

THE PROBLEM OF DEGENERACY

BY

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Degeneracy is defined as "a condition marked by deterioration of the mental or physical processes".⁽¹⁾ In its broadest sense, therefore, it would include a vast number of clinical conditions. In its sociological aspect the meaning is taken to be more limited and is generally considered to include only such deteriorations as appear to be hereditary in nature or are theoretically preventable by either social regulation or education. Obviously, degeneracy is considered to be an undesirable condition, both from the standpoint of the individual affected, and of society, and to constitute a serious burden, if not an actual menace, to normal society. It will be the purpose of this paper to state the accepted views of the conditions responsible for degeneracy, and to endeavor to suggest a method of approach in altering or ameliorating the situation.

It has long been customary to speak of the objective manifestations of degeneracy as "stigmata of degeneration". Among these have been included a large number of conditions whose importance, in view of their frequency occurrence in individuals who exhibit no inferiority to those regarded as normal, has doubtless been exaggerated. Yet it cannot be doubted that a large number of signs show unmistakable evidence of inferiority, or perhaps better, of a condition which it would appear desirable to eliminate.

(2)

Talbot offers the following as a summary of the stigmata of degeneration:

Ethical	Crime
	Prostitution
Degeneracy	Moral insanity, Pauperism

CEREBRAL

	Paranoia
	Adolescent insanity
	Periodical insanity
Intellectual	Hysteria
	Epilepsy
Degeneracy.	Neuroses
	One-sided genius
	Idiocy

Sensory	Deaf-mutism
	Congenital color-blindness
Degeneracy.	Smell abnormalities.

SPINAL - Various congenital and hereditary disorders.

	Exophthalmic goitre
	Lymphoid degeneracy
	Acromegaly
	Tissue instability
	Adenoids
Nutritive	Myxedema
	Plural births
Degeneracy	Bleeders
	Cancer
	Excessive fecundity
	Gout
	Early lipomatosis

	Jaws
	Cleft palate
	Teeth
	Primitive uteri
Local	Cloacal conditions.
	Horse-shoe kidneys
Reversionary	Cyclopien monstrosities
tendencies	Amelia, Polymelia, club foot
	Plural Mammae
	Simian muscular & bony states
	Liver and other organ reversions

Other stigmata mentioned by Talbot, but not included in the above table, are the following:

- Drug addiction
- Hernia
- Degenerate cranium
- Pelvis degeneracy
- Food deficiency conditions
- Abnormal face and features
- Degenerate teeth and jaws
- Supernumerary fingers
- Juvenile obesity
- Feeble-mindedness.

More convenient for a working plan, than Talbot's anatomical classification, would be one based on etiology, disregarding entirely some conditions of lesser importance and incidence, and relegating those whose etiology is unknown and whose occurrence seems to warrant it, for the time, to the heading of heredity or congenital defect. First, however, a number of these will be disregarded here as being of so infrequent occurrence that they do not constitute a serious social problem. Then certain others, not being entities in themselves, will be grouped under the etiological factor of which they are characteristic. Then, since it is the conditions responsible for the stigmata and not the stigmata themselves with which we are concerned, we will state that the following conditions constitute the chief problem of degeneracy:

Infectious Processes	Syphilis Epidemic encephalitis Cerebro-spinal meningitis Any prolonged, exhausting fever Poliomyelitis.
Endocrine Disturbances	Hyperthyroidism Hypothyroidism Hyperpituitarism Hypopituitarism Diabetes
Intoxications	Alcoholism Opium poisoning Cocainism Lead poisoning Arsenic Poisoning.
*Congenital Deficiencies.	Crime Prostitution & sexual degeneracy Pauperism Dementia Praecox Paranoia Manic-depressive insanity Neurasthenia Psychasthenia Hysteria Feeble-mindedness Epilepsy Constitutional Psychopathies.

* No exhaustive attempt will be made in this treatise to prove that the conditions are all strictly hereditary. Nor will it be contended that environment plays no part. It must be admitted, however, that on the whole the incidence of these conditions show that they occur as though they were hereditary, or as though the tendency were hereditary. (3) Pearson in studying a small group (370 cases) of various degenerate types, has arrived tentatively at a conclusion which appears

very reasonable, though his series is too small and insufficiently varied to carry great scientific weight. He concludes that degeneracy is hereditary to a degree comparable to that of other ordinary characteristics, such as stature, weight, etc. Other statements supporting the view that these conditions have a hereditary basis will be made in the appropriate places.

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An examination of this table will at once show that the term, Degeneracy, includes a number of conditions only distantly related. Furthermore, not a single method, but many methods of approach in changing these conditions, will be required. It will be necessary, therefore, in taking up the method of approach for bettering the circumstances responsible for degeneracy, to consider each condition separately, grouping them only where their relation is close enough to warrant it.

There is no way of determining accurately the incidence of the various types of degeneracy in the United States. A fairly close estimation of the feeble-minded, insane, and criminal population in institutions may be made, but there is no way of knowing the number of such people not institutionalized. "In 1923 there were some 285,000 patients in hospitals for mental diseases, nearly 2,000 in psychopathic wards in general hospitals, and 22,839 such patients on parole. How many others were out of contact with hospital there is no way of knowing. According to estimates based on the statis-

tics of the New York State Hospital Commission, approximately one out of twenty five persons becomes insane at some period of life..... In 1924 some 76,000 persons were graduated from our colleges and universities, while there were about 75,000 first admissions and 16,000 readmissions to our hospitals for the insane..... According to Prescott F. Hall the average life of an insane patient is twelve years. Whether or not mental disorders are increasing in greater proportion than the general population we have little reliable data from which to form an opinion... Regarding insanities we are almost wholly in the dark; many alienists believe there has been an actual relative increase in recent years. Concerning epilepsy and particularly feeble-mindedness there is evidence of a disproportionate increase to general population, but only scattering studies have been made and statistics for comprehensive conclusions are not available. According to Davenport and Weeks, in the State of New Jersey, the number of epileptics doubles every thirty years.

"Loughlin estimates that only five per cent of the feeble-minded needing custodial care are actually receiving it in institutions. It is generally conceded that less than ten per cent of the feeble-minded are cared for in institutions. One finds estimates (for feeble-minded) for the United States ranging all the way from 400,000 to 2,000,000 or even 4,000,000. The total number of mental defectives in institutions in the United States on January 1, 1920 was 40,159 and if this represents ten per cent of the actually feeble-minded, a not uncommon estimate, then something between 400,000 and 500,000 is probably a minimal figure for the present time.

The number of paupers in the United States is likewise impossible to determine accurately. Moreover, there is considerable overlapping, most of the people falling in the group of insanity and feeble-mindedness also falling in this group. A careful estimate (5) by Professor Ely, formerly of the University of Wisconsin, would place four per cent of the general population in poverty.

(6) Parmelee estimates that, assuming all or the great majority of families to be supported by one adult wage-earner, "at least one-half, and probably more, of the families of this country are in a state of poverty."

The cost to society is fully as difficult to determine. In this connection merely one statement will be given. It is estimated that the total charity budget for the United States in 1920 was (7) \$1,700,000,000.

These introducing statements having been made, the problem of the individual forms of degeneracy will next be taken up.

Syphilis - The first condition responsible for degeneracy to be considered here is syphilis. That the present method of meeting the situation appears inadequate seems self-evident. Any evidence that syphilis is on the decrease is notably lacking, though the opinion of many practitioners and social workers is that it is on the increase. Possibly a part of the apparent increase is due to more exact diagnosis. In any event, it would be difficult to prove that notwithstanding the efficient therapeutic measures now available, syphilis is decreasing.

Perhaps it is expecting too much to see an appreciable decrease in the incidence of syphilis at the present time, even with the valuable forms of treatment now in use. A condition which has been developing for hundreds of years could not reasonably be expected to show much change in the short time that a specific drug has been used in its treatment. For, after all, salvarsan was not in use before 1910, and not until later than that has it or its analogues been included in the armamentarium of the general practitioner. Consequently it is unfair to assert that the present means of meeting the problem is ineffectual. But, however effective we admit the treatment of syphilis to be, prophylaxis is notoriously lacking, as evidenced by the constant stream of new infections. This fact implies unmistakably that there are many cases of untreated or inadequately treated syphilis at large, and this appears to be the center of the problem.

It would be difficult to determine the percentage of cases contracted through contact in professional venery, and in the general population at large. But it is not to be expected that policing efforts at discovering these sources will be any more effective in the future than they are now. It appears then that some other method must be adopted if any hope of prevention is to be entertained.

The first requisite, it appears, is to remove the moral aspect associated with all venereal disease, and to regard it as a medical condition. Moral persuasion, it is needless to point out, has to all appearances, accomplished nothing. A way must be found to

acquaint the largest possible number of people with the essential facts of the prevention, characteristics, and treatment of the infection, and to point out that morality has only an accidental relation to syphilis.

Immediate results are not to be expected following the adoption of any procedure. But, as pointed out above, it is essential to acquaint the greatest possible number of people with the important facts, especially of prevention, in order that they may realize the situation. And it is reasonable to add that the proper time to inform the greatest number is before infection takes place. The logical place, then, for dispensing this information can be just one - in the public schools. The sooner this is realized by those concerned, the sooner will an intelligent step have been made in the control of the disease.

A number of objections to a plan of this type are sure to be raised, but in a sincere attempt to control a disease as prevalent as syphilis, minor considerations interfering with the fundamental concept of informing the greatest possible number of people, must necessarily be disregarded. One of the chief obstacles to be expected is false modesty - the assumption that informing the youth of the nation will taint their outlook on life. This assumption is certainly debatable, but in choosing between the possibility of syphilitic infection and a tainted outlook on life, little need be said.

The author does not expect the course suggested to be followed, at least not for many years. Syphilis, while constituting a tremendous problem as a whole, does not, at the present time affect a group that is large enough, intelligent enough, and influential enough, to effect a provision of the kind suggested above. Other problems, of apparently greater moment are met, while this continues, never quite seeming to need extensive effort. Therefore, if the incidence of syphilis increases to the extent that it becomes a serious financial burden to society in general, concerted effort is likely to be taken to eliminate it. But if the burden imposed by syphilis remains similar to what it is now, more effective measures are not likely to be taken, and little hope of eliminating it is to be expected. The problem will then continue to be, as it is now, one which the individual must largely meet for himself.

Epidemic encephalitis, cerebro-spinal meningitis, and other prolonged exhausting fevers.

These conditions responsible for degeneracy present problems similar enough to warrant their being considered collectively. Their importance to society is far less combined than that of syphilis, owing to their lesser incidence.

Epidemic encephalitis, however, presents a problem somewhat different from the others, however. This is due to the fact that it has of late years become increasingly prevalent in most communities, and that while the disease has an immediate mortality of only about 20%, an unusually large percentage of those recovering show marked deterioration. Among the sequellae of epidemic encephalitis are in-

cluded the following conditions: Parkinsonian syndrome, changes in mentality, speech defects and paralyses, headache, nervousness, and visual defects. Recovery from these sequellae has been notoriously unusual. As a result a constantly increasing number of people almost totally unfit for a productive life is creating a problem which is so new that no adequate provisions have been made in most communities. Large numbers of such patients are being maintained in state and charity institutions not meant for this purpose and not fitted for their proper treatment nor for investigation along constructive lines in their treatment. The immediate problem is to provide proper maintenance for those suffering from the sequellae of epidemic encephalitis, and to make provisions for research aiming to ameliorate the condition of such patients.

The prevention of the diseases included in this group appears likely to remain an unsolved problem for some time. No solution could be suggested at the present time; the only thing that can be done is to promote investigation, and along the lines of treatment as well as prevention. Quarantine measures perhaps keep these diseases in check, though just to what extent it would be difficult to determine.

This group of diseases, it appears, while constituting an important problem, and being needful of further knowledge concerning prevention and treatment, is being handled as well as possible under the existing circumstances.

Poliomyelitis - another important disease in this group resulting in degeneracy, constitutes a very important problem. As in the second group above, little is known concerning the method of spreading, and prophylaxis. Thus there is evidently a need for more concerted investigation connected with these two aspects of the disease. It appears that this side of the problem has been neglected, while most attention has been directed toward the treatment.

In spite of the fact that much has been attempted in the line of therapy, it must be admitted that the results are very discouraging. Anti-serums, even from convalescent patients, have proved to be of limited value. While surgery still constitutes the only form of treatment of any great value it, too, has its limitations. However, one aspect in the treatment which is not stressed sufficiently in medical education and among general practitioners is the prevention of deformity. This adds a greater burden to the orthopedic surgeon, who alone can offer reasonably successful treatment in a certain percentage of cases.

Hypothyroidism and Hyperthyroidism - Whether these conditions should be considered here is questionable, since popular usage of the term degeneracy would very likely not consider that they constitute a social, but rather an individual problem. But since they very definitely result in "deterioration of the mental or physical processes", by our definition they result in degeneracy.

Our knowledge in treating these conditions has now come to be quite satisfactory. Recent advances have been so sound that be-

fore long this phase of the problem ought to be negligible. There is probably general agreement that early diagnosis, prompt treatment along lines well known, and suitable prophylactic measures would be the only steps needed in meeting the problem,

At the present time, the most difficult aspect appears to be the education of the practitioner of the older generation. Surgeons are continually confronted with patients who have not been diagnosed before the condition became self-evident, who have not been treated at all, or who have been treated unwisely by the injudicious use of iodine. Perhaps it is too much to expect much success in re-educating the older practitioner, but in a quarter of a century, with a group trained from the new viewpoint regarding thyroid dysfunction, this problem ought to be nearly eliminated.

Diabetes - Many of the things said in the introductory paragraph concerning thyroid dysfunction will apply equally well in regard to diabetes. In fact, I believe the problem almost settled, or at least on a very tolerable basis. It has been more satisfactorily disposed of than the problem of thyroid dysfunction. Several reasons are immediately apparent for this. The diagnosis is, in most cases, relatively easy. In the next place, the treatment has been successful to a point beyond the wildest hopes of the man of ten years ago. Furthermore, because the treatment is of a rather technical nature, the practitioner will in most cases refer the patient to one qualified to treat him. Thus the diabetic of today is almost certain to come under the care of a man well fitted for its treatment. Concerning the one serious drawback in the treatment, namely the

expense, much research is now being done, particularly along the lines of the synthetic production of insulin.

Hypopituitarism and Hyperpituitarism - Serious pituitary dysfunction is a condition so rare in comparison to some of the other forms of degeneracy that it does not constitute an important part of the problem. The etiology is unknown, and the treatment in most cases is very uncertain.

Hypopituitarism is manifested usually in the group known as possessing "Frohlich's syndrome, and, according to some, in Mongols. Hyperpituitarism includes the acromegalics and the pituitary giants, the former resulting from overactivity in the adult, the latter in younger patients. Investigation in supplying the hormone is being carried out in cases of deficiency, while surgery also has a limited, though not very encouraging part.

Alcoholism - Of the degeneracy resulting from the group of intoxications, alcoholism is by far the most important cause. At the Wisconsin State Hospital for the Insane in 1924-25, 10.6% of all male patients admitted were alcoholics, and 17% of all readmissions were due to alcoholism. (8) Alcoholism is classified as acute and chronic alcoholism, delirium tremens, multiple peripheral neuritis, and less frequently as Korsakow's syndrome, wet brain, acute hallucinosis, alcoholic deterioration, etc.

Statistics showing the incidence of alcoholism at the present time as compared with the era before national prohibition are not

available, but according to the statements of attending men at the Wisconsin State Hospital for the Insane, no decrease is apparent. Whether the use of alcohol is increasing or decreasing is, of course impossible to determine, though it is common knowledge that arrests for drunkenness is, in some communities at least, greatly on the increase. General impression among all people has it, and it seems almost impossible to think otherwise, that the use of spiritous liquors of high alcoholic content is at present the universal type of alcoholic beverage, though this is a belief incapable of proof. This is the form most likely to produce the conditions requiring institutionalization, namely alcoholic polyneuritis, delirium tremens, Korsakow's syndrome, alcoholic deterioration, etc.

From the above it is impossible to deduce that national prohibition has played any part in mitigating this form of degeneracy. It is equally impossible to demonstrate that alcoholism has increased since the onset of national prohibition. Many people are of the opinion that inasmuch as the drinking of spiritous liquors bore a stigma about the time prohibition came into effect, the Volstead Act, by its uncompromising severity, militated against this concept, resulting in increased consumption of the more toxic forms of alcohol, which under the new conditions, were the only forms available. This, again, is merely opinion, and of value only as such.

But in view of the substantial incidence of alcoholism in institutions such as the Wisconsin State Hospital for the Insane it is foolish to pretend that National prohibition is solving this problem. Whether it will, in the future, remains an experiment which, if we are not unduly

pessimistic, will require a century or two to be completed. In this problem, human nature must be considered, which revolts at the stern command of "Thou shalt not", but is somewhat more amenable to a more compromising attitude. It is conceivable that a more liberal form of alcoholic restriction would, after a number of years, effect a mitigation of this form of degeneracy, but it is perhaps too much to expect immediate results from restricting that which has been customary for countless generations. And since the control of the liquor traffic and legislation is in the hands of politicians and fanatics, an extremely optimistic outlook is required to believe that anyone now living will witness a material decrease in alcoholism. Even popular education in the public schools can hardly be expected to have any material effect unless prejudice, fanaticism, and the moral aspect are removed from the teaching and the results of alcoholism displayed as cold, scientific facts. This we may expect in 2500 A.D.

Other Forms of Intoxication - In this group opium poisoning, lead, and arsenic poisoning will be considered, not because of their similarity but because statistics are not available for each condition separately.

At the Wisconsin State Hospital for the Insane only .6% of all females and 3.1% of all males admitted in 1924-25 suffered from these conditions. (8) There can be no question that the incidence of drug addiction is greater than here indicated, since estimates place the number of addicts at from 1 in 1200 to 1 in every 300 in the United States.

The problem of drug addiction is closely related to that of crime, as
(9)
might be expected. Bowers states this relation as follows:

"Eight per cent of the prisoners received at Indiana State Prison are
users of morphine, cocaine, or other narcotic drugs. Fully 5%
of all crimes for which prisoners are committed to this institution are
due directly or indirectly to the use of these agents.

The problem of drug addiction must be attacked from two angles.
In the first place federal control of illicit traffic must be attained.
In this we are not so particularly concerned. The phase with which
we are particularly concerned is in the administration of narcotics,
especially morphine, to patients. For what percentage of drug
addiction physicians are responsible it is perhaps impossible to deter-
mine. But there can be no doubt that a very appreciable number have
begun at the hands of a physician. The method of attacking this
problem is up to the medical educational centers. That insufficient
stress is laid on this phase of instruction in medical schools seems self-
evident, since the incidence of drug addiction from this cause is so
extensive.

In regard to lead and arsenic poisoning some advance in the pro-
tection of employes in the industries using these metals may be presumed
to have been made. This advance has been along the line of instruc-
tion in regard to hygiene, as for example instructing employes to eat
lunches away from the place of employment and only after thoroughly wash-
ing of the hands. How effective this has been is at the present time
impossible to say, but lead and arsenic intoxication is all too frequently
seen.

Though legislation is usually a very unsatisfactory method of bringing about changes for the welfare of people, it seems that it might offer the most satisfactory method of attack in meeting this problem. Perhaps limiting the length of time an employer in lead and arsenic industries might engage the services of an employee would be the key-note. This might not prevent a person from being employed repeatedly in industries using lead or arsenic, but we could expect a certain number of people to be intelligent enough to cooperate, while a certain percentage must undoubtedly of necessity make a change, thereby gaining at least a temporary respite from exposure. If a serious attempt is to be made to reduce lead and arsenic poisoning, some such method appears worthy of consideration.

Congenital Deficiencies - As stated in the introductory paragraphs, a number of conditions of ethical and mental degeneration have been categorically placed in this group. No elaborate attempt has been made to prove the existence of a congenital relationship in the production of these conditions. While most forms included in this group can be proven to have a hereditary basis, this classification has been made primarily for convenience. Still, some of the most important diseases in this group are now considered to have a definite hereditary basis, including dementia praecox, manic depressive insanity, feeble-mindedness, hysteria, and neurasthenia. The existence of a hereditary factor in the other conditions included in this group appear reasonably certain, though it lacks the striking evidence shown in the conditions named above. The question of a hereditary causal relation

is an important one, since no attempt at solving the problem these conditions have created can reasonably disregard this factor.

Dementia praecox - Of all the conditions in the group of congenital deficiencies, dementia praecox is, on the basis of figures available, the most prevalent. (Certain other conditions, notably feeble-mindedness and pauperism, may be claimed to be more common and to thereby constitute a greater problem. Owing to the lack of accurate data, these claims must be overlooked in this paper). The prognosis is invariably bad, recovery occurring in only 12% of cases of the catatonic type, which offers a far better prognosis than the other types. In 1924-26 from 20% to 30% of all first admissions to the Wisconsin State Hospital for the Insane belonged to this group. 20% to 27% of all readmissions during this period were dementia praecox. (8) Still more significant is the fact that about 65% of all chronic mental cases that do not recover belong this group. (10) There are other reasons for the great importance of this problem. Patients suffering from this disease make very poor social adjustments. Institutionalization is usually very long as compared with other psychoses.

Dementia praecox is also responsible for a not inconsiderable amount of crime, much of which is of a brutal, revolting nature. "The crimes of those suffering from dementia praecox partake of the fundamental basic characteristics of mental enfeeblement that mark this psychosis.... A very large number of violations of law committed by insane patients is directly chargeable to dementia praecox." (9)

In an attempt to ascertain the progress that has been made in the problem presented by dementia praecox, let us examine the situation as it exists at the present time. It is the commonest form of psychosis seen at the Wisconsin State Hospital for the Insane, which may be considered to fairly represent its general prevalence. Of the three forms ordinarily spoken of, namely the hebephrenic, paranoid, and catatonic, the latter offers both the best prognosis for recovery (12%) and is the form least frequently seen. During the year ending June 30, 1925, 116 dementia praecox patients were admitted. Only 79 patients were discharged during this time with claim of recovery at the time of discharge for only 10. This illustrates how institutions become crowded with dementia praecox.

The dementia praecox problem is theoretically met in the following ways:

1. Prophylactic Treatment in preventing people from great shock or mental excitement. How this can be at all effective is most difficult to understand. While the trouble is beginning, which is the time at which aid could be most efficaciously given, very few patients can conceivably be in contact with anyone who understands that a psychosis is in the making, so that by the time a case is recognized, it must, in the majority of cases, have developed to the point where institutionalization is necessary. It might be thought that the prophylactic treatment could be instituted at this time with great benefit. A little thought, however, will show that

this cannot be the case, under present conditions, at least. For the untiring patience which is required in the face of indistinguishable progress for the greatest part, is not to be expected of the psychiatrist. And did he possess this patience, he would not conceivably have the time to carry out his treatment, since the number of patients and the amount of work allotted to him is too great. Furthermore, the average psychiatrist, I believe, accepts the conclusion that dementia praecox is on the whole a hopeless condition, and does not with our present knowledge warrant the heart-breaking effort required to produce results, at best highly doubtful.

2. The next method in meeting the problem, consists in searching for a toxic factor, and eliminating it. Reports of rather startling cures by this means leads the psychiatrists to doubt the diagnosis. Certainly, no large number of patients, correct diagnosis or not, has been cured in this way. It may be stated that the search for a toxic factor should have begun before a patient was ever committed to an institution, and in most cases perhaps has been done. At the Wisconsin State Hospital for the Insane the writer knows, from observation, that all patients receive careful physical examinations. And still the number of cures resulting from eliminating toxic factors is not great enough to receive any mention in the

biennial report.

3. The third method of meeting the problem is by administering occupational therapy. This is a very commendable method, since many patients presumably can be made practically self-supporting and thereby a lessened social burden, even when the psychosis is not arrested. However, nicely this method works in theory, the practical results unfortunately do not appear particularly good. For although the Biennial Report of the Wisconsin State Hospital for the Insane cheerfully states that this has proven the most essential form of treatment, still it does not see fit to publish a single figure showing its results.

From the foregoing paragraph, in regard to meeting the dementia precox problem, only one conclusion can be drawn, and that is that the problem is decidedly not being solved. Whether this is due to a wrong method of attack, to insufficient funds for the purpose, or what not, is important. It is faintly conceivable that with an increase of funds much might be done in the manner outlined above. But to increase the funds sufficiently to employ a large number of capable men can hardly be thought of as lessening the social burden, so I choose to think that the method of attack is wrong.

It appears, then that an altogether different mode of meeting the situation is needed if we desire to eliminate dementia praecox. However, changing a condition of this kind implies a sacrifice of some

kind, and this ought to be realized before action is taken. At the present time the public sacrifices public funds, and gets no result. It is difficult to estimate the cost in grief to relatives and friends of the patients.

The method which is to be suggested in this paper depends fundamentally on the proposition that dementia praecox is essentially hereditary. If this is wrong then the method is wrong. Prof. (4) Guyer states that " a number of psychiatrists and investigators of the inheritance of insanities (Rudin, Lunborg, Davenport, Rosanoff, Jolly) although working independently and in different countries, concur in the opinion that manic-depressive insanity, dementia praecox, and allied psychopathic conditions tend to occur as Mendelian recessives. The sacrifice consists essentially in giving up a few religious and antiquated ethical dogmas. I propose, in short, that everyone, once the diagnosis of dementia praecox is satisfactorily established, be compelled by law to submit to sterilization, for the prevention of offspring. This is by no means a new suggestion. And still there is violent opposition to the measure in most communities. Few people will consent to weigh impartially the benefits (expected) and the cost in the way of ideals, etc. But until a vigorous, radical step of this nature is taken, we can not reasonably expect a solution of the problem.

It is gratifying, however, to observe that sterilization of defectives has some sanction, at least, in important places. The following extract is taken from the Capital Times, Madison, Wisconsin, of December 23, 1928: "In the case of Buck vs. Bell, decided in the United States Supreme Court in May, 1927, the validity of a Virginia statute

was sustained authorizing the sterilization of feeble-minded inmates of state institutions under certain safeguards." Justice Holmes wrote the opinion in this case and quoting therefrom in part this decision says:

"We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for the world if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit, from continuing their kind. Three generations are enough".

Nebraska has recently passed a law (Senate bill 197, 1929) "providing for the sterilization of feebleminded and insane inmates of state institutions, and of habitual criminals.

Manic-Depressive Insanity - While manic-depressive psychoses constitute the second largest group of admissions at the Wisconsin State Hospital for the Insane, the problem raised does not appear to be as serious as in the case of dementia praecox. In the 1925-26 biennium manic-depressive psychoses constituted from 10% to 22% of all (8) admissions, being twice as frequent in females as in males. However, the discharge rate is closely parallel to the admission rate, so that there is not the accumulation in this group that is evident in dementia praecox. Moreover, the time of hospitalization is comparatively short in the vast majority of cases. And since there is return to normal function in the interims between attacks, these patients are not

a social burden except at such times as they are institutionalized.

While the economic cost of manic-depressives to society is less than that of dementia praecox, there are other aspects in which it is worse. Families in which this psychosis occurs are not as a rule inferior in perception and intelligence, so that the occurrence of a single case in a family is regarded as a stigma by a large number of people, a condition far less likely in a family having a praecox. Furthermore, there is reason to believe that the presence of a manic-depressive psychosis in a family will actually by the apparent disgrace and resultant brooding being about psychoses in no way related to the manic-depressive.

That there is a distinct hereditary basis for manic-depressive insanity has already been shown. (4) If this is true then the same measure that was outlined as the solution of the dementia praecox problem ought to apply here, namely sterilization. There is no further need of again going into theoretical speculation on the ethics of sterilization. If the measure is justifiable in dementia praecox, it is, by the same line of reasoning, justified as an attempted solution of the manic-depressive psychosis.

General paralysis - In the 1924-26 bienium, general paralysis or paresis ranked third among the various psychoses in number of new admissions to the Wisconsin State Hospital for the Insane. The incidence among males admitted was 10.6% to 12.6%; in females 1.9% to 3.5%. (8)

The treatment of paresis can probably be said to be reasonably

successful as compared with other chronic, purely medical conditions in general. In some relatively early cases, the use of tryparsamide has undoubtedly produced some startling results - (Figures). And more recently, the malarial treatment has, in some cases, produced results probably exceeding even the hopes of the workers.

These methods of treatment are highly commended and should be encouraged. However, the active treatment of syphilis can perhaps never constitute, in itself, a means of solving the problem, which is the same as the problem of syphilis in general. This has been adequately covered in the section dealing with syphilis in general. Briefly, to recapitulate, it was there opined that the solution was to be looked for in mass education, regarding syphilis as a medical condition with only an accidental relation to morality.

Senile Psychoses. This group, together with all psychoses accompanying arteriosclerosis, and involution constituted from 15.3% to 25.3% of all new admissions to the Wisconsin State Hospital for the Insane in the (8) 1924-26 biennium. Yet, in spite of the large incidence in this group, the author does not feel that this problem can be compared in importance to that of the three preceding conditions. In the first place, the age of onset is in general so late that the patients' most productive years are already spent. In the next place there is not the slightest reason to regard this group as one which can become an increasing problem through increase by heredity or infection. In the next place, the time of institutionalization, while perhaps greater than

that of paresis and in some cases than of the total time for the manic-depressive psychoses, cannot be compared to that of the great dementia praecox group. In the present state of medical knowledge, this appears to be the group whose existence in the present social order need not be regarded as a reproach. It is the group which ought to constitute 95% of the population of Institutions. If, after medical science has discovered a cure, or imagination has evolved a theoretical mode of elimination, for arteriosclerosis, and the condition continues to be as common as it is then and not until then is this condition to be considered a reproach.

Other Psychoses - In this group will be considered paranoia, neurasthenia, psychasthenia, hysteria, epilepsy and constitutional psychopathies. The combined incidence of these conditions at the Wisconsin State Hospital for the Insane in the 1924-26 biennium ranged from 6.5% to 11.8%.⁽⁸⁾ This, however, may be misleading as far as the actual incidence of the conditions is concerned, since many more cases of this type can be thought to escape institutionalization than in the case of the well-marked, definite psychoses of dementia praecox, manic-depressive, paresis, and senility.

Here, then, is a definite problem to be met, with importance comparable to any of the first three conditions mentioned above. In this group there is also definite evidence to support the view that a large proportion of cases show a hereditary basis. Probably the chief exception to this statement is epilepsy following trauma.

Of the conditions in this group epilepsy and paranoia in particular show a definite relation to crime. (9) Bowers makes the following statement: "Epilepsy is probably responsible for more pathological offenses than any form of positive mental disease." He states also, that "Paranoia and allied paranoid states furnish us with a very large quota of pathological crime. The most common of these are homicides, homicidal attempts, assault and battery, blackmail, perjury, impersonation, of officers, and sexual crimes".

If we accept the proposition, then, that these conditions are essentially hereditary, the same arguments for meeting the problem will hold as in dementia praecox and the manic-depressive psychoses. Sterilization after careful diagnosis appears, then, to be the one method most likely to be successful.

Crime - While crime is undoubtedly a part of the problem of degeneracy it is very difficult to consider alone. It is closely allied with other forms of degeneracy. It may perhaps even be said that all crime is committed by people showing degeneracy, though this is not squarely meeting the issue. There is a definite relation between crime and feeble-mindedness as is evident to anyone who has read a Hearst magazine. A definite relation exists between crime and insanity, presumptive proof of which may be given by recalling that there were on December 31, 1928, 199 inmates at the Wisconsin State Hospital for the Criminal Insane. (12) The relation of crime to dementia praecox epilepsy, paranoia, and drug addiction has already been considered, and

its relation to feeble-mindedness will be taken up under that head. Thus it is evident that the problem of crime is complex, being very closely related to these other conditions.

An estimate of the cost of crime to society is difficult to make. In Wisconsin, on December 31, 1928, 998 persons were confined in the State Prison. In addition 552 were present at the State Reformatory, and 1,015 at the Milwaukee County House of Correction. (12)

The maintenance of these institutions represents only part of the monetary cost of crime to the state. (4) Guyer states that "the cost of crime in the United States is at least twelve times as great as the combined cost of the army and navy." The cost of crime in human life cannot be measured in terms of money. It is estimated by Bowers (9) that the annual toll of murder in the United States since 1924 exceeds 11,000, a rate of approximately 10.2 per 100,000. This rate is eighteen times as great as that of Scotland, and thirty six times as great as that of Switzerland, and is far greater than that of any civilized country.

Since the problem of crime bears a definite relation to that of insanity and feeble-mindedness, the solution of one should have a definite effect on the other. A suggestion has already been offered for meeting the problem of certain forms of insanity, namely sterilization after adequate precautions have been taken to prevent injustice. Carrying out this step, if a relation between insanity and crime is conceded, would solve a part of the crime problem. And if a relation

between crime and feeble-mindedness exists, as will hereinafter be shown, then any measure taken to reduce feeble-mindedness would solve another part of the crime problem, and a major part of it, there is good reason to believe.

It will here be contended, on the basis of figures given to show the relation between crime and both feeble-mindedness and insanity, that any steps which would solve the two latter would necessarily solve the major part of the crime problem. The method proposed for combatting insanity has already been stated. In the section dealing with feeble-mindedness, a solution will be proposed for this problem which will at the same time state the remainder of the method suggested for solving the problem of crime.

Pauperism - The extent of pauperism is probably not appreciated by the majority of citizens. In Wisconsin, on December 31, 1928 the number of people living in state and county charitable institutions alone was 9,739. ⁽¹²⁾ This, of course, includes insane and feeble-minded, but does not include convicts. The number of people receiving private aid was not ascertained, but it may reasonably be presumed to be at least as great, and very likely many times greater. It has been stated elsewhere that probably no less than four per cent of the general population consists of paupers.

"A definite relation exists, as onemight expect, between pauperism and feeble-mindedness and between pauperism and insanity. It has been shown that in 1915, 26.9% of the paupers in the poor asylums of

Indiana are feeble-minded, while 43% are either feeble-minded, insane,
(13)
or epileptic.

From the fact that a large percentage of paupers under state and county maintenance are insane or feeble-minded, it is reasonable to infer that there is a close relation here between these three conditions. It is apparent, then, that eliminating insane and feeble-minded would eliminate at least as many paupers from institutional care as are insane or feeble-minded. A number of paupers, and doubtless the greater number, however, subsist on private charities, and this group can be considered to consist chiefly (though not necessarily) of feeble-minded. It is this group which presents a more difficult theoretical problem. However, an important beginning would be made by eliminating paupers from state and county asylums, after which it should be more easy to extend the scope of the elimination. The solution for insanity, also a part of this problem, has already been suggested. That part of the problem of pauperism depending on the elimination of the feeble-minded will be considered under the head dealing with feeble-mindedness.

Feeble-mindedness - There is a great difference of opinion in regard to the incidence of this condition. Estimates based on impressions and not on scientific research might place the incidence anywhere from 5% to 80% of the general population. I do not believe enough work has been done to enable anyone to give an accurate estimate of the total extent of this condition, but perhaps the estimate given previous-

ly of 400,000 to 500,000 for the United States is as close to the true extent as it is possible at the present time to determine.

Perhaps the most important phase of the problem of feeble-mindedness is its relation to crime. (9) Bowers states that "the greatest causative factor of crime is feeble-mindedness. At least 25% of the inmates of penal institutions show mental deficiency." The occurrence of feeble-mindedness in reformatories and industrial schools is given by Bowers as follows:

N. Y. State Reformatory, Elmire, about 37%

N. J. State Reformatory, Rahway, about 33%

N. Y. Reformatory for Women, Bedford, about 37%

Mass. Industrial School for Girls, Lancaster, about 50%

Md. Industrial School for Girls, Baltimore, about 60%

Illinois State School for Boys, St. Charles, about 20%.

It should here be emphasized that feeble-mindedness does not constitute a social problem per se. It becomes a problem only in its relation to crime, pauperism, etc. An important phase of the matter of feeble-mindedness, while not constituting a problem directly, may be said to indirectly. That is, the contention that the feeble-minded population is increasing faster than the general population. If this be true, then the problems of crime and pauperism, by virtue of their close relation to feeble-mindedness, are assuming a more dangerous aspect.

It may also be asserted, and justly so perhaps, that feeble-

mindedness does constitute a problem per se, apart from its influence on other problems as crime and pauperism. It is reasonable to suppose that a country whose population consists of a large percentage of mentally deficient is subject to decay from within, and cannot be expected to compete with countries possessing superior manhood in matters of human advance, not to mention warfare.

No one will deny the hereditary basis of feeble-mindedness. Evidence has accumulated in too great a degree to be disregarded. Accepting this, then the only logical attempt at meeting the problem can be based on limiting the reproduction of the feeble-minded. This the feeble-minded will not do themselves, in spite of the fact that it is manifestly to their advantage to do so. It follows that their reproduction must be limited by coercion, that is to say, by compulsory sterilization. Even though such a measure might reduce the birth rate considerably for a time, yet it appears that a small nation of intelligent citizens is greatly to be preferred to a large population consisting of mentally deficient.

A sensible method of selecting patients for sterilization and one not likely to cause injustice, is one similar to that now effective in Nebraska. As long as the feeble-minded are able to stay out of institutions they are not touched. But after coming under public charity they are compelled to submit to sterilization. No doubt many years will pass before the results of such treatment becomes obvious, but a method of this type, free from radicalism is more likely to be taken to kindly and adopted by other states.

SUMMARY AND CONCLUSIONS.

Degeneracy here is taken to consist of those conditions of physical or mental deterioration which present a social or economic problem, for most of which a theoretical solution exists. Only the conditions considered of most importance have been taken up.

The most important type of degeneracy from the social and economic standpoint is that spoken of here as the group of congenital deficiencies, and including such conditions as insanity, feeble-mindedness, crime and pauperism, among which very close economic, social and causal relations exist. Methods of meeting this problem in the past are reviewed and shown to be inadequate, and to all appearances fundamentally wrong. A solution of the problem is thought to depend finally on the sterilization of feeble-minded and insane, it being shown how this should constitute a major solution of associated crime, pauperism, etc. Legal sanction for sterilization has already been attained in Maryland and Nebraska, and is being striven for in other states.

The group taken up as intoxications is next in importance, including alcoholism, morphine and cocaine addiction, and lead and arsenic poisoning. The apparent solution for the first three lies in concerted effort at education, and in sane, sober legislation, two conditions difficult to fulfill. For industrial poisoning the suggestion offered is legislation limiting the time persons may be employed where exposure occurs.

Among the infectious processes resulting in degeneracy, syphilis

alone holds a satisfactory theoretical solution, namely early education in the fundamentals of transmission and prophylaxis, a solution which it is needless to say has not been fulfilled in practice. No satisfactory theoretical solution for the problem created by epidemic encephalitis, cerebro-spinal meningitis, and anterior poliomyelitis exists at the present time, because of inadequate knowledge. The solution, it appears, will depend ultimately on scientific research.

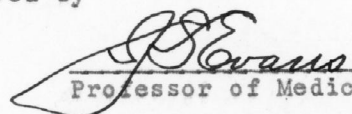
The endocrine group appears likely to be solved before long as the result of recent advances in surgical and medical treatment. In fact, a part of this problem exists only because application is not made, in many cases, of facts which already are known.

Because of such difficulties as politics, fanaticism, indifference, ignorance and inadequate knowledge, a long delay is anticipated before these problems are solved.

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