Parental Loss and Genius

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ABSTRACT: *A scientific theory is proposed to account for the historically eminent individual or genius by relating his or her development to loss of parents. A parental loss profile is described that rigorously defines orphanhood, and a study of 699 eminent persons that makes use of this profile is reported. Early orphanhood was found to be characteristic of this eminent group. Comparisons with previous work were attempted despite obvious methodological problems. Theoretical considerations indicating the effects of bereavement and orphanhood are offered to explain the relationship between achievement and parental loss as well as that between the genius and the disturbed psychotic.*

Renewed interest has recently been shown in the study of genius (Albert, 1969, 1971, 1975; Besdine, 1968a, 1968b; Sorell, 1970). Many have tried to explain the development of those who mold civilization. There are leads and there are worthy thoughts on the subject, but few actual facts. Genius was described initially as an act of creativity on the part of the Supreme Creator and until very recently in history was the subject of religious speculation. Beginning in the 1870s, however, scientists attempted to analyze the operational components of genius. Galton (1869/1962) believed that the faculty of genius was transmitted through hereditary principles. Lombroso (1891) believed in a theory of genius that he based on his work as a psychiatrist. He had observed at close range the many forms of mental deterioration, extreme behavioral manifestations, and emotional disturbances of patients in large institutions for the mentally ill. He believed all forms of genius were the result of psychoses and moral degeneracy, and he offered great numbers of cases to prove his point. There have been many examples of actual insanity among the famous, yet Ellis (1904/1926) reported that mental illness is not found among the famous in anywhere near the proportions which Lombroso stated it would be. A great step forward in the study of the genesis of genius was made by Wilhelm Lange-Eichbaum (1928/1956, 1932). He explained that psychosis does occur in the lives of many geniuses and that even when psychosis is not found, markedly psychopathic traits can be found in a great majority of the eminent. Aside from (a) Galton and his theory of heredity, (b) Lombroso's degenerative-psychosis hypothesis with its modification by Lange-Eichbaum, and (c) the sociological school that cataloged the characteristics of genius (e.g., Bowerman, 1947; Cattell, 1903; Cox, 1926/1959; Ellis, 1904/1926; Goertzel, 1962; Illingworth, 1966; Kenmare, 1960), all three of which are acknowledged to be grossly inadequate theories, there is no theoretical position that can explain the phenomenon of eminence or creative genius, and there are no facts to support any generalized theory. In other words, there is as yet no scientific theory to account for the development of a historically eminent individual. The present study attempts a new viewpoint in discussing genius and its origins by relating creative thinking, historical eminence, administrative prowess, and scientific acumen to the variable of loss of the parents by death. The study was an outgrowth of previous work in the area of creativity (Eisenstadt, 1966). Genius is defined here as the development of an individual to a high degree of competency and superiority in an occupational field. This is postulated to be due to several factors, including (a) a certain degree of innate, biologically determined characteristics—principally intelligence, physical abilities, and the like; (b) individual development of those capacities by a unique and specific psychological mechanism of interaction within the family unit; and (c) training and educational advancement leading to (d) accomplishment. The unique and specific psychological mechanism focused upon in this study is the bereavement experience and its resolution or, more generally, the problem of orphanhood.

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The essential element in orphanhood that uniquely describes it is that no possibility exists for a return to a former family situation. Once a parent dies, whether father or mother, the family unit is permanently altered. A curious fact of the English language is that the word *orphan* is an inexact term. According to the dictionary definition, an orphan is someone who has lost either one parent or both parents. In this study, orphanhood is defined in three aspects: paternal orphanhood—the loss by death of the father; maternal orphanhood—the loss by death of the mother; and full, total, or double orphanhood—the loss by death of both mother and father. I developed the concept of the parental-loss profile to rigorously define the orphanhood situation of any individual. Thus, Sigmund Freud's profile reads F40, M74, meaning that Freud was 40 years old when his father died and 74 years old when his mother died. Charlotte Bronté's profile is F after, M5, S38, which states that her father was still alive when she died at age 38 and that her mother died when she was 5 years old.

In the present study, parental loss by death was the main consideration. Eliminated for the sake of research strategy were sibling loss, the loss of children and its effects on parents, and other loss events including separations, divorces, hospitalizations, mental illness of parents, etc. It seemed expedient from a research point of view to study the most basic form of parental loss—actual loss by death of the parent, or orphanhood. First, when a parental death is studied, it is easier to determine the actual point in time of the loss. Second, the effects should be more prominent and more easily noticed than those of other forms of loss. Third, the information to be obtained is more readily available.

What is the specific relationship between the loss of parents by death and the desire for fame, eminence, and occupational excellence? Certainly one of the important considerations is the nature of the family unit prior to the disruption caused by the death of the parent. The individual whose parents provided defective care and a disturbed family background would be affected quite differently by the death of a parent than the individual with a healthy family background whose parents showed genuine concern. It has already been remarked in the developing parental-loss literature that various facets comprise the crisis of bereavement. Such factors as the age at which the death takes place, the composition of the household at the time of death, the previous psychological and economic relationships that have existed before the loss, and the capacity of the family members to absorb the crisis have been mentioned as contributory factors to the traumatic nature of orphanhood. Thus, parental loss is conceived in two ways: (a) Parental loss by death has a *direct* result, and depending on the age of the child, this result can be specified, and (b) parental loss by death has an *indirect* result depending on the family dynamics existing before the death occurred.

Researching Genius: The Study Group and Parental-Loss-Profile Results

The study of eminence and the criteria used to define the eminent has a well-developed history and can be dated for our purposes as beginning with Sir Francis Galton (1869/1962). The selection of eminent individuals was personally decided upon by him, although he was guided in his choice of judges, statesmen, scientists, poets, and artists by standard reference works available at the time. Galton later selected Fellows of the Royal Society who had won medals for scientific work, had been president of a learned society, had attained membership on the counsel of the society, or were professors at important universities. Havelock Ellis (1904/1926) used the 66 volumes of the *Dictionary of National Biography*. He selected individuals to whom three or more pages were devoted, but he also included those whom he believed to have shown a high order of intellectual ability despite the fewer than three pages of print. He excluded the notorious and members of the nobility regardless of their eminence. Cattell (1903) selected his group of eminent men from six biographical dictionaries or encyclopedias: two French, one German, and three English, including Lippincott's *Biographical Dictionary*, the *Encyclopaedia Britannica,* and Rose's *Biographical Dictionary*. The chosen group was defined by inclusion in at least three of the sources, with the greatest average space allotted determining the magnitude of eminence.

The subjects in the present study were derived from listing all individuals who appeared in the 1963 edition of the *Encyclopaedia Britannica* with 1 column of space ($\frac{1}{2}$ page) or more and from listing all individuals who were given 1 column of space ($\frac{1}{2}$ page) or more in the 1964 edition of the *Encyclopedia Americana*. A person with at least 1 column in each encyclopedia was included; this resulted in a group of 699 individuals, 20 women and

TABLE 1

Number and Percentages of Subjects by Nationality

Nation	%	*n*
1. Britain	27.8	194
2. America	17.0	119
3. France	12.6	88
4. Italy	8.2	57
5. Germany	6.9	48
6. Greece	4.1	29
7. Rome	4.0	28
8. Russia	2.1	15
9. Biblical	2.0	14
10. Scotland	1.8	13
11. Spain	1.7	12
12. Ireland	1.4	10
13. Austria	1.3	9
14. Combined others	9.1	63

Note. $N = 699$.

679 men. The famous spanned the ages from Homer to John Kennedy, from the Greek and Roman periods of 500 B.C. through the current eminent of 20th-century history. Those studied were found to have an average of 1½ pages in the *Encyclopaedia Britannica* ($M = 3.31$ columns, $SD = 3.19$) and an average of 1 page in the *Encyclopedia Americana* ($M = 2.51$ columns, $SD = 2.39$). Thus, the average famous individual in this study was found to have a combined space allocation of slightly less than 3 pages ($M = 5.85$ columns, $SD = 5.18$).

The death dates of the fathers and mothers and the birth and death dates of the eminent individuals themselves were obtained. Subjects were eliminated from statistical computations whenever biographical information was unavailable on the lifespan of the individual or on his or her parents. Of the original 699, it was necessary to eliminate 126 (18%) for whom biographical data on parent death dates were unavailable. This left 573 subjects, which constituted the major statistical group. The greatest number of these, 215 (38%), were from the 19th century, while 146 (25%) were from the 20th century. The 18th century contributed 75 (13%); the 17th century, 55 (10%); the 16th century, 39 (7%); and all others from ancient antiquity through 1499 comprised 43 (7%).

In Cattell's (1903) listing of 1,000 eminent men, the rank order by nationality was France (1), Britain (2), Germany (3), Italy (4), Rome (5), Greece (6), and America (7). If only the top 500 of Cattell's listing are used, the rank order becomes Britain (1), France (2), Greece (3), Germany (4), Italy (5), Rome (6), and America (7). The 699 subjects of the present study produced the rank order shown in Table 1. There were 163 subjects (23%) in this study who "moved up" in individual rank order from Cattell's listing, while 203 subjects (29%) "moved down" in rank order. Almost half, or 333 (48%), of the famous individuals in contemporary history included in the present study were not listed at all in Cattell's study. In the total Cattell group of 1,000, 634 eminent individuals (or 63% of his listing), were not included in the present study. Surprisingly, of those not included in the present study from Cattell's group, 10 individuals appeared in his top 100, 23 in the second 100, 47 in the third 100, 56 in the fourth 100, and at least 70 or more individuals were excluded in each of the subsequent 100s up to 1,000. Thus, we can see the cultural influences and/or prejudices that appear in preparing lists of the eminent.

Each subject in the present study was eminent because of his or her occupational abilities. Some individuals were notable because of exceptional accomplishments in more than one vocation, while some made their mark in one area only. In the total sample of 699 subjects, the largest occupational group was writers, followed by statesmen. Philosophers, poets, and scientists-scholars were given essentially equal prominence. Royalty, soldiers, and a special occupational group, founders,

TABLE 2

Number and Percentages of Subjects By Occupational Activity

Occupational activity	%	*n*
1. Writers	35.9	251
Poets	13.7	96
Dramatists	6.0	42
Novelists	3.0	21
2. Statesmen	25.3	177
Presidents of the United States	4.7	33
Jurists	2.4	17
Diplomats	1.6	11
Prime ministers	1.3	9
3. Philosophers	15.4	108
4. Scientists, scholars	13.6	95
5. Royalty	9.9	69
6. Founders	9.3	65
7. Soldiers	9.2	64
8. Artists	8.2	57
9. Reformers	5.4	38
10. Composers	3.3	23
11. Explorers	2.7	19

Note. Some individuals were listed in more than one category if they were noted for more than one occupation. $N = 699$.

TABLE 3

Parental-Loss-Profile Results for the Total Group of Famous Individuals in This Study

Parental-loss profile	*M* (years)	*SD*	*n*
Earliest or first parent to die (E)	21.10	14.31	488
Father death (F)	26.50	15.39	546
Mother death (M)	32.86	17.63	466
Last or second parent to die (L)	38.75	14.40	446
Age at death (S)	65.38	14.41	564

were similarly represented by numbers of individuals. Founders were those who achieved fame through establishing religious societies or some new organizational structure. Another special occupational group, reformers, was separately listed. Table 2 gives the numbers and percentages of the various occupational categories found in this study. If individuals were noted for more than one occupation, they were listed in each category of fame. This designation was usually found in the first sentence of the entry in the encyclopedia article. In very few cases was there any question as to the vocational designation to be given each subject.

The subject's age at the time of the death of each parent was considered in relationship to the famous subject's own lifespan. This led to the development of the parental-loss-profile notation used in this study. F and an age indicates the mean age of the eminent individuals when their fathers died. M and an age refers to the mean age of the eminent individuals when their mothers died. E and an age refers to the mean age of the subjects when the earliest or first parent died, and L and an age refers to the mean age of the subjects when the last or second parent died. S and an age indicates the mean lifespan of the subjects.

For the total group, the first parent (whether father or mother) died at E21.10 years. The death of the second parent (whether father or mother) occurred at L38.75 years. The subjects lost their fathers at F26.50 years and their mothers at M32.86 years (see Table 3).

It was determined that 14 fathers (2%) and 42 mothers (7%) outlived their famous children. In 6 cases (1%) both parents outlived their child, while in 50 cases (9%) one parent outlived the child. By age 10, 25.0% of the subjects had one parent dead, and by age 15, 34.5% had one parent dead. By age 10, 3.1% of the subjects had lost both parents, and by age 15, 5.9% had lost both parents. Father death by age 10 was experienced by 17.6%, while mother death by age 10 was experienced by 12.6% of the subjects. By age 15, 24.8% of the subjects had lost their fathers, while 18.5% of the subjects had lost their mothers. By age 25, 52.2% had lost one parent, 46.1% had lost their fathers, 28.6% had lost their mothers, and 15.9% had lost both parents. See Table 4 for the complete results.

There were 497 subjects for whom complete parental-loss information was available. There were 270 subjects (54.3%) whose fathers died before their mothers. They lost their fathers at F21.32 years and their mothers at M41.32 years, or 20 years later. Of these cases, 28% had lost their fathers by age 10, while 37% had lost their fathers by age 15. There were 163 subjects (33.0%) whose mothers died first. In these cases, the loss of the mother occurred at M19.22 years, with the father dying at F33.45 years, or 16 years later. Of these subjects, 34% had lost their mothers by age 10, and 50% had lost their mothers by age 15. There were 36 subjects (7.2%) whose mothers died after they did. These subjects lived to the age of S47.72 years, with their fathers dying

TABLE 4

Five-Year Interval Cumulative Percentages By Age at which Father, Mother, Earliest Parent, and Last Parent Death Occurred in the Lifespan of the Famous Individuals in This Study

Age (years)	Earliest or first parent to die (E)	Father death (F)	Mother death (M)	Last or second parent to die (L)
Before or at birth	4.2	3.1	1.2	0
0–5	13.4	10.8	4.5	.9
6–10	25.0	17.6	12.6	3.1
11–15	34.5	24.8	18.5	5.9
16–20	45.0	36.0	23.2	9.6
21–25	52.2	46.1	28.6	15.9
26–30	61.4	57.1	31.4	20.8
31–35	68.9	65.3	41.9	29.3
36–40	75.4	74.7	50.1	38.2
41–45	80.6	83.8	59.5	50.8
46–50	83.2	89.2	66.7	60.4
51–55	85.0	92.7	74.5	69.1
56–60	85.3	94.8	78.7	74.9
61–65		95.3	80.6	77.3
66–70			80.6	77.3
71–75			81.2	77.3
76–80			81.3	77.7
After	1.0	2.4	7.3	8.7
Unknown	13.6	2.3	11.3	13.6

Note. $N = 573$.

at F24.56 years. There were only 8 subjects (1.6%) whose fathers died after they did. These subjects lived to the age of S42.50 years, with the mothers dying at M21.12 years. There were six cases (1.2%) in which both the father and the mother died after the subject. These subjects died at the early age of S35.17 years.

The question to be asked is whether these results are unique for the special individuals in the encyclopedia, living in previous centuries when death rates were different, or whether these numbers are average ages at which any group of children and adults lose their parents. The problems in answering such a question are manifold. There are no comparisons to be made between the subjects of 2,500 years of recorded history and any control group. Moreover, insurance-company statistics start in rudimentary fashion only in the 19th century. How then to proceed to gain some measure of understanding of the nature of the obtained findings? There are several alternatives. An obvious first step is to compare equal halves of the total group to determine the reliability of the obtained results. Another step is to compare a historical group of individuals not listed in the encyclopedia with the eminent group of this study. Finally, despite numerous methodological problems, base rates of parental loss by death may be ascertained from the literature and used for comparison.

The Alphabet Test

A simple but powerful approach to determining the reliability of the numbers obtained for the total sample is to divide the group into two equal halves. Individuals 1 through 286 (corresponding to last names beginning with the letters A through Kh) were compared with Individuals 287 through 573 (corresponding to last names beginning with the letters Ki through Z) in an alphabetized listing of subjects. No statistically significant differences were determined for any of the ages of death in subject lifespans. These differences ranged from 1.27 years to 2.20 years. The death of the first parent, whether father or mother, occurred at E20.50 years ($SD = 14.29$, $N = 243$) in the A to Kh group and at E21.77 years ($SD = 14.24$, $N = 246$) in the Ki to Z group. The death of the second parent occurred at L37.96 years ($SD = 15.13$, $N = 220$) in the A to Kh group and at L39.56 years in the Ki to Z group. The death of the fathers in the A to Kh and the Ki to Z groups occurred at F25.72 years ($SD = 15.75$, $N = 271$) and F27.27 years ($SD = 15.01$, $N = 275$), respectively. The death of the mothers occurred at M31.76 years ($SD = 17.65$, $N = 233$) in the A to Kh group and at M33.96 years ($SD = 17.58$, $N = 233$) in the Ki to Z group. Thus, the results of the alphabet test enable us to have confidence in the numbers found for the group as a whole. They are stable and reliable facts about the eminent individuals of history selected by inclusion in the encyclopedia.

Comparisons with Fathers Given or Not Given Space in the Encyclopaedia Britannica

A special group of 51 fathers was found who were famous themselves as well as having eminent children. These fathers had space devoted to them in separate articles in the *Encyclopaedia Britannica* (1968 edition), but not necessarily the amount of space to warrant inclusion in the main eminent group. A major characteristic of these fathers was their short lifespan of S53.92 years. They lost their own fathers at F19.79 years and their own mothers at M30.32 years. They lost their first parent at E13.91 years and their second parent at L34.91 years. This parental loss profile is due primarily to the fact that their first parent to die lived only for an average of 43.95 years. Their fathers lived for an average of 56.18 years and their mothers for an average of 59.71 years. The second parent to die had an average lifespan of 65.86 years.

A separate group of 184 fathers of subjects in this study, who were *not* given space in the *Encyclopaedia Britannica* (1968 edition), was available as a control group. They were found to have lived to S65.21 years. Their parental-loss profile was essentially the same as that found before for the study group. They lost their fathers at F26.93 years, their mothers at M34.28 years, their first parent at E19.60 years, and their second parent at L42.07 years. All these findings were not significantly different statistically from those for the total group.

It became possible to compare the group of eminent individuals so designated by inclusion in an encyclopedia with another group from the same periods of history who were not considered eminent. The first step was to see if they were indeed contemporaries. The eminent came from the following centuries: 53% (27 fathers) from the 1600s,

16% (8 fathers) from the 1700s, 27% (14 fathers) from the 1800s, and 4% (2 fathers) from the 1900s. This contrasted with the noneminent fathers as follows: 10% (18 fathers) from the 1600s, 24% (45 fathers) from the 1700s, 56% (106 fathers) from the 1800s, and 10% (18 fathers) from the 1900s. Thus, more of the eminent fathers came from the 1600s, while more of the noneminent fathers came from the 1800s. Any differences between the two groups have to be understood in light of this fact. The very limited numbers of cases are another drawback to these results, but nevertheless some real findings do emerge for interpretation.

The parental-loss profile of an average father who was eminent in his own right was found to be statistically significantly earlier than that of the noneminent fathers. The earliest parent to die was lost at E13.91 years in the eminent group, compared to E19.60 years in the noneminent group, a difference of 5.69 years (Z score = 2.27). The father died at F19.79 years in the eminent group, compared to F26.93 years in the noneminent group, a difference of 7.14 years (Z score = 3.40). In the eminent group, the second parent to die was lost at L34.91 years, compared to L42.07 years in the noneminent group, a difference of 7.16 years ($Z = 2.53$). The mother's death occurred earlier as well, but the difference did not reach statistical significance (M30.32 years vs. M34.28 years, $Z = 1.09$). These numbers can be examined in Table 5, which also includes the mean lifespans of each father group, their mothers and fathers, and the parental-loss data. A conclusion may be made in regard to the parental-loss profile of the eminent-fathers group: Earlier parental loss is found in an eminent group as compared to a noneminent group. On the basis of these results, genius or eminence appears to be related to orphanhood factors, as originally proposed. Certainly, some gain in support for the connection between parental loss and genius was found. The next step is to compare the obtained results with the literature on parental loss.

TABLE 5

Parental-Loss Data in a Special Group of Eminent Fathers of the Subjects in This Study Who Were Themselves Given Space in the Encyclopaedia Britannica *Compared to a Group of Fathers Not Given Space*

Parental-loss profile	*M* (years)	*SD*	*n*
Fathers given space			
(Eminent group)			
Father death (F)	19.79	12.02	48
Mother death (M)	30.32	17.08	34
Earliest or first parent to die (E)	13.91	10.70	33
Last or second parent to die (L)	34.91	13.17	32
Age at own death (S)	53.92	15.36	51
Fathers not given space			
(Noneminent group)			
Father death (F)	26.93	16.22	169
Mother death (M)	34.28	19.27	85
Earliest or first parent to die (E)	19.60	14.80	77
Last or second parent to die (L)	42.07	14.66	73
Age at own death (S)	65.21	16.16	184

Comparisons with the Parental-Loss Literature

Table 6 presents a summary of data from the parental-loss literature. The 1921 census data from England and Wales, made useful by Brown (1961), make a good starting point for a comparison between the results of this study and the results reported in the literature. This census stated that in the 0–4-year category, death of one parent was found in 7.86%, death of the father occurred in 6.0%, and death of the mother occurred in 2.16%. In the present study's 0–5-year category, death of one parent occurred in 13.4%, death of the father occurred in 10.8%, and death of the mother in 4.5%. In the 0–9-year category, the census data of 1921 showed the death of one parent to have occurred among 12.4%, the death of the father among 9.4%, and the death of the mother among 3.71%. This contrasts with the 0–10-year category of the present study in which 25.0% had lost one parent, 17.6% had lost the father, and 12.6% had lost the mother. Thus it can be seen that parental loss by age 10 is markedly greater among the eminent subjects of the present study than among the more general population of the census data. In the 0–14-year category, the census data show death of one parent occurring in 16.6%, death of the father in 11.9%, death of the mother in 5.75%, and the death of both parents in 1.2%. This contrasts with the findings of this study in the 0–15-year category in which 34.5% of the eminent had one parent dead, the father's death had occurred in 24.8%, the death of the mother had occurred in 18.5%, and both parents had died in 5.9%. For one parent dead and for father dead, the percentages in the present study are more than

TABLE 6

Orphanhood Rates Among General Population, Juvenile Delinquents, and Psychiatric Patient Groups

Group	Father dead (%)	Mother dead (%)	Both dead (%)	One or both dead (%)
General population				
Brown (1961): 1921 Census				
To age 4	6.00	2.16		7.86
To age 9	9.4	3.71		12.40
To age 14	11.9	5.75	1.2	16.60
Petursson (1961): 1921–1930				
To age 15				28.5
Metropolitan Life Insurance Co. (1959, 1966): 1900–1902 (estimates; birth depending on age of father or mother)				
To age 17	12.1–32.1	9.7–21.7		
Juvenile delinquents				
Breckinridge and Abbott (1912): 1903–1904	19.9	12.0	4.3	34.0
Rhoades (1907): 1905				
To age 17				35.0
Russell Sage Foundation (1914): 1909				
To age 16	22.7	8.6	5.2	36.5
Shideler (1918)	17.9	12.8	5.7	36.4
Healy and Bronner (1926): 1909–1914				
Chicago	18.0	12.0	3.0	33.0
Boston	15.0	6.5	2.5	24.0
Sullenger (1930): 1922–1927				
To age 17	22.3	16.7	5.5	44.5
Armstrong (1932): 1926–1929	17.7	17.5	3.8	39.0
Brown (1961, 1966, 1968)				
To age 19	31.5	12.25		40.5
Glueck (1950): 1911–1922				35.9
Psychiatric patients				
Barry and Lindemann (1960): 1944–1953				
Males to age 27	17.0	13.66		
Females to age 27	18.01	17.80		
Hill and Price (1967):				
To age 30	36.8			
Beck, Sethi, and Tuthill (1963):				
To age 30				30.3
To age 60				54.8
Brown (1961):				
To age 39	60.8	42.9		

twice those from the census data. For both parents dead and for mother dead, the percentages are more than three times greater in this study than in the census data. Naturally, the 2,500 years of recorded history in which the subjects of this study lived had different death rates than found in the England and Wales of 1921. The census population is not meant in any way to be a control group with which the present data can be scientifically compared. Nevertheless, I attempted to make use of the numbers available, and it is readily apparent that orphanhood was essentially more common among the group in the present study.

The Metropolitan Life Insurance Company (1959, 1966) estimates are another source with which a comparison of some significance can be made. In the 0–17-year category for the period 1900–1902, death of the father was estimated to occur for 32.1% of the children born to 50-year-old fathers. If the father was 25 years old at the birth of that child, the chances of losing that father by death were reduced to 12.1%. In the present study, the finding for 0–20 years in the death-of-father category was 36.0%, and in the 0–15-year group, it was 24.8%. These numbers begin to approach, although they do not equal, the estimates

made for 1900–1902 by the Metropolitan Life statisticians for children of elderly fathers, but they are greater than the estimates for children of young fathers. Likewise, the death-of-mother estimate at the birth of the child was 21.7% if born to a 45-year-old mother, whereas it was reduced to 9.7% if the child was born to a mother 20 years old during 1900–1902. The corresponding findings in the present study were 23.2% in the 0–20-year category and 18.5% in the 0–15-year category. Once again, these numbers are comparable if elderly mothers only are considered.

In the comparisons for the 0–17-year-olds for 1956 and 1964, the estimates for father death were found by Metropolitan Life statisticians to be 32.3% and 33.1%, or essentially the same as that for 1900–1902 for a child born to an elderly 50-year-old father. However, the percentages for loss of mother by death decreased in 1956 and 1964 to 11.5% and 12.4%, respectively, for an elderly mother aged 45 years. Therefore, there was a definite increase in longevity for the mother compared to 1900–1902 estimates.

The study by Petursson (1961) for Icelandic Life Insurance policy holders gives a comparison number of limited value but useful nevertheless. In the period 1921–1930 in the 0–15-year category, 28.5% experienced the death of one parent, which compares to a figure of 34.5% in the 0–15-year group of the present study.

The orphanhood rates for father death, mother death, one parent dead, and both parents dead obtained among the eminent subjects of this study were found to be higher than the general-population results found in the literature. It is clear that the orphanhood rate in the present study is on the high side compared to the rates found in the census data and the Metropolitan Life estimates.

Orphanhood data have also been obtained for specialty groups. Although a specialty group is even less directly comparable to the eminent group in this study, some benefit may be derived by an attempt to compare them. A substantial body of orphanhood data has been amassed in the delinquency field. Of the delinquents processed in the Chicago Juvenile Court who were between 8 and 17 years old (average age of 13), 35% had one parent who was dead (Rhoades, 1907). In 1925, Healy and Bronner studied Chicago and Boston juvenile offenders. They found that in the period 1917–1923, 23% of these offenders in Chicago and 29% in Boston had lost one parent. Armstrong (1932) studied the New York City Children's Court during 1926–1929 and found that in a group of 660 runaway boys, 39.0% had lost one parent. Armstrong also described a study of delinquent boys in four penal institutions; 35.6% were found to have lost one parent. The cumulative percentage in the 0–15-year category of the eminent study was 34.5% for the loss of one parent by death. The figure for the loss of both parents obtained in this study was 5.9% in the 0–15-year category, a figure generally reported in the early studies of delinquency as well. For example, in the study by Sullenger (1930) based on the District Court of Omaha, Nebraska, for 1922–1927, it was found that 5.5% of the boys and 5.5% of the girls (combined rate of 5.6%) had lost both parents. Thus, the delinquents of the early 20th century who found their way into a court or an institution were orphaned at rates comparable to those found in the present study of the eminent.

As to father death, a Russell Sage Foundation (1914/1969) study found a 22.7% rate in a 14–16-year group. Sullenger (1930) reported a figure for father death among 11–17-year-old boys of 22.3%. Similarly, Breckinridge and Abbott (1912) reported that the father-death rate was found to be 19.9% in a special group from 1903 to 1904. Shideler (1918) reported father death of 22.7% in one New York City study. For death of the mother, the Russell Sage Foundation (1914/1969) reported a figure of 8.6% among 14–16-year-olds. Sullenger (1930) reported a corresponding figure of 16.7% for 11–17-year-old boys, while Breckenridge and Abbott (1912) found 9.8% for boys and 20.4% for girls, or a 12% overall rate. Brown (1961, 1966, 1968) and his associates provide some data for comparison with these numbers for ages up to 19: Among women prisoners, death of the father had occurred for 31.5%, while death of the mother had occurred for 12.25%. In another study it was found that 40.5% of the female prisoners 19 years old or younger had lost one parent. In the studies of delinquency by the Gluecks (Glueck, 1936, 1959; Glueck & Glueck, 1930, 1934a, 1934b, 1950, 1962), the orphanhood rate for the period 1911–1922 among male reformatory prisoners was found to be 35.9%. These results may be compared to the eminent-study findings of 34.5% by age 15 and 45.0% by age 20 for one parent dead. Father death by age 15 occurred among 24.8%; this figure increased to 36.0% by age 20. Mother death by age 15 occurred among 18.5%, and this increased to 23.2% by age 20. Delinquency studies show early-20th-century juvenile delinquent

populations to have roughly similar orphanhood rates, although they are lower than the rates for the eminent group. Prisoners were also found to have roughly comparable orphanhood experiences. Many studies, however, yielded orphanhood-incidence results much lower than those found among the eminent. Overall, my conclusion is that despite methodological pitfalls inherent in the problems of comparison, it once again appears that the rate of orphanhood among the eminent is even greater than that among delinquents given over to courts and state institutions for care. The reader will have to be the final judge.

While a control group for studying childhood orphanhood rates has been extremely difficult (and perhaps impossible) to construct, constructing one to study adulthood orphanhood rates seems even more impossible. Nevertheless, there are some findings in the literature of orphanhood incidence that were collected in connection with studies of bereavement. In the Barry and Lindemann (1960) study of private patients, 17.0% of the males and 18.01% of the females had lost their fathers by the age of 26. In the same study, 13.66% of the males and 17.8% of the females had lost their mothers by the age of 26. Hill and Price (1967) found that 33.5% of the nondepressed patients and 36.8% of the depressed patients admitted to hospitals in 1958–1963 had lost their fathers by the age of 30. The Beck, Sethi, and Tuthill (1963) study of psychiatric outpatients found cumulative orphanhood rates of 30.3% by age 30 and 54.8% by age 60. Brown (1961) found that of depressed female patients, 60.8% had lost their fathers and 42.9% had lost their mothers by age 39. In the present study of eminence, the findings through age 25 were 46.1% for death of father, 28.6% for death of mother, and 52.2% for death of one parent. Through age 30, the corresponding figures were 57.1% for father death, 31.4% for mother death, and 61.4% for death of one parent, while through age 40 the percentages increased to 74.7% for father death, 50.1% for mother death, and 75.4% for death of one parent. By the age of 60, 85.3% of the eminent subjects had lost one parent by death. There is obviously little scientific connection between any of the foregoing to imply whether the orphanhood rates obtained in this study of eminence are systematically greater (which was found) or are an artifact based on the meager and scattered findings for adulthood in a different century with a group of individuals other than the eminent. However, the rates are provided to arouse the curiosity and interest of the reader.

Review of studies of hospitalized patients indicates that the reliability of these studies is much poorer than the reliability of the studies discussed previously. However, with some exceptions it seems that among a psychotic hospitalized population, as many as 28% may have lost one parent by age 20, compared with 45.0% among the eminent. With numerous exceptions, slightly less than 20% of hospitalized patients have lost their fathers and somewhat less than 15% have lost their mothers. These impressions compare to the figures of 36% and 23% for death of father and death of mother, respectively, obtained among the eminent. The faulty methodology of the literature of hospitalized psychotics has been fairly and extensively scrutinized in the literature, and further comment is not necessary at this point. (See Barry, 1949; Beck, Sethi, & Tuthill, 1963; Brown, 1961; Dennehy, 1966; Forrest, Fraser, & Priest, 1965; Gay & Tonge, 1967; Gregory, 1959; Hilgard & Newman, 1961, 1963a, 1963b; Hill & Price, 1967; Oltman & Friedman, 1965; Paffenbarger & Asnes, 1966.)

When I examined studies with more specific samples such as depressed or suicidal patients, the percentages reported ranged up to 35% for death of one parent by age 15, which matches the 35% found in the present study. Similarly, father death, with great variations, was found to range from 13% to 28% for adolescents, which again roughly corresponds to the 25% for death of the father by age 15 found in the study of the eminent. With great variations, anywhere from less than 10% to 20% of a severely depressed teenage population had lost their mothers, which can be roughly compared to the 18% of the eminent subjects in this study who had lost their mothers by age 15. Thus, once more we see that in a special group of subjects, in this case the severely depressed, just as was true for seriously delinquent populations, there is a reported incidence of orphanhood which approaches the incidence of orphanhood found among the eminent of the present study. Among the more generalized populations studied, the incidence of orphanhood seemed to be much less than among the eminent. Naturally, the lack of true control groups must be repeatedly emphasized. The present speculations and impressions may or may not be helpful in ascertaining the nature of an orphanhood rate in an average population and how it might compare to the results obtained in

this study of eminence. I hope that the difficulties in scientifically studying orphanhood throughout the entire lifespan may be overcome and progress in this field will be made in future work. For further information on the topic of orphanhood, see Barry (1969), Bendiksen and Fulton (1975), Brown (1966), Brown, Epps, and McGlashan (1961), Greer (1966), Gregory (1958, 1965a, 1965b, 1965c, 1966a, 1966b), Hilgard and Newman (1963a, 1963b), Marris (1974), Miller (1972), Moriarty (1967), Neubauer (1960), Oltman and Friedman (1953), and Oltman, McGarry, and Friedman (1952).

Is Parental Loss a Primary Pathway to Creativity and Eminence?

Parkes (1972) introduced his study of bereavement by reference to Freud's case of Anna O. Her mental illness, including hysterical symptoms of headaches, paralysis, and anaesthesia in her limbs, occurred during the course of her father's terminal illness and became worse upon his death. She was treated during this time (in 1881) by Breuer. Breuer believed Anna O. was helped by talking about these disturbing events of her life—thus the discovery of the link of trauma and symptom. Freud published with Breuer in 1893 (Freud & Breuer, 1893/1947) a description of the case and of the treatment. Anna O. became the first social worker in Germany, founded a periodical, and started several institutes. In the report, trauma and symptom were linked, but trauma and creative productivity and occupational achievement were not linked. One purpose of the present study is to attempt the theory building that would support these overlooked relationships.

The death of a parent in childhood is recognized as a major traumatic event affecting subsequent personality. Not only does the trauma include the separation and loss of the deceased parent but it also alters the relationships with the surviving parent and with other family members. In 1969, Wolfenstein offered a developmental model that helped to explain the relationship between achievement and loss. It is important to know the type of parent surrogate that is identified with following mourning. At times, a child will become his own parent surrogate. If this occurs, an ego ideal may be developed that leads to outstanding accomplishment. Why the child might become his own parent depends on various factors occurring before, during, and after the death. The phase of development at the time of loss, the gruesomeness of the death process if witnessed by the child, and who is available to assume a constructive parent-surrogate role all have to be taken into account. The reaction of rage at being abandoned may assume the proportions of a comprehensive grievance elaborated into an indictment of social injustice. This system of thought can then be transformed into either outstanding accomplishment or outstanding antisocial behavior. If there is a need to "wrest from fate a different outcome" and if a repair of faulty reality testing can take place, then positive achievement may be the result. Even if the need to coerce fate has a pathological aspect to it, it still may be reformulated into an ultimately positive statement. Wolfenstein provides a rationale for the beginning of an understanding of how revolutionaries, founders of new societies, and startlingly innovative social critics, who both attack society and hold out a hope for reconciliation through progressive reformation, appear on the scene. The bereavement reaction can be an impetus for creative effort, a force for good, or it can have the effect of stunting personality growth and producing the concomitant antisocial acts, destruction of social relationships, and even the taking of one's own life.

In the creative mourning process there is a sequence of events whereby the loss triggers off a crisis requiring mastery on the part of the bereaved individual. If this crisis is worked through, that is, if the destructive elements and the depressive features of the experience of bereavement are neutralized, then a creative product or a creatively integrated personality can result. It can ultimately mean an elevation in job, a higher social position, or heightened individual social awareness. (See also Kanzer, 1953; Rochlin, 1961, 1965.)

A theory of bereavement leading to creative output can now begin to be developed. Positive results of the bereavement trauma include the fact that many children are able to assume increased responsibility in the family and adopt a new role based on the new circumstances. Some children are able to begin a differentiation toward a unique personality formation. Attempts at restitution for the parent death require the finding of a suitable replacement. Since fears of worthiness might prevent the establishment of a new relationship, steps are taken to become a more worthwhile person. The idealization of the dead parent leaves many openings for such positive growth. The problem of mastering a changed and changeable environment

can be translated into strivings for achievement, accomplishment, and power. This desire to control one's own destiny is frequently seen in children who experience multiple separations either due to long-term illness in the parent or to the inadequacy of surrogate parents. Bereavement may temporarily interfere with intellectual development, but as in other areas, once mastery has occurred, there may be a great motivational desire to excel in intellectual pursuits. If feelings of insecurity, inadequacy, emptiness, and, especially, guilt can inhibit functioning by overwhelming the personality, then the mastery of these feelings may be a springboard of immense compensatory energy. In the mastery of these personal problems and in the previously felt need to master the environment, creative expression may find its deepest roots. The creative effort is thus seen as a restorative act. An attempt is made to produce creative products that will, on the one hand, alleviate those feelings of guilt and apartness and, on the other hand, prove to all the world the individual's essential goodness. The long-term nature of the coping process in bereavement reactions develops a sense of time and persistence that is a fundamental trait necessary in creative effort. The ability to fantasize and the ability to regressively join with a dead parent may lead to a corresponding ruthlessness in dealing with other people. The compensating need for ambition and power of the personally weak but magnetic world leader is obvious. The question of morality and conscience, a hallmark of creativity, enters with the sense of injustice that the child felt and continues to feel in adulthood. The individual, orphaned child was selected by fate or destiny for the bereavement experience while his peers were not. The capacity to endure a self-punishing regimen might enable a creatively gifted individual to pursue creative studies that others might long before have given up. In all of this we are dealing with preexisting patterns upon which the death of a parent is superimposed and from which subsequent relationships will shape a final conclusion.

There are obvious differences between an outstandingly successful, creative individual, that is, a genius, and a disturbed, psychotic individual. However, there are similarities between them that might lead to a restructuring of theory on the nature of psychosis and genius. Among the similarities often found are, first of all, a certain vulnerability and poor ego defenses. Both the creative genius and the psychotic individual can be easily stimulated as a result of their vulnerability, and each can be considered sensitive despite the fact that at times both appear to turn a deaf ear to those trying to gain their attention. Second, both groups have a great energy investment in themselves and in what the self produces (i.e., narcissism). The accomplished genius is rewarded with societal applause. The psychotic, however, is often condemned on the basis of his or her production. Third, both often have disturbed personal relationships with their parents, siblings, and other relatives. Disturbance is also found in their relationships with their spouses or other love partners. A fourth similarity is their apparent ease of regression to more childlike behavior. The creative person seems to have the ability to control this regression, whereas the psychotic individual seems to have no control over it. Both groups have a capacity for suffering and exhibit dissatisfaction and unhappiness with their current circumstances. Corresponding to this dissatisfaction is a desire within both groups to master the environment and to strive for an independent stance. Obviously, one group appears more successful at mastery than the other. However, all those who have seen the inner workings of a large institution for psychotic patients can recognize in these patients a form of mastery over that particular environment. The psychotic individual within narrowly defined environmental limits cannot be coerced or medicated or shocked into doing other than that which he or she chooses to do. This characteristic is also found in outstandingly successful individuals who cannot be coerced by society or their associates into being other than what they choose to be. Both groups are capable of original productions that are statistically infrequent and unique in either thought, behavior, or tangible end results. Sometimes the idiosyncratic product can be useful to society, whereas other times it can be intolerable to society. There is also the possibility that both positive and negative reactions to the thought or work will be elicited from society at the same time or alternating within a narrow time frame. Both the creative genius and the psychotic individual apparently live in exceedingly complex worlds, with their various personality traits reflective of the complexity of those worlds. In my opinion, the findings of the present study lead to the conclusion that parental loss by death neatly explains these similarities between the genius and the psychotic. However, the parental-loss profile as a research strategy can certainly provide ample opportunity for disproof. Facts can once and for all advance

the science of genius and the psychology of the eminent. Its rescue from mysticism and prejudice will not come without struggle. However, I firmly believe that a significant and important beginning has now been made.

REFERENCES

Albert, R. S. Genius: Present-day status of the concept and its implications for the study of creativity and giftedness. *American Psychologist,* 1969, *24,* 743–753.

Albert, R. S. Cognitive development and parental loss among the gifted, the exceptionally gifted and the creative. *Psychological Reports,* 1971, *29,* 19–26.

Albert, R. S. Toward a behavioral definition of genius. *American Psychologist,* 1975, *30,* 140–151.

Armstrong, C. P. *660 runaway boys: Why boys desert their homes.* Boston: Gorham, 1932.

Barry, H., Jr. Significance of maternal bereavement before age of eight in psychiatric patients. *Archives of Neurology and Psychiatry,* 1949, *62,* 630–637.

Barry, H., Jr. Parental deaths: An investigative challenge. *Contemporary Psychology,* 1969, *14,* 102–104.

Barry, H., Jr., & Lindemann, E. Critical ages for maternal bereavement in psychoneurosis. *Psychosomatic Medicine,* 1960, *22,* 166–181.

Beck, A., Sethi, B., & Tuthill, R. Childhood bereavement and adult depression. *Archives of General Psychiatry,* 1963, *9,* 295–302.

Bendiksen, R., & Fulton, R. Childhood bereavement and later behavior disorders: A replication. *Omega,* 1975, *6,* 45–59.

Besdine, M. The Jocasta complex, mothering and genius, part I. *Psychoanalytic Review,* 1968, *55,* 259–277. (a)

Besdine, M. The Jocasta complex, mothering and genius, part II. *Psychoanalytic Review,* 1968, *55,* 574–600. (b)

Bowerman, W. G. *Studies in genius.* New York: Philosophical Library, 1947.

Breckinridge, S. P., & Abbott, E. *The delinquent child and the home.* New York: Russell Sage Foundation, 1912.

Brown, F. Depression and childhood bereavement. *Journal of Mental Science,* 1961, *107,* 754–777.

Brown, F. Childhood bereavement and subsequent psychiatric disorder. *British Journal of Psychiatry,* 1966, *112,* 1035–1041.

Brown, F. Bereavement and lack of a parent in childhood. In E. Miller (Ed.), *Foundations of child psychiatry.* Oxford: Pergamon Press, 1968.

Brown, F., & Epps, P. Childhood bereavement and subsequent crime. *British Journal of Psychiatry,* 1966, *112,* 1043–1048.

Brown, F., Epps, P., & McGlashan, A. The remote and immediate effects of orphanhood. *Proceedings of the Third World Congress of Psychiatry* (Vol. 2). Montreal: McGill University Press, 1961.

Cattell, J. McK. A statistical study of eminent men. *Popular Science Monthly,* 1903, *62,* 359–377.

Census of England and Wales 1921. London: General Register Office, His Majesty's Stationery Office, 1925.

Cox, C. *Genetic studies of genius: II. The early mental traits of 300 geniuses.* Stanford, Calif.: Stanford University Press, 1959. (Originally published, 1926.)

Dennehy, C. M. Childhood bereavement and psychiatric illness. *British Journal of Psychiatry,* 1966, *112,* 1049–1069.

Eisenstadt, J. M. Problem-solving ability of creative and non-creative college students. *Journal of Consulting Psychology,* 1966, *30,* 81–83.

Ellis, H. *A study of British genius* (Rev., enlarged ed.). New York: Houghton Mifflin, 1926. (Originally published, 1904.)

Forrest, A. D., Fraser, R. H., & Priest, R. G. Environmental factors in depressive illness. *British Journal of Psychiatry,* 1965, *111,* 243–253.

Freud, S., & Breuer, J. *Studies in hysteria.* New York: Nervous and Mental Disease Publishing, 1947. (Originally published, 1893.)

Galton, F. *Hereditary genius: An inquiry into its laws and consequences.* New York: World, 1962. (Originally published, 1869.)

Gay, M. J., & Tonge, W. L. The late effects of loss of parents in childhood. *British Journal of Psychiatry,* 1967, *113,* 753–759.

Glueck, S. *Crime and justice.* Boston: Little, Brown, 1936.

Glueck, S. (Ed.). *The problem of delinquency.* Boston: Houghton Mifflin, 1959.

Glueck, S., & Glueck, E. T. *500 criminal careers.* New York: Knopf, 1930.

Glueck, S., & Glueck, E. T. *500 delinquent women.* New York: Knopf, 1934. (a)

Glueck, S., & Glueck, E. T. *1000 juvenile delinquents* (2nd ed.). Cambridge, Mass.: Harvard University Press, 1934. (b)

Glueck, S., & Glueck, E. T. *Unraveling juvenile delinquency.* Cambridge, Mass.: Harvard University Press, 1950.

Glueck, S., & Glueck, E. T. *Family environment and delinquency.* Boston: Houghton Mifflin, 1962.

Goertzel, V., & Goertzel, M. G. *Cradles of eminence.* Boston: Little, Brown, 1962.

Greer, S. Letter on parental loss and attempted suicide. *British Journal of Psychiatry,* 1966, *112,* 743.

Gregory, I. Studies of parental deprivation in psychiatric patients. *American Journal of Psychiatry,* 1958, *115,* 432–442.

Gregory, I. An analysis of family data on 1000 patients admitted to a Canadian mental hospital. *Acta Genetica et Statistica Medica,* 1959, *9,* 54–96.

Gregory, I. Anterospective data following childhood loss of a parent: I. Delinquency and high school dropout. *Archives of General Psychiatry,* 1965, *13,* 99–109. (a)

Gregory, I. Anterospective data following childhood loss of a parent. II. Pathology, performance, and potential among college students. *Archives of General Psychiatry,* 1965, *13,* 110–120. (b)

Gregory, I. Retrospective estimates of orphanhood from generation life tables. *Milbank Memorial Fund Quarterly,* 1965, *43,* 323–348. (c)

Gregory, I. Retrospective data concerning childhood loss of a parent: I. Actuarial estimates vs. recorded frequencies of orphanhood. *Archives of General Psychiatry,* 1966, *15,* 354–361. (a)

Gregory, I. Retrospective data concerning childhood loss of a parent: II. Category of parental loss by decade of birth, diagnosis, and MMPI. *Archives of General Psychiatry,* 1966, *15,* 362–368. (b)

Healy, W., & Bronner, A. F. *Delinquents and criminals: Their making and unmaking: Studies in two American cities.* New York: Macmillan, 1926.

Hilgard, J. R., & Newman, M. F. Evidence for functional genesis in mental illness: Schizophrenia, depressive psychosis and psychoneurosis. *Journal of Nervous and Mental Diseases,* 1961, *132,* 3–16.

Hilgard, J. R., & Newman, M. F. Early parental deprivation as a functional factor in the etiology of schizophrenia and alcoholism. *American Journal of Orthopsychiatry,* 1963, *33,* 409–420. (a)

Hilgard, J. R., & Newman, M. F. Parental loss by death in childhood as an etiological factor among schizophrenic and alcoholic patients compared with a non-patient community sample. *Journal of Nervous and Mental Disease,* 1963, *137,* 14–28. (b)

Hill, O. W., & Price, J. S. Childhood bereavement and adult depression. *British Journal of Psychiatry,* 1967, *113,* 743–751.

Illingworth, R. S., & Illingworth, C. M. *Lessons from childhood: Some aspects of the early life of unusual men and women.* Baltimore: Williams & Wilkins, 1966.

Kanzer, M. Writers and the early loss of parents. *Journal of the Hillside Hospital,* 1953, *2,* 148–151.

Kenmare, D. *The nature of genius.* London: Peter Owen, 1960.

Lange-Eichbaum, W. [Genius, insanity and fame] (W. Kurth, Ed.). Munich, Germany: Ernst Reinhardt, 1956. (Originally published, 1928.)

Lange-Eichbaum, W. *The problem of genius.* New York: Macmillan, 1932.

Lombroso, C. *The man of genius.* London: Walter Scott, 1891.

Marris, P. *Loss and change.* New York: Pantheon Books, 1974.

Metropolitan Life Insurance Company. *Family responsibilities increasing* (Statistical Bulletin). New York: Author, April 1959.

Metropolitan Life Insurance Company. *Orphanhood—A continuing problem* (Statistical Bulletin). New York: Author, December 1966.

Miller, J. B. M. Children's reactions to the death of a parent: A review of the psychoanalytic literature. In S. Chess & A. Thomas (Eds.), *Annual progress in child psychiatry and child development.* New York: Brunner/Mazel, 1972.

Moriarty, D. N. (Ed.). *The loss of loved ones: The effects of death in the family on personality development.* Springfield, Ill.: Charles C Thomas, 1967.

Neubauer, P. B. The one-parent child and his oedipal development. *Psychoanalytic Study of the Child,* 1960, *15,* 286–309.

Oltman, J. E., & Friedman, S. A consideration of parental deprivation and other factors in alcohol addicts. *Quarterly Journal of Studies on Alcohol,* 1953, *14,* 49–57.

Oltman, J. E., & Friedman, S. Report of parental deprivation in psychiatric disorders. *Archives of General Psychiatry,* 1965, *12,* 46–56.

Oltman, J., McGarry, J., & Friedman, S. Parental deprivation and the "broken home" in dementia praecox and other mental disorders. *American Journal of Psychiatry,* 1952, *108,* 685–694.

Paffenbarger, R. S., Jr., & Asnes, D. P. Chronic disease in former college students: III. Precursors of suicide in early and middle life. *American Journal of Public Health,* 1966, *56,* 1026–1036.

Parkes, C. M. *Bereavement: Studies of grief in adult life.* New York: International Universities Press, 1972.

Petursson, E. A study of parental deprivation and illness in 291 psychiatric patients. *International Journal of Social Psychiatry,* 1961, *7,* 97–105.

Rhoades, M. C. A case study of delinquent boys in the Juvenile Court of Chicago. *American Journal of Sociology,* 1907, *13,* 56–78.

Rochlin, G. The dread of abandonment: A contribution to the etiology of the loss complex and to depression. *Psychoanalytic Study of the Child,* 1961, *16,* 451–470.

Rochlin, G. *Griefs and discontents: The forces of change.* Boston: Little, Brown, 1965.

Russell Sage Foundation. *Boyhood and lawlessness.* College Park, Md.: McGrath, 1969. (Originally published, 1914.)

Shideler, E. Family disintegration and the delinquent boy in the United States. *Journal of the American Institute of Criminal Law and Criminology,* 1918, *8,* 709–732.

Sorell, W. *The duality of vision: Genius and versatility in the arts.* New York: Bobbs-Merrill, 1970.

Sullenger, T. E. *Social determinants in juvenile delinquency.* Unpublished doctoral dissertation, University of Missouri, 1930.

Wolfenstein, M. Loss, rage, and repetition. *Psychoanalytic Study of the Child,* 1969, *24,* 432–460.