the total deaths reported of native-born white males of native parentage, of which the ages at death are known, was 159,650. Of colored males the total deaths at known ages was 58,791.

TABLE VI.—DEATHS OF WHITE AND COLORED MALES IN TEN-YEAR PERIODS.

Ages.	White, Native Born. Both Parents Native.		Colored.	
	Number of deaths.	Per 10,000 deaths.	Number of deaths.	Per 10,000 deaths.
5 to 15	12,464	781	4,992	849
15 to 25	13,220	829	7,476	1,272
25 to 35	10,720	672	5,428	923
35 to 45	9,363	586	4,605	783
45 to 55	9,436	591	4,249	723
55 to 65	11,209	702	3,283	558
65 to 75	14,126	885	3,151	536
75 to 85	11,069	693	1,939	330
85 to 95	83,055	191	676	115
95 and over	179	11	268	46

The results contained in the third and fifth columns of this table are represented graphically in Fig. 3228. The solid line is an empirical mortality curve for American white males, the dotted line a similar curve for colored males, the great infant mortality being neglecthe in both. It will be noticed that the forms of the curves are quite different. The white curve has its maximum in the 65–75 period, corresponding to the experience in England and Massachusetts, and another less marked maximum between 15 and 25. The colored curve has a very pronounced maximum in the 15–25 period, and thence descends in a nearly straight line toward a zero somewhere beyond 95, crossing the white curve at about 55 years. In other words, taking the deaths reported during a single year, it is found that the number of white males who have lived over 55 years is largely in excess of the number of colored males who have lived so long. The exact proportion is as 2,482 to 1,485, or about 5 to 3. That this is not an unusual condition is shown by the fact that similar results were obtained in the previous census.

If longevity is correlated with racial characteristics, we should expect it to be correlated also with family characteristics, that is, we should expect it to be inherited. Miss Beeton and Professor Pearson have demonstrated that this expectation is realized. They have constructed a number of correlation tables and regression diagrams such as are used in the study of the inheritance of stature, eye color, etc. (see *Heredity*, Table I. and Fig. 2,606), but in this case the character taken is duration of life. Fig. 3229 is a regression diagram illustrating the relation between the duration of life of fathers and that of their daughters. The vertical dotted line marks the mean duration of life of all the fathers, and the horizontal one that of all the daughters. The zigzag line connects the means of the arrays of daughters, and the diagonal line is the regression line passing as nearly as possible through the means of the arrays. An inspection of this diagram shows that, in general, the longer the life of the father the longer the daughter may expect to live. If there were no such correlation, the means of the arrays would be most probably the same as that of all the daughters and the regression line would correspond with the horizontal dotted line.

Some of the results of this investigation are given in coefficients of correlation and compared with the theoretical coefficients of heredity for other other characters (see *Heredity*, Tables III. and IV.) in the following table:

TABLE VII.

Relatives.	Coefficient of correlation.	Theoretical.
Father and adult son	0.1353 ± 0.0209	*0.3
Father and adult daughter	.1301 ± .0195	.3
Mother and adult son	.1313 ± .0190	.3
Mother and adult daughter	.1493 ± .0202	.3
Adult brothers	.2853 ± .0196	.4
Adult sisters	.3322 ± .0185	.4
Adult brother and sister	.2319 ± .0145	.4

It will be noticed that in the cases of collateral inheritance the coefficients obtained correspond more nearly with the theoretical values than in direct inheritance. This is further illustrated by a comparison of Fig. 3230, with Fig. 3229. Beeton and Pearson explain this phenomenon by the supposition that brothers or sisters are more apt to live under similar conditions than are parents and offspring.

By a comparison of the inheritance of duration of life and the inheritance of other characters, Pearson has been able to calculate how much of the death rate is selective, that is, dependent upon the constitutional pecularities of the people dying, and how much is nonselective, that is, due to purely external causes. He estimates that from fifty to eighty per cent. of the death rate is selective, a result, if confirmed, of great importance for the theory of natural selection (see *Evolution*).

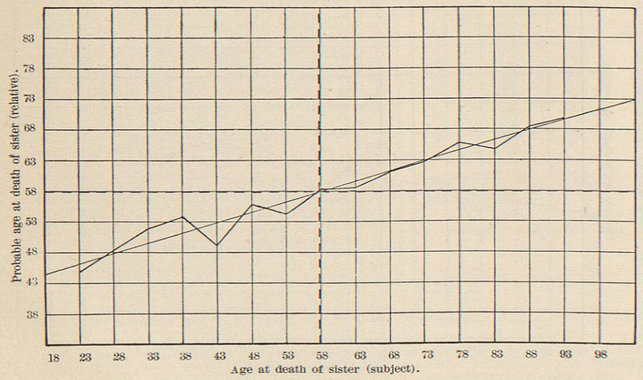

FIG. 3230.—Regression Diagram showing the Correlation between the Ages at Death of Sisters. (After Beeton and Pearson.)

In the course of their studies on the inheritance of the duration of life Beeton and Pearson ran across a remarkable relation between duration of life and position in the family; that is, they found that in general elder brothers or sisters are longer-lived than their younger brothers or sisters, respectively.

Moreover, they found that, in general, the greater the interval between births the greater will be the difference in the duration of life.

Finally, it is evident that a person dying at an early age cannot leave a large family, but it has been shown (Beeton, Yule, and Pearson, 1901; Powys, 1901) that there is a correlation between size of family and longevity extending beyond the period of child-bearing (Fig. 3221). In the Whitney family of Connecticut, "American Quakers,"

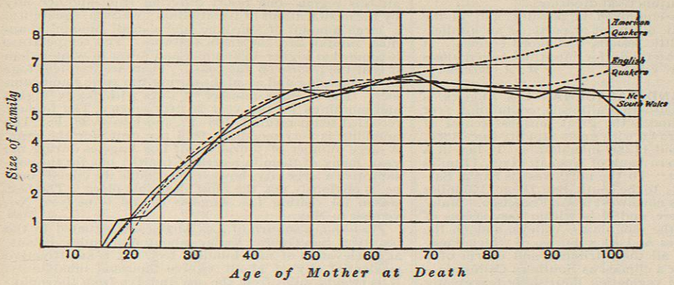

FIG. 3231.—Theoretical Curves for Duration of Life of Mothers and Number of Offspring, America, Great Britain, New South Wales; With New South Wales Experience. (After Powys.)

it was found that the average number of children to each parent increased with the duration of life of both fathers and mothers up to 85 or 90 years. This does not mean, of course, that children were produced at these advanced ages, but simply that there is a correlation between fertility and the qualities that lead to longevity. In England and New South Wales the results are somewhat different, the correlation ceasing for English mothers in the period between 55 and 60 and for mothers in New South Wales between 65 and 70, the same as for English fathers, that is, parents living to these ages have as large families on the average as those living longer.

It will be noticed that this point, where correlation ceases, corresponds very nearly with the age of most frequent deaths of adult white people, and this suggests an explanation of the apparent limitation set upon the length of human life. If a person living a hundred years has no better chance of leaving offspring than one living seventy years, it is evident that natural selection becomes inoperative at seventy, or, rather, those characteristics that tend to prolong life beyond seventy years will not have a selective value so far as the next generation is concerned, and therefore will have no better chance of preservation in the struggle for existence than those which tend to shorten life to the seventieth year. So we may regard human life as limited, not because the living substance is incapable of continued activity beyond a certain number of years, but because the duration of individual existence beyond a certain age is of no advantage to the species.

Robert Payne Bigelow.

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LORANTHACEÆ.—(*The Mistletoe Family.*) A peculiar family of some twenty genera and five hundred species of parasitic plants, mostly of the tropics. They are of great interest to botanists and a number are quite ornamental, but they are of little economic importance. The extremely viscid berries of *Viscum album* L., the European mistletoe, and of other members of the family, are used for making bird-lime. The herbage of this plant has been employed as an antispasmodic from ancient times, but its repute is largely mythical and it is now scarcely used. It contains no substance worthy of note as a physiological agent. American mistletoe, *Phoradendron flavescens* (Pursh) Nutt., of the southern United States, has been considerably employed in doses of 1 to 4 gm. (gr. xv. to lx.), either in infusion or in the fluid extract form, as a substitute for ergot, in labor, as an emmenagogue, and for cerebral congestion. The writer has found various other species of the genus similarly employed, and also as galactagogues, by the natives in various parts of South America.

Henry H. Rusby.

LORDOSIS signifies anterior curvature as distinguished from kyphosis, posterior, and scoliosis, lateral curvature of the spine. Lordosis is curvature with the convexity of the curve directed forward. The term, however, is not commonly applied to opisthotonos. Lordosis is almost always a transient curvature, and probably never has the rigidity which not infrequently attends kyphosis and scoliosis. It is chiefly a compensating curve which may readily be made to disappear. For instance, the lordosis produced in walking down a steep incline or in carrying a heavy weight in front of the body, the "saddle back" of pseudo-hypertrophic muscular paralysis, the lordosis accompanying flexion and ankylosis of the hip-joint, or that seen in the lower part of the spine in Pott's disease may all be made to disappear by changing the position of the body. While the term scoliosis is sometimes used as a synonym of lateral curvature of the spine, neither kyphosis nor lordosis is used to indicate a disease. Lordosis has been made the subject of mechanical treatment, but probably not with any important useful result.

Adoniram B. Judson.

LORETIN—meta-iodo-ortho-oxychinolin ana-sulfonic acid (C_9H_4IOH, $SO_3H.N$)—is a yellow crystalline powder without odor, very slightly soluble in cold water (1 in 1,000) or alcohol, somewhat more soluble in boiling water (about 1 in 200), and insoluble in ether, chloroform, benzol, and oils. Its salts with alkalies are soluble in water, but not those with the alkaline earths. It contains thirty-six per cent. of iodine, but is a very stable compound even in direct sunlight. With ferric chloride it makes a deep green color. By experiments on animals

Ammelburg showed it to be non-toxic in large dosage. But it acts as a powerful germicide, and constitutes an odorless non-toxic substitute for iodoform. It is used as a dusting powder or in five to ten per cent. collodion or ointment, or, as the sodium salt, in one- or two-per-cent. solution. With magnesia it forms a valuable application for burns and eczema. The insoluble calcium salt is used for making "loretin gauze." Fenzling refers to its special applicability in veterinary work. Nicati employed it with boric acid in conjunctival diphtheria.

Loretin-Bismuth is employed in powder, and in the form of a ten-per-cent. ointment or paste, as an application to ulcers, syphilitic lesions, and moist eczema. It has also been given internally for intestinal tuberculosis in dose of 0.5 gm. (gr. viij.). *W. A. Bastedo.*

LOS ANGELES AND PASADENA.—Los Angeles is the largest city in Southern California, containing over 100,000 inhabitants, and is the great business centre of this region. It has grown with great rapidity since 1880, when it had only about 11,000 inhabitants. It lies in a valley upon the western bank of a small river, 17 miles from the Pacific coast. To the northwest is Santa Barbara, 80 miles distant; to the south, San Diego, 125 miles distant; and 350 miles northwest is San Francisco. Many railroads converge here, and it is within easy access of attractive resorts in the mountains, valleys, and on the seacoast. Los Angeles and its suburbs, of which Pasadena is one, possess all the attributes and charm of a town situated in such a climate as Southern California—a luxuriant and varied vegetation, flourishing to a greater or less extent the year through, mild winters with a long duration of daily sunshine, comparatively cool summers, a great preponderance of cloudless weather, and a low rainfall.

The city itself contains many fine buildings, public and private; boulevards shaded by many varieties of tropical and semi-tropical trees, numerous parks, ninety miles of street railway, and a sewer system emptying into the Pacific Ocean. "It is a beautiful and interesting place, full of architectural and social contrasts. Several elements go to make up the city, the Southern or Spanish, and the American; and brown faces, betraying Castilian and Indian ancestry, mingle on the busy streets with those of the fairer-skinned Yankee type. Low adobe quarters and American country houses are found near each other, within a few minutes' walk, although the old-fashioned 'adobe' is growing more rare. Modern office-buildings appear within sound of the bells of the early missions" (Solly). The water-supply comes from the neighboring mountains and is abundant and good. The watering-places of Long Beach, Santa Monica, San Pedro, and Redondo are within easy access of Los Angeles.

The climate of Southern California as a whole has been already discussed in this HANDBOOK under the title *California, Southern*, and the reader is referred to that article.

CLIMATE OF LOS ANGELES, CAL. LATITUDE, 34° 3′; LONGITUDE, 118° 15′.

	Spring.	Summer.	Autumn.	Winter.	Year.
Temperature—					
Average mean	58.4°	67.5°	62.7°	53.5°	60.5°
Average daily range	20.6	23.1	24.5	20.1	22.0
Mean of warmest	69.4	81.3	76.1	64.2	72.7
Mean of coldest	48.8	58.2	51.6	44.1	50.7
Highest or maximum	97.6	100.4	95.3	85.4	94.7
Lowest or minimum	37.9	49.4	40.2	29.3	39.2
Humidity—					
Mean relative	70.4%	69.1%	63.2%	63.6%	66.6%
Precipitation—					
Average in inches	4.28	.02	1.57	8.65	14.52
Wind—					
Prevailing direction	W.	W.	W.	N.E.	W.
Average hourly velocity in miles	5.3	4.8	4.8	5.4	5.1
Weather—					
Average number of clear days	36.2	34.9	52.3	47.9	171.3
Average number of fair days	38.1	50.6	32.5	26.6	144.8
Average number of clear and fair days	71.3	85.5	84.8	74.5	316.1

The preceding table, in connection with what is given in the article referred to, will be sufficient to indicate the principal climatic features of Los Angeles.

"In Pasadena," says Dr. McBride, "the temperature falls steadily from the warmest period, usually 1 P.M., until sunrise next morning. The temperature and humidity, referred to in the following table, were always taken on a northeast porch."

The general characteristics of the climate are those of all this region—one resort differing from another only by the modifications of its situation; warmth, equability, a large amount of sunshine, and a small amount of annual rainfall are the main features. The temperature is somewhat higher in summer and lower in winter than it is at the resorts on the coast. There are frequent fogs in the morning and at night during the spring and summer. The average number of days with foggy nights and mornings for the year is fifty-seven. The highest recorded temperature is 108° F., and lowest 28° F. The humidity is very moderate, 66.6 per cent. for the year. A large number of tourists visit Los Angeles during the year, many of them in search of health; but for the consumptive a large city, however favorable the climate may be, is obviously not the most desirable place. The best season for visiting Los Angeles is said to be from November to May.

Pasadena, a suburb of Los Angeles, is situated in the beautiful San Gabriel Valley, about nine miles distant, at an elevation of nine hundred feet. It is an attractive residential city of about twelve thousand inhabitants. It is twenty miles from the sea and five from the mountains. The soil is sandy and porous, and there is a good supply of water. The climate is essentially the same as that of Los Angeles, though the temperature is a little higher, and the humidity somewhat lower. The mean average temperature for January is 54° F.; for December 58° F. The winter is said to be especially agreeable. From the beauty of its location, the attractiveness of the surrounding country, its social and educational advantages, the excellence of its architecture, its orange groves and vineyards, it is considered one of the most eligible places of residence in Southern California. The accommodations are abundant and good.

Date—1900.	Temperature, Degrees Fahr. At sunrise.	Temperature, Degrees Fahr. At 1 P.M.	Weather.	Midday humidity. Per cent.
Jan. 1st	51	64	Clear A.M., partly cloudy P.M.	71
2d	54	60	Cloudy; sprinkles	73
3d	55	57	Rain from 6 A.M. all day, 1.09 inch.	
4th	52	64	Fine; some clouds P.M.	73
5th	57	64	Cloudy and sprinkles A.M.; 0.02 inch.	73
6th	50	66	Fine; clouds P.M.	73
7th	53	64	Partly cloudy	73
8th	52	64	Fine; high wind P.M.	42
9th	51	64	Fine	45
10th	50	66	Fine	42
11th	49	67	Fine	45
12th	53	70	Fine	45
13th	56	71	Fine	
14th	52	66	Fine	42
15th	50	62	Fine	45
16th	47	57	Fine	46
17th	55	72	Fine	45
18th	55	72	Fine	40
19th	57	71	Fine	36
20th	52	67	Fine	43
21st	47	64	Fine	50
22d	49	67	Fine	43
23d	52	68	Cloudy	44
24th	53	66	Cloudy	68
25th	55	61	Cloudy; sprinkles	63
26th	50	64	Clear	73
27th	49	61	Partly cloudy	81
28th	54	60	Partly cloudy	76
29th	51	67	Partly cloudy A.M.	83
30th	55	62	Partly cloudy A.M.	76
31st	51	63	Partly cloudy A.M.	73
Feb. 1st	47	67	Partly cloudy A.M.	76
2d	51	63	Partly cloudy A.M.	73
3d	47	65	Fair	67
4th	50	58	Partly cloudy and squalls	67

Date—1900.	Temperature, Degrees Fahr. At sunrise.	Temperature, Degrees Fahr. At 1 P.M.	Weather.	Midday humidity. Per cent.
Feb. 5th	48	59	Cloudy	75
6th	46	67	Fine	50
7th	50	64	Fine	44
8th	48	64	Fine	44
9th	48	66	Fine	38
10th	55	67	Fine	31
11th	53	68	Fine	41
12th	48	64	Partly cloudy	66
13th	56	64	Partly cloudy	66
14th	50	60	Partly cloudy	67
15th	52	62	Partly cloudy	67
16th	49	68	Clear	58
17th	58	75	Clear	43
18th	57	70	Clear	44
19th	49	64	Fine	50
20th	51	65	Fine	60
21st	52	74	Fine	48
22d	56	78	(55° wet, 76° dry) =	22
23d	59	76	Fine	22
24th	57	75	Fine	22
25th	55	73	Fine	60
26th	50	65	Fog early	58
27th	52	71	Clear	33
28th	54	74	Clear	26
Mar. 1st	57	73	Clear	33
2d	53	68	Clear	44
3d	55	61	Misty all A.M.; 0.045 inch	74
4th	51	56	Rain 7 to 1; 7.53 inches	
5th	45	60	Fine	66
6th	46	62	Fine	66
7th	48	65	Fine	66
8th	51	66	Fine	44
9th	56	79	Fine	36
10th	65	83	Fine	32
11th	68	81	Cloudy	38
12th	56	70	Cloudy	76
13th	59	63	Cloudy	76
14th	57	64	Cloudy	77
15th	56	72	Cloudy	76
16th	57	64	Misty; 0.06 inch	88
17th	57	63	Partly cloudy	66
18th	56	69	Cloudy	66
19th	56	62	Misty; 0.10 inch	78
20th	55	69	Cloudy	68
21st	55	68	Cloudy	66
22d	57	63	Misty; 0.02 inch	82
23d	56	63	Misty; 0.02 inch	78
24th	51	71	Fine	66
25th	54	72	Fine	64
26th	58	68	Partly cloudy	63
27th	55	67	Clear	54
28th	51	70	Clear	54
29th	53	75	Clear	51
30th	57	79	Clear	53
31st	57	78	Clear	60
July 1st	63	72	Fog early	65
2d	60	73	Fog early	61
3d	58	73	Slight high fog	61
4th	57	75	Clear, slight high fog	62
5th	62	78	Clear, slight high fog	62
6th	62	78	Clear, slight high fog	62
7th	64	79	Clear, slight high fog	62
8th	61	82	Clear; fog	60
9th	63	82	Fog; fine	61
10th	65	84	Fog early	56
11th	65	87	Clear	44
12th	69	88	Clear	46
13th	70	86	Fog early; fine	51
14th	67	78	Fog early; fine	57
15th	66	78	Fog	58
16th	66	80	Fog	56
17th	62	79	Fog	58
18th	60	78	Fog	58
19th	61	78	"Eastern atmosphere," evening lightning.	60
20th	65	74	Sprinkles during day	69
21st	63	81	Shower clouds	68
22d	69	89	Fire on mountains broke out; clear.	34
23d	77	92	Clear	29
24th	71	91	Clear	35
25th	66	85	Clear	45
26th	63	81	Clear	50
27th	65	78	Slight fog	54
28th	67	80	Fog slight	62
29th	64	77	Fog	62
30th	62	78	Fog early	62
31st	64	85	Clear	50
Nov. 1st	59	75	Fine	35
2d	61	82	Fine	26
3d	65	86	Fine	19
4th	65	84	Fine	36
5th	65	84	Fine	32
6th	67	83	Fine	32
7th	64	76	Fine	32
Nov. 8th	57	73	Fine	40
9th	62	79	Fine	35
10th	63	82	Fine	27
11th	63	83	Fine	27.5
12th	64	84	Fine	24
13th	64	82	Fine	26
14th	60	75	Fine	28
15th	60	71	Cloudy	75
16th	57	64	Showery 11 A.M.	78
17th	57	59	Rained 0.86 7 A.M., rained all day.	
18th	58	62	Rained 1.11 inch; cloudy and sprinkly.	
19th	57	63	Partly cleared off; 0.06 inch.	
20th	54	58	Showery last night and all day; 0.62 inch.	
21st	56	58	Rained all day; 3 P.M. 1.41 inch., 6:15 P.M. 3.24 inches.	
22d	58	67	Cleared off; 2.02 in.; fog 4 P.M.	
23d	57	66	Fine	56
24th	56	72	Fine	49
25th	60	73	Fine	54
26th	59	70	Fine	60
27th	57	72	Fine	59
28th	55	70	Fine	44
29th	53	71	Fine	40
30th	57	72	Fine	42
Dec. 1st	60	75	Fine	39
2d	60	72	Fine	38
3d	59	73	Fine	
4th	59	75	Fine	40
5th	61	76	Fine	38
6th	61	75	Fine	38
7th	62	76	Fine	40
8th	60	74	Fine	48
9th	58	71	Fine	45
10th	53	63	Fine	58
11th	50	64	Fine	58
12th	51	68	Fine	58
13th	52	67	Fine	51
14th	52	62	Partly cloudy all day	48
15th	50	64	Fine	46
16th	50	68	Fine	44
17th	54	66	Fine	44
18th	53	70	Fine	40
19th	59	72	Fine	36
20th	56	77	Fine	44
21st	53	64	Partly cloudy	44
22d	54	66	Fine	77
23d	51	68	Fine	41
24th	52	69	Fine	41
25th	54	71	Fine	41
26th	55	67	Fine	51
27th	48	64	Fine; dust storm 4:30 P.M.; clouds came from S. Bernardino region, east.	58
28th	51	62	Dust obscures the sun; no wind	34
29th	49	63	Clear	37
30th	45	60	Clear	39
31st	44	57	Clear	30

The preceding table, in which are given the daily temperature, humidity, and weather of Pasadena for the winter months and the month of July of the year 1900, has been kindly furnished the writer by Dr. J. H. McBride of that place; and as it shows, so much better than any compiled and abbreviated report can do, the weather conditions for each day during this period, at this locality—which may serve as a type for other similar localities in Southern California—it is given in full.

"The year 1900 was very dry; only about eight inches of rain (I think). The usual rainfall is sixteen. In the winter of 1900–1901 we had twenty-three inches."

Sierra Madre, 1,700 feet above sea level, twelve miles northeast of Los Angeles, at the base of the foothills, has a climate considered particularly healthful, and was the location selected by the State Board of Health in 1880 as the one most favorable for consumptives in Southern California.

There are various other places in the sheltered San Gabriel Valley favorable for invalids suffering from tuberculous, renal, or cardiac affections. Such are San Gabriel, Monrovia, Duarte, and others.

Echo Mountain, 3,500 feet high; Mount Lowe, 5,650 feet; Mount Wilson, 5,400 feet, all easily reached from