College Board (New York: College Entrance Examination Board, 1933), p. 14.

⁷⁷ Quoted in Goleman, "Rethinking the Value of Intelligence Tests," p. 23.

⁷⁸ There are discussions at the national headquarters of downplaying even the word "aptitude" and thus attempting to have the public refer to the examination simply by its initials with no word, not to mention meaning, connected. Much as Texas A&M University no longer makes common use of the words Agricultural and Mechanical.

measure of something different from the ability to get high grades or high achievement tests scores, but rather purified measures of the intellectual components of the ability."⁷⁹

There is nothing of significance to distinguish the SAT from, for example, the Smith College Intelligence Examination, the Thorndike Intelligence Examination or the Ohio State Intelligence Examination. In discussing these examinations, this researcher uses the term "intelligence tests," despite the danger of implying a belief that they actually measure intelligence.⁸⁰ I use that term because during the decade of the 1920s, when psychometrics emerged, people did believe that these tests measured intelligence. Additionally, other terms like "mental test" have very different connotations today.

Conclusion

The litany of recent criticisms of the SAT could lead one to conclude that the test is a failure. An examination of the early history of the SAT produces a different perspective. The SAT does, in fact, do an excellent job of accomplishing the task of providing admissions officers with a quantifiably justifiable rationale for making decisions. Although that task may not be the one for which the SAT is publicly touted, it is the task for which it was adopted by educators. Thus, the SAT has successfully appeared as an impartial arbiter of important social decisions.

This study analyzes the impulse in America to measure mental power for admission to colleges. Carl Campbell Brigham occupies an important place in

⁷⁹ Coffman, "Research and Development Report," p.3.

⁸⁰ This researcher, in fact, finds the most insightful statements on intelligence and on intelligence testing in the 1920's coming from columnist and social critic Walter Lippmann and not from any psychologist. See chapter III.

this study. His central position not only reflects his authorship of the SAT but more significantly his prescient fear of developments that would tend to crystallize the examination. He feared the emergence of an agency like Educational Testing Service because he foresaw the impact of marketing. Thus Brigham occupies an ironic position of developing the test which sustains the national testing corporation that he fought so hard to avoid.

The SAT ossified at an early stage in the development of the study of cognition. No clear theory supported the choice of items for the SAT; other types of items could have correlated just as strongly or possibly more strongly with academic success. Educators, however, did not have to look for the best correlates with college performance. They simply needed something that appeared objective, was easy to score, and publicly accepted in justifying admissions decisions.

The analysis of the subsequent pages begins with the last decades of the nineteenth century as educators groped for new approaches to college admissions; it ends in 1948 with the formation of Educational Testing Service as a parent company to house a triumphant, marketable and quite profitable Scholastic Aptitude Test.