

livid marks or patches, or various spots occurring in the skin in different diseases. The patches of discoloration in the skin of the cadaver due to post-mortem hypostasis or incipient putrefaction were likewise termed suggillations (*sugillatio*). More recently, through the influence of the German school, the term has come to be applied to hemorrhages into or beneath the tissues, of a larger size than ecchymoses; and with this usage there is also conveyed the idea of a *suffusion* of the tissues with blood. The term is, therefore, used interchangeably with *bloody suffusion*, and is applied to more or less flattened, diffuse swellings of the skin due to hemorrhage into the subcutaneous tissues, or to similar hemorrhages occurring in other loose tissues. A suggillation is distinguished from a hæmatoma by the fact that in the former the tissues are infiltrated with blood but not torn apart so as to form a distinct cavity filled with blood. Suggillations are usually due to direct trauma, but occur in cases of both congenital and acquired hæmophilia. In the latter case they may result from the changes produced in the blood-vessel walls through intoxication or infection. Suggillations of the skin may take place in pernicious anæmia, leukemia, sepsis, chronic icterus, and in the hemorrhagic forms of the acute infections. In typhoid fever suggillations of the abdominal recti may occur as the result of extensive parenchymatous changes (Zenker's necrosis) in the muscle. The sequelæ of suggillation are similar to those of hæmatoma—absorption, organization, or cyst formation. *Aldred Scott Warthin.*

SUICIDE.—The term suicide, to express the act of self-destruction, was probably first employed by Desfontaines in the last century. It is derived from the Latin words *sui* (self) and *cedere* (to kill). (Synonyms: Fr., *Suicide*; Ger., *Selbstmord*; It., *Suicidio*; Legal, *Felo de se*. Other rarely employed terms are: Gr., *atrocheia*; and Lat., *Propriocidium*.)

Suicide is a voluntary human act of self-destruction, and it is claimed by some writers that the act is always due to some disorder of the mind at the moment of its accomplishment.

HISTORY.—From the earliest times of which we have record the custom of self-destruction has existed to a greater or less degree, and it would appear that the peoples of antiquity were so taught by their religion that they could look upon the act as logical, and perform it with stoicism.

The religion of Brahma justifies suicide, and looks upon it, under certain conditions, as an honorable and praiseworthy act, which is often solemnized in a public manner. Fanatics in India, who believe in the transmigration of souls, seek an improvement in their condition and a freedom from present ills by courting death. The Brahmins have in a great measure given up their terrible custom of prostrating themselves before the car of their gigantic idol Juggernaut, to be crushed to death. Still they occasionally do it, and the women throw themselves upon the funeral pyres of their husbands.

Although held in honor among the people of the Orient, it was always rare in Persia, and is an exceptional occurrence among the Turks. The teachings of the Koran are opposed to it. Mohammed forbade it, and inculcated a spirit of patience in adversity. Here, too, the belief in fatalism probably exercised a marked influence, and the people were not given to philosophic thought, as were those of Greece, where many great men have sought death at their own hands.

When circumstances warranted the act, it was considered, in ancient Greece, a virtue for men to destroy themselves, thus escaping human ills, and, as they supposed, ameliorating their condition.

According to Legoyt,¹ Strabo relates as an historical fact that the inhabitants of the Isle of Ceos, in the Grecian Archipelago, poisoned themselves after reaching the age of sixty, so that the younger could have greater abundance; and Montaigne says that the senate of Marseilles, which then belonged to Greece, placed poison at

the disposition of those who wished to commit suicide, when their motives were approved of.

The Hebrews, it would appear, scarcely knew suicide, and few cases are recorded. The Bible gives accounts of the self-destruction of Samson, Eleazar, Saul, Judas, and others.

The Celts were taught the immortality of the soul and their divine origin; still, suicide for the old and infirm was encouraged.

At Rome we find many noted suicides recorded, including that of Junius Brutus, and under the reign of Tiberius they appear to have increased in frequency. From the fifth to the twelfth centuries suicide almost wholly disappeared, but in the next century revolutionary ideas prevailed, and the previous influence of the Christian religion was so far lost that all classes of society suffered from a revival of suicide. Jews now resorted to it freely as a means of escape from hardships and to avoid disloyalty to their faith.

A decided increase is noted from the beginning of the sixteenth century, due to a disregard for religion and a revival of customs of antiquity.

In China and Japan men of honor have long resorted to self-inflicted death.

In Africa it was not rare for individuals and whole bodies of men to commit suicide, and Carthaginian generals often destroyed themselves after defeat.

The increase of suicide in civilized countries during the present century is shown by carefully gathered statistics, and conceded by most writers.

STATISTICS of suicide began to be systematically collected and studied only in the last century, official statistics being published in several European countries during the first twenty years of the century.

In Captain Graunt's "Bills of Mortality," published in 1665, it appears that 222 persons "hanged or made away with themselves" in the twenty years 1629-38 and 1647-58. This number, however, does not probably represent all the suicides, since there were probably a considerable number among the 827 registered as drowned, 243 found dead in the streets, and 14 poisoned. He estimated the population of London at that time as about 460,000.²⁶

The following figures from the registrar-general's report for 1900 show that the suicide rate in England is increasing with a comparative degree of regularity.³

SUICIDES PER MILLION LIVING, ENGLAND AND WALES, IN FIVE-YEAR PERIODS.

Year	Rate per million.	Year	Rate per million.
1861-1865	65.2	1881-1885	74.8
1866-1870	66.4	1886-1890	79.4
1871-1875	66.0	1891-1895	88.6
1876-1880	73.6	1896-1900	89.2

The following table presents the death rates from suicide per million inhabitants in the principal countries of Europe, and a few other countries, and in the six New England States:

DEATH RATES FROM SUICIDE IN DIFFERENT COUNTRIES PER MILLION INHABITANTS, 1880-1886; 1887-1893; AND FOR THE SINGLE YEAR 1894.

Countries.	Estimated population in 1894.	DEATHS FROM SUICIDE PER MILLION INHABITANTS.		
		1880-1886.	1887-1893.	1894.
Italy	30,818,248	47	54	56
France	38,133,385	196	227	?
England and Wales	30,060,763	76	82	91
Scotland	4,063,359	54	57	62
Ireland	4,600,599	22	25	30
German Empire	48,684,503	248	206	217
Bavaria	5,740,059	134	130	136
Saxony	3,703,600	375	324	312
Austria	24,549,133	164	161	154
Switzerland	3,006,886	237	219	235
Belgium	6,341,368	106	125	132
Holland	4,764,279	52	59	69

DEATH RATES FROM SUICIDE.—Continued.

Countries.	Estimated population in 1894.	DEATHS FROM SUICIDE PER MILLION INHABITANTS.		
		1880-1886.	1887-1893.	1894.
Sweden	4,873,183	98	125	158
Norway	2,030,000	67	64	70
Denmark	2,259,500	256	251	255
Russia (Europe)	91,248,465	31	31	31
Poland	9,152,830	23	24	24
Spain	17,247,738	29	21	?
Uruguay	773,314	43	64	?
Argentine Republic	4,750,000	13	19	?
Japan	41,810,202	159	162	?
New England States.				1894-1900.
Massachusetts	2,445,604	87	96	116
Rhode Island	378,726	72	68	105
Vermont	336,910	91	81	90
Connecticut	811,100	* 106	128	116
New Hampshire	390,555	* 88	98	101
Maine	674,450	+ 88	\$ 99

* 1883-1886, four years only. † 1892-1893, two years only.
‡ 1896. § 1894-1899.

By the foregoing table it appears that suicides have increased in the greater number of countries shown in the table, but the length of time cannot be deemed to be sufficient to make the figures conclusive.^{4 13}

F. L. Hoffmann, in a study of the subject, found that the rate had increased, in fifty cities of the United States, from 120 per 1,000,000 in 1890 to 166 in 1901.⁵

The rate differs in these cities from a maximum of 499 per 1,000,000 in San Francisco to 29 in Fall River.⁶

The following list presents the suicide rates per million inhabitants in the year 1900 for cities having a population of more than 200,000:

Cities.	Suicides per million in 1900.	Cities.	Suicides per million in 1900.
New York	221	Pittsburg	121
Chicago	210	New Orleans	139
Philadelphia	114	Detroit	119
St. Louis	226	Milwaukee	207
Boston	135	Washington, D. C.	104
Baltimore	122	Newark	191
Cleveland	149	Jersey City	165
Buffalo	113	Louisville	98
San Francisco	499	Minneapolis	99
Cincinnati	135		

The following table presents the suicides for London, Berlin, Paris, Vienna, and Budapest:

Cities.	1895.	1896.	1897.	1898.	1899.	Annual average per million population.
London ³	483	425	451	436	485	102
Berlin ²⁵	446	494	495	462	457	268
Paris ²⁴	1,030	941	1,004	936	788	372
Vienna ²⁶	427	430	440	450	463	284
Budapest ²⁵	227	196	260	261	375

According to the London *Lancet*, the number of suicides in France during 1876 was 5,617. Of these, 4,435 were men.

Morselli believes in a law of continual increase, and shows by a table that the increase per cent., from 1827 to 1852, was from 100 to 238.⁷

It is shown by one of his tables that Saxony, which furnishes the largest number of suicides, has suffered an increase from 158 per 1,000,000 inhabitants in 1836-40, to 391 per 1,000,000 in 1877, but the rate had decreased to 312 per 1,000,000 in 1894.

Another table prepared from the statistics of Italy, from 1864 to 1877, shows an increase from 29.2 to 40.6 per 1,000,000, and these had also increased to 65 per 1,000,000 in 1898.

The suicides in Italy were as follows for the five years 1894-98:²²

Year.	Number.	Per million inhabitants.
1894	1,732	55
1895	1,874	60
1896	2,000	63
1897	1,896	60
1898	2,059	64

The highest rate was that of Liguria, 126 per 1,000,000 in 1898; and the lowest was that of Calabria, 12 per 1,000,000 in 1897.

In the German empire the suicides in the four years 1896-99 were as follows: 1896, 10,484; 1897, 10,692; 1898, 10,559; 1899, 10,418. These were equivalent to an average annual rate of 201 per 1,000,000 inhabitants.⁹

From these and other data the following law is formulated:

"In the aggregate of the civilized states of Europe and America, the frequency of suicide shows a growing and uniform increase, so that generally voluntary death since the beginning of the century has increased, and goes on increasing more rapidly than the geometrical augmentation of the population and of the general mortality."

In the combined central and southwestern states and provinces belonging to Prussia the proportion of 150 suicides in the million is given. Morselli says:

"The synthetic and most certain law which springs out of these facts is that in the centre of Europe, from the northeast of France to the eastern borders of Germany, a *suicidigenous* area exists, where suicide reaches the maximum of its intensity, and around which it takes a decreasing ratio to the limits of the Northern and Southern States."⁸

NATURE.—The question of the nature of the act of self-destruction is a difficult and a delicate one withal to decide, but its great importance calls for much careful attention. Morselli says suicide is a social fact, and its nature "may now be reckoned among the most certain and valuable discoveries of experimental psychology"; and, further on, characterizes it as "an effect of the struggling for existence and of human selection, which works according to the laws of evolution among civilized people." But the question arises, is a given suicide, at the moment the act is committed, in the full and free possession of his faculties, and should he be held responsible for his movements? If the act be always due to a morbid condition of mind (as claimed by Dr. Liebman, in a paper read before the Medical and Chirurgical Faculty of Maryland, April, 1881), it should not be punishable as a crime; nor would, in this event, the punishment carry with it the intended restraining influence upon other would-be suicides. The mind which could conceive and plan so foul a deed would not, in all likelihood, be influenced by the thought of legal punishment in case of an unsuccessful attempt.

Insanity is probably present in the vast majority of suicidal attempts, and the number of those who act calmly and in the possession of their faculties must be much smaller than is generally supposed. Many obscure cases are difficult to explain on any other theory. There is a want of motive. The surroundings and station in life of the suicide are the best, and so far as can be learned, the social, financial, domestic, and other relations are only such as would be conducive to life and happiness. Such cases are more common in so-called epidemics of suicide. If the attempt has not resulted in death, evidences of insanity often soon appear, and make it clear that mental irresponsibility existed at the time.

In other cases insanity may have been previously known or suspected from conditions present, either immediately preceding the act or at some more remote period, and still no decided symptoms may have shown themselves until after an attempt at suicide.

An hereditary mental defect may have been known to exist, the person regarded as eccentric, and the attempt not unlooked for.

Organic disease, excesses, venery, onanism, etc., may

have been the cause of a mental aberration whose first outward sign has been the suicidal attempt.

Hammond says: "Closely allied to emotional homicidal impulse is that form of mental derangement which consists in an emotional impulse to the perpetration of suicide. The conditions may coexist. In some cases the contemplation of the act is attended with feelings of pleasure. He is neither governed by delusions nor by logical reasons. He is actuated by a passion which it is pleasant for him to gratify. When the impulse has passed, he looks back upon it with horror, and, shuddering at the escape he has made, perhaps seeks medical advice."

Automatic suicide, or suicide by impulse, is closely allied to that of the insane, and, like it, occurs without apparent cause—the sight of a weapon, the finding of one's self upon a height or by the river's side, or favorably situated for the accomplishment of the act, being sufficient for the attempt. In non-success the circumstances of the act are more or less confused in the suicide's mind, and the only safety for those thus impelled is to hasten from the scene. Some persons, appearing to be conscious of this outward influence, avoid suggestive situations, and, feeling themselves powerless to resist, ask that precautions be taken to prevent the act.

Suicide by suggestion is well illustrated in a personal experience of Sir Charles Bell, when surgeon of the Middlesex Hospital, which is related by Wynter.¹¹ While being shaved, he told his barber of an operation he had just performed on a man who had made an unsuccessful attempt to cut his throat, and explained the anatomical reasons for the failure. The barber, excusing himself, went into an adjoining room, and was found a few moments later with his throat cut in the proper anatomical situation to assure success.

Epidemic suicide, due to a neuropathic state of the system of those living under the same influences, is well known to neurologists, and many instances have been observed. An epidemic among the women of Miletus is recorded, at a time when the men were away at war, which reached great proportions and was checked by a decree that the naked bodies of those who killed themselves should be exposed in public with a rope about the neck. In Mexico and Peru the inhabitants killed themselves in great numbers, it is said, after the invasion by Spain. Mansfeld had an epidemic in 1697, according to Sydenham. There was one at Versailles in 1793, and one occurred at Rouen in 1806, and at Stuttgart in 1811.

Some years ago five inmates of the Hôtel des Invalides, in Paris, hanged themselves upon the same crossbar within a fortnight.

Double and multiple suicides are occasionally recorded. The former usually consisting in the simultaneous death of man and wife, or two lovers or friends; the latter in the concordance of suicide of bodies of men, such as is said to have occurred in China among the philosophers of the Confucius school, when deprived of their books by the order of the emperor Chi-Koang-Ti.

Feigned Suicide.—Although the term is not a strictly proper one, it applies to those cases occasionally met with in which, to excite sympathy, secure desired ends, afflict friends, or for some other reason, a person makes it appear that he has made an attempt upon his own life.

Child suicide requires special notice, since young children, even as young as five years, have been known to commit suicide for trifling cause, following impulse and sentiment without having the restraining influence of mature judgment and the power of comparison and thought for anything beyond the present.

By nature children are sensitive to slights and injustice, easily depressed, fretful under restraint, and at times revengeful. They have vivid imaginations, are quick to imitate, but are defective in the power to reflect and form just conclusions. The sense of responsibility is wanting, so that no sooner is the act conceived than it is put into execution.

The belief of Durand-Fardel,¹² that the act of self-destruction is usually accomplished with much self-posses-

sion and after reflection, cannot apply to suicides in childhood (see, also, under *Age*).

Suicide following homicide is not very uncommon, but the subject is almost always melancholic. Esquirol tells of a Belgian woman who threw her four children into a well and jumped in after them. Both sexes include their children in the death they give themselves, but women would appear more inclined to this than men. In rare cases both parents conspire to kill their children and then themselves; such a case is related by Esquirol, and one has recently occurred in Paris.

CAUSES OF SUICIDE.—In former times, and indeed at the present day in some countries, as we have seen, whole masses of people, as well as individuals, under the influence of their religious or philosophic beliefs, and following the customs of their forefathers for generations, have in great numbers become the subjects of self-destruction. No such custom is to be found to-day in any civilized country, but efforts to do away with it in India have failed, and we must put down fanaticism as one cause of many self-inflicted deaths. No encouragement is given to the act in enlightened lands, but, on the contrary, laws, both human and divine, are strict in forbidding it. Still, suicides have been shown by careful students of the subject to be on the increase, and we naturally inquire what are the causes which contribute to this state of affairs, and why do men take their own lives at all.

The causes are twofold: A subjective condition may exist which predisposes the individual to the act, or his environment may be such as to produce an objective state favorable to suicide. The pathological or other subjective condition may coexist with the surroundings which furnish the determining cause, or the one or the other may be wanting.

Predisposing causes to suicide are quite numerous, but heredity is one of the most important. The transmission of a suicidal tendency is an established fact of which many instances are known to alienists, and which forms a familiar phase of the practice of the family physician.

This transmitted tendency may lie dormant, or make its presence suspected by the development of mental disease; or the suicide may have been looked upon for years as one about whom there was "something strange," without any actual disease or decided symptoms of nerve or mental trouble being apparent.

The offspring of a suicidal parent appears to inherit a system favorable to the development of nervous affections leading to self-destruction, and a decided tendency appears to exist to commit the act at about the same age at which the parent died, and to use the same means; showing that the hereditary disposition is attended with a certain uniformity of action.

Education would appear to predispose to suicide, for it has been conclusively shown that more attempts occur in centres of civilization, among the best educated classes, and in cities where, through the press, pulpit, and stage, as well as through educational institutions proper, the masses of the people are better informed than those in the country, and, as a rule, have more active minds; but in whom the conditions of life are more apt to favor a spirit of discontent. Among savages suicide is comparatively rare. Among the whites in the United States, according to the census of 1900, the suicides were 5,340 as compared with 149 among the negroes, the actual death rate from this cause being about five times as great among the whites as among the colored.¹³

Occupation appears to have a predisposing influence. Thus the trades in which the greatest number of suicides occur are shown to be those of tailors, seamstresses, laundresses, jewellers, carpenters, cooks, etc. The hardships of life attending many of these occupations may account for the number of deaths.

Wine merchants and innkeepers make large contributions to the number of suicides, because their occupation tends to induce excess in the use of alcohol.

The liberal professions furnish about one-fifth of the total number of suicides; physicians, chemists, and drug-

gists give a high percentage, and their occupations may be said to predispose to it by bringing them into such constant and intimate relations with poisons.

The stringency of military discipline in Germany, France, and Austria has been advanced as a reason for the high death rate from suicide in these countries.

Morselli finds the greatest number of suicides among (1) literary and scientific men, or brain-workers generally, professors, teachers, etc.; (2) the military; (3) workers in the trades.

According to Legoyt (1856-60), the middle classes and outcasts furnish the greatest number in France, and the same is found by Block to hold true (p. 251).

The condition of life has its influence as well, and those living solitary lives, as widowers, bachelors, divorced women, etc., are more prone to the act. By the census of 1900 it appears that there were in that year 1,620 suicides among single persons, 2,832 among the married, 560 who were widowed, and 41 who had been divorced.¹³

Religious Belief.—From a large collection of cases in Germany and Austria it appears that the suicide rate among Catholics was 51.3 per 1,000,000 living, among Protestants it was 79.5 per 1,000,000, and among Jews only 20.7 per 1,000,000.¹⁴

Climate and temperature in many instances undoubtedly contribute their share, but the attempts to regard them as the main cause of a high percentage of suicides in some countries have not been eminently successful. The cold, rain, and fog of England have, by various writers, been regarded as conducive to self-destruction. Thus, Montesquieu said, "England is the classic land of suicide"; but in Wynter we read ("The Borderland of Insanity," 1875), "Paris is the headquarters of self-destruction."

Putting aside the compliments that may be passed between these two countries, we must remember that the Esquimaux and Falkland Islanders, whose climate is incomparably more severe than that of either of these countries, do not kill themselves.

The influence of climate is, on the whole, not marked, but excessive heat has been known to drive men to frenzy and self-destruction. Long since it was pointed out that the hot and dry wind of the African sirocco caused delirium, madness, and many suicides.

Seasons.—In most countries the maximum of suicides is reached in May and June, when nature would seem to be most conducive to life. In Saxony and Bavaria, however, July is the favorite month.

Authorities agree that insanity increases in the summer time, and this may explain, as Wagner thought, the greater number of suicides. Leffingwell presents a table in which he shows that for the ten years (1878-87) the suicides in the warm months (April-September) constituted sixty per cent. of the whole number, and those in the cold months were forty per cent. A similar table for Japan for the years 1882-85 gave the same result.¹⁵

Sex.—In a general way, the average of female suicides for the United States is given as from fifteen to thirty per cent. of the whole number. In 1900, according to the United States census, suicides of women constituted 21.5 per cent. of the whole number of suicides in the United States.¹³ Liebman says three men kill themselves to every woman.

The proportion of women is given for Germany as under, and for England as over, twenty per cent. As accounting for this excess of male suicides it has been advanced that women have less energy, less resolution, are more governed by religious teachings, etc. The suicides of males in England were 101 per 1,000,000 in 1875 and had increased to 137 per 1,000,000 in 1899, while those of females were 34 per 1,000,000 in 1875 and had increased to 44 per 1,000,000 in 1899.³

Age.—Considerable regularity is shown, in each country, in the number of suicides at each age-period of life. From Ogle's table, as well as from those of Morselli, it is seen that, from the tenth year on, the number of cases rises steadily to between the ages of fifty-five and sixty-five years; remains almost stationary to about seventy-

five, and then decreases rapidly. It is rare before fifteen, but, excepting the very young, it is common to all periods of life.

The period from the twentieth to the fiftieth year has the most instances, for it is then that men pass through the most serious portion of their lives. It is then they are engaged in the battle for existence, require more comforts, and have most care and responsibility.

According to Ogle, 1 out of every 119 men who reach the age of twenty ultimately dies by his own hand, and 1 out of every 312 women who have reached the age of fifteen.

Attempts upon their own lives have been made by children at as early an age as five years. Durand-Fardel found one under five, and two between eight and nine. Out of 25,760 suicides in France occurring from 1835 to 1844, he found 192 to be in persons under the age of sixteen.

According to the census of 1900 the suicides in the United States in that year occurred as follows:¹³

Ages.	Suicides.	Ages.	Suicides.
5 to 9.....	1	50 to 54.....	490
10 to 14.....	28	55 to 59.....	371
15 to 19.....	246	60 to 64.....	314
20 to 24.....	531	65 to 69.....	253
25 to 29.....	534	70 to 74.....	175
30 to 34.....	555	75 to 79.....	117
35 to 39.....	594	80 to 84.....	49
40 to 44.....	600	85 to 89.....	14
45 to 49.....	542	90 and over.....	5

The suicides in the German Empire by ages were as follows in 1892:²⁸ Under 15 years, 7 per 1,000,000 living at that age; from 15 to 60 years, 280 per 1,000,000; over 60 years, 510 per 1,000,000.

Collineau¹⁶ relates the case of a boy ten years of age who, "to make his parents angry," hanged himself on being sent back to school.

Winslow¹⁷ reports several cases at an early age, and quotes Casper to the effect that in Berlin, from 1812 to 1821, 31 children, twelve years of age and under, committed suicide for trifling causes. Many cases at this early age appear to be similar to the emotional susceptibility of adult life.

Suicide is an act which springs from a brain constantly influenced by conditions present within the body, as well as by those of the external world, many of which we have considered as predisposing causes.

DETERMINING CAUSES.—Insanity with suicidal tendency is quite a common form of mental disease. It is not proposed to enter upon a consideration of the various forms of insanity in which this tendency is present. We may find it as a monomania, or associated with a homicidal mania.

It is often by suicide that the melancholic rids himself of his imaginary woes, and the maniac escapes from the imaginary foes with which his hallucinations surround him.

There are those who claim that the act of suicide is of itself an evidence of insanity. In the maniac there is no planning, and no precautions are taken; violence is characteristic of the act, and it is as a rule accomplished quickly. Should it fail, there is a knowledge and recollection of the details. Death may accidentally result from the attempts of the maniac to escape from hallucinations or in his efforts to free himself from restraint. This should not, properly speaking, be termed suicide, for although it is self-destruction, there is no intention or motive, and the term, as commonly used, implies a purpose.

In some insane persons there is an ever-present hallucination attended with a morbid sadness, and the act of suicide is deliberately planned and, with much precaution and calmness, carried into execution; or, if not at once successful, it will be persisted in until it is.

There is a form of anxious melancholy in which, without any cause, either real or imagined, there is, as it were