opportunity enlarges obligation. Hence, a life, or an association, whose career lies within these years of great mental activity and colossal achievement, has duties resting upon it equal to its advantages and endowments. We cannot live a restricted existence but singly, and, as an association, must take up the obligations of society and science wherever related to our work, and become the agent of reason and knowledge in its specialty.

A review of the doings of the society shows a magnificent work done from year to year. Its records show much unanimity of action, and the accomplishment of many hopes and the carrying into operation many recommendations of its members.

There are some topics of vital importance that have been discussed heretofore by the association that have not received either the condemnation or official adoption of this society, and to these I shall simply call your attention without detail. It is true, our institutions are subject to the variations to control and exercise of function by different states, yet many measures for common good and advancement should be generally adopted by all. I believe this society should put itself on record by official adoption after due consideration of a classification of the feeble-minded disassociated from that of insanity: a form of conception to the law restricting the marriage of the unfit, and the discussion on two topics so vital in importance as to be the burden of the presidential's scholarly address presented four years ago at the meeting of this association at Orillia, and whose sentiments there expressed have been formulated and adopted as a law in several of our states. I refer to the law restricting the marriage of the unfit, and the discussion going on in several others of the advisability of legalizing the operation of a sexualization under certain restrictions.

I feel that a word in commendation of the JOURNAL published under the auspices of this association should be spoken. I believe if the individual members of this association would determine to give but a small measure of their time for its pages, it would make the labor of the indefatigable editor a joy. I being not less guilty of this sin of neglect than the rest of you, call attention to the vast importance of contributing by our best efforts to its success.

In the century whose portals we have passed, life will go forward much as it has in the past. The sun will shine, the stars will gleam, rains and snows will fall, and rivers will seek the oceans. Men and women will love; children will laugh and sing; many will sin, and then grieve and repent; fortunes will be made, and lost; reputation will dazzle the public eye; fame and power will be sought. But will the era be one of entire success? Will crime and vice exist beneath external grandeur: will there be injustice, fraud and disregard of integrity; will there be drunkenness, immorality, poverty and distress; if so, will the criminal and imbecile abound? Undoubtedly the burden of the present, as it has been in the past, is prevention; and it is the burden of its solution that lies heavily upon our shoulders. With all our growth of institutions we learn ninety per cent are without care or supervision; and, with the knowledge that at least fifty per cent of increase could be stopped, we can but hope and work. As we look into the future, encouraged by the successful work of the past, we are filled with the hope that inspired Pasteur, when he said, "I hold the invincible belief that science and peace will be victorious over ignorance and war; that the nations will agree not to destroy, but to build up, and that the future will belong to those who shall have done most for suffering humanity."

**INSTINCTS AND EMOTIONS OF THE FEEBLE-MINDED.**

BY A. R. T. WYLIE, PH. D., FARIBAULT, MINN.

Considering the feeble-minded child as an active or behaving organism, and it is as such that he is of importance to the state, it is necessary to study the fundamental bases of action. These bases or instincts are modes of behavior, which were advantageous to our ancestors, and are dependent upon an inherited nervous mechanism, the feeling which accompanies the action being called an emotion. As the distinction between instinct and emotion is chiefly one of viewpoint, it will be found expedient to consider them together.

The instincts appear at different periods in the child's life, depending upon the proper condition or "ripening" of the nervous mechanism and the presentation of the proper stimulus at this time. The resulting action produces a corresponding mental impression or picture and thereby adds to the conscious wealth of the individual. Thus arises the power of instinctive prevision. And as events happening in consciousness carry with them the power to be recalled, thus arise the mental pictures or ideas which are the basis of will, for it is very evident that we can not will that of which we have no idea. In order that an animal should attend to any object in his environment, it is necessary that his organism and sense organs should be so adjusted as to be acted upon or stimulated by this object, and this in the first instance, must be instinctive. Thus arises attention, perception, memory and volition. The action of consciousness transforms not only the material thus given it, but also the instincts themselves, so that in the human race they lose to a greater or less extent the definiteness and fixedness which characterize them in the animal world.

However, if the proper stimulus is not presented when the nervous mechanism is "ripe," and the environmental conditions are not suitable for the performance of the act, the instinct is aborted and no more
appears in the life of the organism. Hence, unless the instinct is fixed by habit, it does not persist.

From the standpoint of the emotion the expression is a constituent part of it, consequently, the feeling- and the expression do not stand in the casual relation to each other, but both form one whole. Hence, when the expression is deficient or poorly developed the feeling must necessarily be lacking in vigor and tone. And defect in instincts can be due either to defective nerve mechanism or environment, especially at the critical period in their growth.

In this study of the instincts and emotions of the feeble-minded the method used was to question those most intimately acquainted with the children as to presence and manifestation of the various instincts and emotions. While subject to considerable error this was found to be the only method available. The number of children examined was seventy-six, and for the purposes of this paper they were divided into three classes. The first class comprises those who have not been able to learn anything from experience. The third class comprises those who can learn to read and write so as to gain both profit and pleasure. In numbers they can usually get as far as long division, and while not able to support themselves, their labor is of considerable economic value. They comprise our highest grade cases. Class two includes those between classes one and three.

The determination of the prevailing emotional tone is particularly difficult, especially among the lower grades. Their sense dullness and their lessened reaction to mental stimuli which we have found on subjecting them to experimental determination would give a basis for this. And as far as can be determined from the outside they are very probably subject, to a great extent, to neutral or indifferent feelings concerning which there has been considerable discussion as to their presence among normal people. Mental states are considered neutral when they have no "fringe feelings" of being agreeable or disagreeable. However, this would agree with our theoretical considerations as well as with our experimental results of a lessened reaction.

Admitting the presence of indifferent feelings, the feeling of well-being is not found to any marked extent among our lower grades. The pain sense being dull, as we have found, the general feeling of malaise is rare. In Class III cases of euphoria and malaise are very evident.

The apathetic disposition belongs to the lower grades, especially to what we have indicated as Classes I and II. Denoting a lack of reaction to both internal and external stimuli, it shows a want of cerebral activity. The active disposition, on the other hand, belongs to the more intelligent; but, it is also found among those of the lowest grades and here probably means a purely local expenditure of nervous energy. Excitability is found in all degrees of mental defect but, is more marked among the higher grades.


Irritability is a symptom of nervous fatigue. The most marked cases of it are found in Class III and it was not found at all in Class I. This agrees with the result of our investigation concerning fatigue, which we did not find marked among the lower grades, as they did not seem able to expend their nerve forces so as to produce such a condition.

Obstinance is also characteristic of the more intelligent children, it having been noticed among at least two-thirds of them. Psychologically it is based upon the contracted mental fields of its possessor as well as a magnified idea of his own importance. However, when found among the lower grades it is probably of a more reflex nature due to the condition brought about by the destructive disease processes.

The instincts which have to do with the nutrition of the body are of the most fundamental importance to the individual and appear earliest in the growth of the child, and it is through disturbance or delay in these that one is first led to suspect mental deficiency. This appears however only in the most aggravated cases. Sucking, biting, clasping, and carrying to mouth are generally present when the child is placed under institutional care. Yet we found one case in Class I in which only the first was present and probably ten per cent of Class II will not feed themselves. Normal children usually show these instincts during the first five months. Hunger and thirst also appear early. Among feeble-minded children they are more commonly absent than those just mentioned, but they appear among three-fourths of those who will not feed themselves. Gluttony is characteristic of all grades of the children, but possibly more marked among the lower grades where we also find gormandizing. The feeling of nausea has been found by Preyer to be developed later than hunger and thirst, hence a greater delay and possible absence among the feeble-minded. This, together with the taste dullness which we have found, may account for the various perversions which are noticed, such as the eating of pebbles, rags, dirt, bugs, as well as the more disgusting skatophagy.* The absence of disgust is no doubt explained by the same considerations. Cleanliness is almost an absent virtue among the feeble-minded, which is no doubt due in great part to their sense dullness. Limited to daily habits we find it entirely absent among those in Class I and among about two-thirds of Class II. Here we frequently find individuals who seem to enjoy filth. Continued uncleanness in this respect is a bad symptom as indicative of intellectual amelioration.

As a rule, feeble-minded children sleep well, although there are marked exceptions to this rule. This exception is found among the nervous and irritable and does not in any way depend on their intellectual condition. Cases have been found in which it has seemed to be almost entirely absent.

For the individual the instincts of relation lie next in importance.
to those of nutrition. The more fundamental body movements as holding up the head, sitting, standing and walking were found among all classes of the children. In one case in Class I all the instincts in this group were absent except holding up the head. Absence of locomotion was found in two cases which belong to Class II. The tendency and ability to climb was found only in Classes II and III. In some individuals it is found to a very marked extent for they seem to be climbing about all the time and become very expert in it. These cases belong to Class II. Vocalization is found in all grades, being only rarely absent in Class I.

Pain as a result of dermal stimulation we have previously investigated and found to be dull. Crying, which appears early in normal children, we found among all grades of the feeble-minded. A few cases in Class II did not show it and a somewhat larger number could cry but did not shed tears. Grief is found only among the more intelligent children. Auto-mutilation occurs rarely and then frequently as an expression of anger. It is found only among those of the lowest intelligence.

Pleasure cannot be subjected to experimental determinations like pain but is probably as much reduced. Joy is found only among the most intelligent.

Of the instincts of conservation fear appears first in the growth of the normal child. Preyer noticed it at twenty-three days, Perez at two months and Darwin at four months. Fear was found among all grades of the children but only about one-third of them showing it. Among the rest it had not been observed. This appears as a very low proportion when we consider the importance of the instinct to the individual and its early appearance. Perhaps the protection afforded by institution life may have lessened the occasions which would call it forth; yet we think that if it was at all marked it would have been observed, since some of the most common causes of it can never be excluded, as thunder and noise. So we conclude that the absence of fear is characteristic of them. As to the conditions which excite fear, bodily harm and those things which lead to it stand first, as punishment, pinching, doing forbidden things, etc. Although normal children are caused to fear by noises earlier than by sights, yet noises, thunder and sharp speech appear only half as frequently as those causes just mentioned. Some of the more prominent objects of fear of early childhood as the dark, new strange things and lightning figure only rarely. A bath and "anything" were also given. In Class I fear appears twice, and was caused by the "boys" and a "spanking." In Class II the chief cause was bodily harm. In regard to modes of expression the same deficiency was noted, a variation from type and a limited and less marked reaction. Paleness of the face was the expression most commonly noticed, redness was noted in one case. Some form of vocal expression as talking, begging, and yelling came next in order of frequency. Running and hiding also appear, while trembling, raising the hands, and crying were infrequently noticed. In Class I fear was expressed by a start, in Class III by talking and growing pale. Thus fear appears more as a mental remnant and is markedly deficient among feeble-minded children. No especially atavistic characteristics were noticed.

In anger we have the instinct of self-preservation appearing in the active form. It has been observed in normal children at the age of two months by Perez and at the age of ten months by Darwin and Preyer. Among feeble-minded children it appears much more commonly than fear, it being noted as absent in only eleven out of seventy-four cases. The most common cause of anger was found to be teasing, and "doing things that they did not want to" came second. A few were so combative that "anything" would give them occasion for the manifestation of this emotion, and one child was thrown into fits of anger simply by pointing a finger at her. The most natural expression of anger by an attack of some sort was found in only one-third of the cases. Talking came next in the order of frequency, and appears in nearly one-third of the cases. Kicking, yelling, and throwing things were found among one-fourth of the children. Thirteen were found to grow red in the face and eight pale. Five were found to bite themselves—these belonged to Class II. One girl would hold her head under the hot water faucet until scalded when angry. Pouting, stamping, tearing around, crying, and threatening also appear. In Class I anger was expressed by kicking, yelling, and growing red in the face and in Classes II and III it is as has just been indicated. Self-control, as a restraining force in the expression of anger, exists to a much greater extent among normal children than among feeble-minded children. Consequently, we find in anger, although it is the most common of the instincts of conservation, the same deficiency and irregularity that we have found in all the others.

Affection, as shown by the desire to fondle and to be fondled, is very common among the children, being perhaps more marked in the duller ones. In fact it lends itself as the most efficient means of their control. Although our returns are not as full in respect to this emotion as desired, yet we think that it is found among at least three-fourths of Class II, and one-half of Class III. Sympathy is also rare. It is found very generally in Class III but is absent in Class I. This is due no doubt to the large intellectual element entering into these emotions. Sociability was not found in Class I, but appeared in nearly three-fourths of Class II, and in nearly all of Class III.

Religious and moral emotion is found to some extent among the brightest feeble-minded children, but is absent among those lower in the scale. This fact has led one French author to observe that religious emotion must therefore be acquired and depend upon intellectual ability. However, children in whom this emotion is said to appear are engrossed by the externals and more materialistic doctrines and
Play arises from the necessity to expend the surplus energy which has not been required in the necessary activities of life. It is an overflow phenomenon. And where this surplus energy is small, play is either very much diminished or does not appear. The surplus energy of the feeble-minded is small and decreases as we go down the intellectual scale; consequently, we would expect to find play only among the more intelligent and then only in its rudest and simplest forms. Play was found to exist among all grades of our children and to the extent of fully three-fourths of Classes II and III. Running, frequently the one after the other, was the most common form shown. Handling things, as blocks, rags, cards and dolls, throwing things, and playing in the water came next in the scale of popularity. The games mentioned were for the most part simple. Ball is probably the most common. Their performance, however, if left to their own initiative, would hardly be called a game, as it consists chiefly in throwing and catching the ball and sometimes batting it. In football, kicking it about the ground is all that they would do. Games of acting or imitation of something that they have experienced or some portion of their daily routine are found sometimes, as "school," or "nightwatch," and in some cases they are carried out remarkably well, but in these instances one finds that they are managed or controlled by one of the most intelligent and the rest are simply figure heads or doing as they are told.

Smiling and laughing are generally present and the cases are rare in which they never have been noticed. Two children in Class II were found in whom smiling was present but not laughing. However, these instincts play a much less prominent part in the life of an imbecile than in that of a normal child.

The instinct of imitation was found among half of those in Class II, and in nearly all of Class III. It has been mentioned frequently as characteristic of the Mongolian type. Here, however, it seems that the knowledge of one's own deficiencies must stand at the top of the intellectual scale. On the basis of this instinct of self-esteem one can generally appeal successfully to their spirit of rivalry in order to get them to do something. Suicide has been found among the feeble-minded, but is rare.

Shame is found in those in Class III, and in one-third of Class II, but not in Class I. It depends upon a certain amount of self-consciousness; consequently, it is found only in the highest grades. This appears as an atavistic trait in them. Blushing: rarely appears and then only in the highest grade.

Acquisitiveness or appropriation has been found in the lower animals. A collection of the California wood rat consisted of nails, strings, knives, forks, tools, an old purse, some tobacco, several augers, and a great number of other things. This instinct is shown by about fifty per cent of the feeble-minded above Class I. With them it is manifested by filling their pockets or boxes with all sorts of trash, as strings, rags, pieces of paper, nails, pins, or anything they happen to find. The pockets of a certain number of them must be unloaded at intervals in order to keep them in bounds. Sometimes they have specialties, like one boy who collects suspenders, unraveling them and hoarding the string.

Constructiveness is found to a marked extent only in the highest grade, where it is exhibited by about fifty per cent. In Class II only about one-sixth show any signs of it. In Class I it was not found. The lack of this instinct is also shown in the defective play, and the unproductiveness of the instinct of imitation, which is well marked in some.

Destructiveness, which is allied closely with the constructive instinct among normal children, is found chiefly among the lower grades, and decreases in frequency as we go up the scale. It is found in two-thirds of those in Class II, and once in Class I. Stealing, which is quite commonly noticed, probably can be considered only as such in the higher grades, on account of the element of intent which enters; in the lower grades it is probably the activity of the instinct of appropriation.

The instinct of love is the last to appear in the order of growth, and as a rule it is the last to die. Cases have been found where it was present and hunger was not. Feeble-minded children will know of sexual matters when they know nothing else. Its prominence and vitality can be accounted for by its fundamental position in the animal economy, the lack of the inhibitory activity of the higher mental processes, and the defect of contrary instincts as shyness and shame. The chief perversion of the instinct is onanism. Just how prevalent this is is hard to determine. However, there is not much doubt that it is practiced by at least fifty per cent of the children, and eighty per cent probably is nearer the facts in the case. In the lowest grade children it is very prevalent, and by some authors is considered an automatic motion; however this may be, still it must be considered as the manifestation of an instinct. The perversion of homo-sexuality is found, but in these cases is probably a mutual onanism. This instinct, from the
time of its appearance in the life of the feeble-minded child. plays a leading role. This fact, emphasized by the teachings of the laws of heredity, is the chief claim for their recognition by the state, and lays the basis for its own defense in their sequestration and legal control.

The defective expression of the instincts and emotions, its fragmentary character lacking in fullness and vigor, has been very noticeable in all; but especially in those which we have treated more at length, fear, anger, and play. This also was shown very clearly in some experiments made by the author with the stethograph. The endeavor was to see what influence, if any, a disagreeable sensation would have on the form of the respiratory curve. This was produced in most cases by tasting quinine. This disturbance was found to be very slight in the cases we have dealt with.

There were six cases in Class I whose ages ranged from eight to seventeen years. They all had the instincts of sucking, biting, smiling, and holding up the head. These show themselves in normal children during the first four months. In addition, five showed carrying to the mouth, sitting up, standing and walking. Four showed laughter, and turning head aside as a sign of negation. These appear in normal children from the fifth to the twelfth month. Three showed anger and play which appear in normal children at about four months. Anger was caused by "anything," and by being teased, and was shown by yelling, screaming, kicking, and rolling on the floor, or by biting themselves. Play was shown by running around and handling things. Two could vocalize, and practiced onanism. All other instincts were absent.

All of the instincts were found in Classes II and III in varying proportion and degree, but increasing in number and completeness as the intelligence increased. The group of instincts dealing with nutrition was practically represented in all cases in Classes II and III. Fear was found in only half the cases in both classes, while anger was found in eighty per cent of Class II, and in all of Class III. The group of instincts coming under affection appeared in three-fourths of Class II, and nearly all of Class III. The playgroup appeared in two-thirds of Class II, and in ninety per cent of Class III. Curiosity, and its group of instincts, appeared in two-thirds of Class II, and in all of Class III. The self-feeling group appeared in one-half of Class II, and in all of Class III. Love appeared in fifty to eighty per cent of Class II, and in all of Class III.

In the order of appearance we have the nutritional instincts coming first; in fact, from the first day. Fear comes next, having been observed during the first month. Next appear the group of bodily movements, and anger arising as early as the second month: The self-feeling group appear at three years, and love at fourteen years.

In comparing this statement with the instincts as we have found them in the different classes, we can see very plainly the defect and irregularity in their development in feeble-minded children. Thus, in no sense would it be proper to say that the feeble-minded child is comparable to a normal child whose development has been stopped at a certain stage. They are not children whose brains are undeveloped, but rather children whose mental life shows the wreck and ruin of the disease storm. Perhaps the most striking example of this is in the absence of fear in Class I, while anger appeared in half the children in the class. In Class II anger appeared in eighty per cent, and fear in only fifty per cent. Fear again appears in only fifty per cent of Class III.

And not only do we find an abnormal course of development, but a delayed course of development. Thus, the appearance of many instincts are delayed. The average age at which feeble-minded children are able to walk is two and one-half years. Puberty is also delayed. Among twenty-one girls of Class II we found that the average age at which puberty appears was 14.7 years; the maximum being seventeen, and the minimum being twelve. Talking, which arises from an instinctive basis, sometimes does not appear until the eighth or tenth year.

While the atavistic bearing of the instincts was not marked, yet there were several that might be considered as of some importance in such a connection; as shame, love, anger, gluttony, stealing, cleanliness and pain.

Thus, we find that the general mental defect of feeble-minded children is also manifested in their instincts and emotions. In fact the defect here is the basis of the more patent intellectual defect, as we have before indicated. This defect must lie chiefly in the central nervous mechanism, as their conditions of life would supply the proper circumstances for the calling forth of their instincts, at least to a much greater extent than we have found them.

The feeble-minded child is more of an instinctive animal than his normal brother, for his instincts lack the elaboration and inhibition of a higher intelligence. His life in many cases may be considered as purely instinctive. It is on account of these instincts that he is often-times a menace to himself and to his friends, and it is by reason of them that he demands the protection and control of the state; it is by means of them that his condition is earliest recognized, and it is to the repression and expression of them that the chief part of his education must be directed. So we wish to emphasize the value and importance
of the most thorough study of the instinctive life of feeble-minded children, for therein we will obtain most useful results.

So we conclude that the feeble-minded are characterised by instincts, which lack both in the fullness of expression and feeling; by the absence of a greater or less number of them; and, consequently, by the lateness and abnormal sequence of their appearance.

A FEW CASES OF RUMINANTS.

BY A. FRUS, CHIEF PHYSICIAN AT EBBERODGAARD, DENMARK.

Translated from the Danish by Bertha Jenson, Faribault, Minnesota.

The process we call rumination, which is natural with some animals, can occur, also, as we know, occasionally with the human being. This abnormality, or what we choose to call it, is rare among them, as in the three hundred years in which it has been observed, we have learned of about only one hundred cases of rumination of man, and every new case is interesting and deserves publicity. It occasionally occurs with a person who apparently is perfectly normal, mentally as well as physically; though it is found most frequently with persons of mental degenerations, and particularly with the most degenerate, the very dull insane, and low grade idiots. In this country, Prof. Keller has published at an earlier date three cases, and the following cases have come under my observation here at Ebberodgaard.

CASE I.

I. N. M.—Born February 3d, 1876, and died January 8th, 1898; son of a cottager, or tenant; third child. Nothing abnormal during the period of gestation or birth. When he was four years old he was taken sick with whooping cough, after which there was some difficulty in talking. Later he became entirely dumb and appeared idiotic. He was placed in the Gl. Bakkehus Institute, 1885, and was put in the asylum department as he was very low grade. When received at the Institute there was nothing said about his being a ruminant, and it is not known when it developed.

In 1892 he was removed to the nursery department of Ebberodgaard, and he has been a ruminant ever since he came here. His general appearance indicated nothing especially abnormal. He was well formed, with regular features, and developed in every respect in proportion to his age. His mental capacity was, on the contrary, very limited; he wandered around quite aimlessly; was of a very peaceful temperament, never disturbing nor molesting his associates; but, on the other hand was apt to injure himself by scratching his face. He never spoke a word, but would occasionally scream; was perfectly cleanly; not an epileptic.

He could feed himself and was very greedy; so much so that he was not satisfied with his own portion, but would snatch the food from others whenever he had a chance. Soon after his copious meals he would bring up the contents of his stomach by retching movements plainly seen. The food came up in large mouthfuls, was masticated again and swallowed. This process lasted usually about half an hour. Occasionally there was a slight vomiting, but as a rule his digestion was in good order and evacuations natural. The composition of the meals seemed to have no influence whatever upon the rumination.

The cause of death was general tuberculosis. At the post mortem we could find nothing to explain this peculiarity, as the stomach itself showed no marked abnormality in its construction, and was not enlarged to any noticeable degree. The wall of the esophagus was perhaps a little thinner than normal, but this may be considered the result of rumination rather than its cause.

CASE II.

A. M. H.—Born November 17th, 1883; daughter of a farmer; one feeble-minded child in the family; a half-brother of the patient was lame in both lower extremities; not a case of consanguinity. The patient was the fourth child in the family; there was nothing abnormal at her birth or during gestation. She was taken sick when two months old, and declared idiotic by a physician when about nine months old. Had suffered from convulsions at an earlier date. She was placed in this Institution in 1892, and her condition has continued unchanged, except that she has developed physically. Hair is red; nothing abnormal about the shape of the head; the face is broad and flat; the mouth open and distorted, giving the appearance of a permanent, idiotic smile. The tongue as a rule protrudes far out of her mouth. She sees a little with the left eye. Otherwise there is no marked abnormality about her appearance. There is a partial lameness of the lower extremities, so that she can stand and walk only with the assistance of some support. As a rule she assumes the "tailor position," with her feet in almost constant motion. She is very low grade; cannot talk at all, and only produces unintelligible sounds; and apparently does not hear. The head and arms are in a constant whirling motion. She cannot help herself at all and is very uncleanly.

Her appetite is good, but she swallows her food without masticating it. Earlier she was a zealous ruminant. Soon after a hearty meal she brought up the contents of her stomach and filled her mouth with it. She easily, and without any sound, brought up the food with gulping movements and stretching of the neck, and the substance now under-went the process of mastication and then again was swallowed. She would sit thus for a long time, apparently until the whole meal was