McGraw, Marjorie Honzik, Lois Murphy, and numerous others, including Margaret Mead in America and, abroad, Anna Freud, Charlotte Bühler, and Susan Isaacs. Ironically, a number of leading women educators in the 1920's, including the presidents of Barnard, Wellesley, Bryn Mawr, and Vassar, were strongly opposed to involvement in work in the preschool field because, as Lois Stoltz recalls, they thought "it was somewhat beneath them."

In discussing the relationship of child development studies to pediatrics and child psychiatry over the years, Senn and his respondents present a paradoxical picture. A number of pioneer contributors to the study of child development—people like Gesell, Alfred Washburn, C. Anderson Aldrich, Leo Kanner, Lester Sontag, David Levy, William Healy, and Senn himself—brought to it valuable new perspectives from these disciplines. Yet most found little initial understanding or encouragement of their concern with development and at times encountered outright hostility or rejection among their peers in medicine and psychiatry. Pediatric colleagues at Yale could not understand why Gesell was "wasting his time" studying normal growth and development when he could have been doing presumably more important laboratory and clinical work on disease processes.

Julius Richmond, pediatrician and the "father" of Head Start, recollects "the feeling of loneliness which Dr. Senn and I and others coming after him felt in our field." However, Richmond now feels that, although knowledge of child development is still not widespread in medicine, "we have moved to a point at which there is fairly general acceptance in pediatric circles and child psychiatry circles, and, I think, the other child care professions, of the importance of the growth and development of children. I think that we haven't been successful in providing enough education in our respective fields to really do the training and educational job as well as we should."

Of special interest today, when demands for "relevance" in developmental research are becoming increasingly insistent, is the reminder in Senn's monograph that much of the original impetus for the child development movement came from concern with finding better answers to pressing problems of children—better methods of education, greater help to parents in child rearing, more adequate child health care, and prevention and treatment of emotional disturbances. As Robert Sears has recently commented, "Today's novitiates in the 'science' of child development must not complain when they feel the heat of social demands put upon them. The field grew out of *relevance*. Its content and its multidisciplinary structure are a product of the demands for social usefulness." Indeed, it is probably their concern not just with scientific discovery but with improving the situation of the world's children that ultimately binds together the tenacious minority of psychologists, pediatricians, child psychiatrists, educators, sociologists, anthropologists, behavioral geneticists, and others whose collective work determines what the "child development movement" is, and what it will become.

As William Kessen observes in one of two perceptive commentaries appended to this monograph (the other is by L. J. Borstelmann), Senn's publication "is all at once biography, history, gossip, and evidence. As biography, it is lovingly and persuasively partisan; as history, it is revealing, selective, and necessarily limited by its method; as gossip, it is tame; as evidence, it is without parallel, essential to any future chronicle of child study."

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The Study of the Very Bright

Terman and the Gifted. MAY V. SEAGOE. Kaufmann, Los Altos, Calif., 1975. xiv, 258 pp. + plates. $10.

Intellectual precocity has not always been generally applauded. Shakespeare helped further the myth that precocity is unhealthful when in *Richard III* he said, "So wise so young, they say, do never live long." The 19th-century American writer Margaret Fuller warned that "For precocity some great price is always demanded sooner or later in life." The British critic and essayist William Hazlitt had noted of some English writers that "Their productions . . . bear the marks of precocity and premature decay." The great French writer Alfred de Musset summed up the matter well when he wrote, "How glorious it is—and also how painful—to be an exception."

Growing up on an Indiana farm, Lewis Madison Terman (1877–1956) keenly felt the proddings of his high intelligence and strong academic motivation. Despite lifelong bouts with pulmonary tuberculosis, he worked extremely hard and effectively to build up a solid body of empirical evidence that would counter prejudices against the intellectually gifted. The essential tool for this endeavor, which began before 1921 and will continue under his financial auspices through this century, was his revision and standardization in the English language of the Frenchman Alfred Binet's 1911 intelligence scale. Terman's Stanford-Binet Intelligence Scale (1916, 1937, 1960) is one of the greatest contributions of psychology to human affairs. Through the work of Terman and Arthur S. Otis, his student, it led also to group testing of intelligence and other abilities and achievements. Terman and Otis pioneered in the development of multiple-choice items and quick, objective scoring. In use to this day, the Stanford Achievement Test Battery attests to the fruitfulness of their work during World War I and thereafter.

Though "IQ tests" are much maligned, especially because results from them can be misused greatly, the Stanford-Binet Intelligence Scale remains a psychometric marvel. No other instrument spans so well almost the entire range of mental ability from slow-learning preschoolers to brilliant adults. No other one mental test can provide the well-trained school or clinical psychologist with as valid a single IQ. Because it must be administered by the examiner to examinees individually and must be scored carefully, use of the Stanford-Binet is slower and more expensive than group testing, but for many persons it is well worth the cost.

Binet had developed his first scale in 1905 for differentiating among seemingly dull young school children, and that was the use to which Henry H. Goodard put it in the United States by 1910. As early as 1904, however, in his first published paper, Terman showed that his interests lay at the other end of the intellectual continuum. It is fitting that his last paper, read at the annual American Psychological Association meeting in 1955 and reproduced by Seagoe in the book under review, briefly summarized "the characteristic traits of gifted children" and then presented some of the results of Terman's most recent follow-up studies of his more than a thousand highly gifted "children," by then of average age 44.

Chiefly during 1921–22 Terman located 1528 California children, most of them of school age, who represented approximately the upper one-half of 1 percent of the IQ distribution. By 1925 the first volume of his Genetic Studies of Genius series (five volumes thus far,

through 1959, published by the Stanford University Press and still in print) had appeared. Entitled *Mental and Physical Traits of a Thousand Gifted Children*, it laid a firm base for his continuing efforts to show that extremely bright children are not small, unhealthy, unpleasant brats artificially goaded by pushy parents into becoming unwilling scholars. They do not tend to regress toward mediocrity, die early, be psychotic, or become routine adults educationally or vocationally. Over the years Terman hammered home these and related points to the extent that denigrators of intellectual talent can readily be countered with strong evidence. Findings of that important study to 1960 were summarized succinctly and extended by Melita H. Oden in her 90-page *Genetic Psychology Monographs* article (vol. 77, 1968).

It is the story of Lewis Terman as person, Stanford University professor of education and then of psychology, and researching advocate of the gifted that his former doctoral student May Seagoe tells, interestingly and with excellent balance. Terman was a complex, many-faceted individual who did far more than develop tests and use them to find high-IQ'ers, but clearly that was the central theme of his long, productive lifetime. Terman never showed much interest in slow learners. Paradoxically, however, of the 27 dissertations for the Ph.D. degree that he supervised from 1916 through 1937 only four were concerned with the gifted, and all those were written between 1924 and 1928. More were about some aspect of atypicality in the other direction, such as delinquency, mental retardation, and neuroticism. There were only eight that did not deal with one or more aspects of intelligence.

Terman wanted to learn what high-IQ children were like and how they progressed during their lifetimes. He did not intend to intervene in their lives, though being called a "genius" or a "Termite" may have affected a number of them in one way or another. Terman and others such as Paul A. Witty and Leta S. Hollingworth described characteristics of the intellectually gifted well, but few persons have been concerned much with actually helping them educationally and otherwise. Most attention, especially since the mid-1950's, has been directed toward those members of minority groups who score low on intelligence tests and toward the mentally retarded. Funding agencies which pass over the gifted usually rationalize—quite incorrectly, the evidence shows—that they will get along about as well without special provisions as with them.

A revival of interest in the intellectual highly able seems in the offing, aided by books such as Seagoe's biography and *Intellectual Talent: Research and Development,* edited by Daniel P. Keating (Johns Hopkins University Press, 1976). By force of his greatness as a psychologist Terman gave impetus to the scientific study of gifted children. After his retirement in 1942 the field lost leadership, perhaps to a considerable extent because he had not produced protégés to keep it going. The following up of his gifted group continues, however, under the auspices of Robert R. Sears and Lee J. Cronbach at Stanford University. They are preparing reports concerning the 1972 survey, when the average member of the group was 61 years old. Pauline S. Sears's study of the personal and vocational satisfaction of the women in the group as of 1972 will appear in *The Gifted and the Creative: Fifty-Year Perspective* (Julian C. Stanley, Ed., Johns Hopkins University Press, in press).

Besides providing a perceptive, tasteful 189-page biography Seagoe lists Terman's 270 publications, 26 unpublished items, and details about the 69 M.A. and Ph.D. degree theses that he supervised. She also reproduces six of his unpublished papers.

It is easy for this reviewer to agree with Terman's longtime close friend Ernest R. Hilgard in his introduction to the volume: "The Terman story stands on its own merits, and it is told here clearly, honestly, and competently . . . we have a reflection of the history of psychology in the history of one of its prominent figures. . . . Dr. Seagoe has been thorough, objective, and sensitive throughout; she gives the story of the man I knew. I believe this will be his definitive biography."

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Valued Behaviors

Origins of Intelligence. Infancy and Early Childhood. MICHAEL LEWIS, Ed. Plenum, New York, 1976. x, 414 pp. $17.50.

In the introduction to this collection of 13 papers the editor warns, "There is no summary statement to be found in this volume." He might have added that a reader who tried to formulate one would be hard pressed to do so since there are only a few threads that link the contributions. The major one is simply the authors' common interest in infants, who are no longer seen as mere passive recipients of stimuli but rather as active, self-motivated explorers and participants in their environments. Another link is the widespread agreement that a unitary conception of intelligence as a single general trait is no longer, if it ever was, tenable. Human beings exhibit a variety of symbolic and overt behaviors which show a shifting pattern and range of intercorrelations. Some of these behaviors are valued and individuals who show them to a high degree are called "intelligent." The particular behaviors that singly or in combination elicit that designation vary across cultures and, within cultures, over the life-span. This book deals primarily with the valued behaviors of infants in Western industrialized societies.

While a number of papers deal with specialized topics, there are several distinguishable groups. One focuses on the traditional infant intelligence scales. The history of the infant testing movement is described and a fairly complete rundown of available tests and their technical characteristics is given. Collectively, although the authors don't say so, these papers show that the tests have proved practically and theoretically disappointing. For most infants they simply provide a standardized technique for normatively assessing current level of functioning in a set of sensory, motor, and simple social skills that emerge in the first few years of life. Retest reliabilities are so low that few normal infants retain their relative standing in a group over any but the shortest intervals. This plus the fact that the behaviors sampled are very different from those sampled by later IQ tests makes it understandable that predictability of later IQ from early infancy test scores is almost nil. Certainly the hope, once held, that prospective adoptive parents and children could be intellectually matched never came close to realization. The only exception to this picture of poor predictability is in the case of grossly retarded children. For them the tests do predict later cognitive functioning and are useful diagnostic adjuncts to pediatric examination. Finally, with reference to these traditional psychometric instruments, it is noteworthy that they do not relate to socioeconomic level or to race in the same way as do later IQ tests. Poor infants and black infants do not earn lower scores than white middle-class infants. In some cases they earn higher scores. This clearly reduces the impact of Lewis's blanket assertion that "IQ scores have come to replace the class systems or feudal systems that pre-