Amenorrhœal Insanity.(1) Abstract of a paper read by C. T. EWART, M.D., Senior Assistant Medical Officer, London County Asylum, Claybury, at a joint meeting of the Obstetrical and Gynæcological Section of the Royal Society of Medicine with the Medico-Psychological Association, November 21st, 1911.

THE youngest child of a family is biologically the eldest, and this factor causes diseases to alter their type.

Menstruation is a rhythmical periodic function.

Amenorrhœa produced by the internal secretion of the ovaries.

In insanity, is suspended menstruation "cause" or "effect"?

Diagnostic point in amenorrhœal insanity is, that within three months of re-establishment, the patient is fit to be discharged.

Amenorrhœa related to heredity and environment which are co-lateral but not co-equal.

Amenorrhœa in relation to environment, the main factor of "recovery."

Insanity in relation to amenorrhœa as to prognosis and recovery. (Statistics and cases quoted.)

DISCUSSION.

Dr. ROBERT JONES said Dr. Ewart had taken the cases with which alienists were conversant, and he, Dr. Jones, thought he could supplement some of the remarks in that paper. He was glad to think that the discussion was the outcome of the most suggestive paper which was read by Dr. Griffith at Claybury when he inaugurated, at Woodford, a branch of the British Medical Association. This paper now contributed dealt, in his opinion, with the most fundamental point relating to the race, as well as concerning the individual, *i.e.*, the reproductive functions. The paper was full of suggestions; there was also much philosophy in it, though he feared Dr. Ewart had shown himself to be too much of a pessimist with regard to recoveries in asylums. The reproductive function was the highest function of the individual in regard to the race; that was generally agreed to. Darwin wrote about animals in captivity, and showed that animals in the Zoological Gardens suffered first and most in their reproductive system. Birds live much longer in captivity than in the open air. The animals in the Zoological Gardens were vigorous and healthy, they did not suffer from diseased organs, but all had failures in the reproductive system; presumably, therefore, the nervous system was at fault. It was well known that the advent of menstruation was attended by very distinct and definite psychical conditions, and Dr. Ewart had suggested what might be the explanation of that, namely, an internal chemistry. There must be some change. The internal secretions and their affects as *hormones* were to-day a great subject of study, and he submitted to the Obstetrical Section the suggestion that those chemical constituents collected in the blood and acted upon what Dr. Ewart said was the fundamental point in his paper, namely, a faulty or a vicious inheritance. The author of the paper found that heredity was responsible for 88 *per cent.*

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of these cases. Just before this combined meeting a discussion was held by the Medico-Psychological Association dealing with heredity in ordinary insanity, in which it was shown that heredity played a part in certainly 50 *per cent.* of all the cases. It was well known that animals had a special season for propagating their species; that was known also in regard to fishes and birds; man was the only exception. In the human female two points came up clearly: (1) periodicity, and (2) liability to be affected by what Dr. Ewart termed "environment." It was an interesting fact that some of the nurses who joined the staff at Claybury Asylum, a large number perhaps he might state of the younger ones, coming from the country had suppression of their menses after joining, and for a more or less considerable time afterwards. Food could alter the chemical constitution of the cells. Why did binary fission take place in protozoa? Why did germination occur? There seemed to be some hidden and not yet understood chemical condition to account for such phenomena. It was well known also that environment would affect plants. The normal growth of them—leaves, branches, flowers—could be so altered as to put off the growth of flowers indefinitely. So the flowers were not, as they should be, the proper culmination; environment had to be reckoned with. As long ago as 1824 Jenner pointed out, in the *Philosophical Transactions*, that at the period of the migration of birds their ovaries increased in size and became more "fleshy." Others had described atrophy in those of the cuckoo in the month of July, that again suggesting chemical changes or internal conditions. Others, again, said that migration was due to a certain definite relation between darkness of day and the amount of food. There were thus two conditions—an internal or chemical cause, and an external or environmental. He considered that the asylum was the very best place in which to study those very refined and subtle changes in mental conditions in consequence of peripheral stimulation, for there one found the neurasthenic and the psychasthenic, who were most wonderful weather-glasses; such a person was a splendid galvanometer of what occurred from the outside as well as from within. It was known that the exhausted neuron was the most responsive—of course unhealthily responsive—to stimuli. For that reason it seems quite appropriate that Dr. Ewart's paper should be considered by a joint meeting of a mental and an obstetrical society. The subject was a very complex one, and he would welcome any light which might be shed upon it by the obstetrician. He knew that anæmic girls entered Claybury suffering from amenorrhœa, and that when the menses had become re-established mental recovery took place. He could make that definite statement. How did they recover? They had Turkish baths and measures of that kind with the idea of eliminating toxins. One of his patients, a fairly young woman, attributed her recovery mainly to the use of the Turkish baths. Physical drill was also given, and that was very important. They also had for the anæmia what was much more important than phosphorus to the brain, namely iron. He knew persons who, having been previously healthy, when menstruation was suppressed immediately had an outbreak of mental disease. The period of cessation of menstruation was another very subtle time, and obstetricians quite well knew that women required very careful and gentle handling to carry them safely over the shoals of the climacteric. He had known people who had consulted him outside as to their physical and mental condition about the period of the climacteric, and who had eventually found themselves under "care" mentally. But, although menstruation might cease and the amenorrhœa might precede insanity, the question arose, was one justified in assuming that there was in these a definite relationship of cause and effect? He asked whether it might not be that the insanity was a correlative of the amenorrhœa, and that both were due either to emotional disturbance, or something akin to it such as a toxin bringing about some constitutional vice? He would like some light thrown upon that in the discussion. His own view was that there was such a condition as insanity, although not of a definite type, occurring in consequence of amenorrhœa. Most often in young girls who came into asylums the menses reappeared simultaneously with the recovery from their mental symptoms. Occasionally, however, recovery from insanity was not followed by the re-establishment of the menses. The converse was also true: recovery from insanity may not always follow the reappearance of the menses. He regarded the comparative study of this subject as a very important matter. Much wild talk was indulged in about the effect of the woman's condition on the man. Not long ago he

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met a man who had neuralgic symptoms during his wife's pregnancy, which symptoms were only relieved at the time of the birth of the child. Sellheim described the undulating line of movement which was characteristic of ordinary normal menstruation, and it seemed clear that the metabolism of the body and the metabolic changes, including an increase in the thyroid, changes in the parotid glands and even in the skin, occurred in sympathy with menstruation. First of all there was an increase in the nitrogen products, and he believed that the output was gradually increased up to the full development of the uterine mucosa. Dr. Westermarck, in his interesting book, went into the history of primitive man concerning the question of the establishment of menstruation, and he found to his satisfaction—and he, Dr. Jones, thought others who had done much reading would agree with him—that originally man was a monœstrous creature; but now man—the genus—was diœstrous; most births were found to take place about February and September, indicating that the Christmas marriages—a great season among the poor, and the festivals of the May Queen, which latter were survivals of the spring festivals of ancient times, were periods of saturnalia, festivals of sexual license, and were confirmatory of the survivals of interesting physiological events in the individual from the anthropological point of view. In ordinary women it was well known that the period of menstruation was one of not inconsiderable strain, undue sensitiveness and nervous malaise. He had numerous cases at Claybury Asylum, in whom the period of menstruation was known definitely by the occurrence of epileptic seizures, by irritability, and even by delirium; the manifestation might even amount to acute mania every month. The first occurrence of the menses had a distinct mental cycle of its own at puberty, and he was very glad to feel that there were present men who could speak, as the Chairman could, with great authority on the subject. Those who had to treat mental diseases would be much helped by any information and instruction which the debate might bring forth, as their knowledge in asylums must of necessity be limited, for their mental patients were unwilling inmates. They resented detention, and any attempt at vaginal examination, unless there was obvious necessity, was greatly objected to; indeed it might be viewed as a serious assault and become the basis of suspicions and delusional states which would tend greatly to retard mental recovery. The lesson from Dr. Ewart's valuable paper was that all states of weakness, all circumstances which tended to over-excite the nervous system, and all conditions tending to lower normal inhibition were converging factors in a suitable soil, *i.e.*, in those with inherited tendencies to mental breakdown, and towards the production of insanity. He ventured to congratulate the Society on having such an interesting paper to open the discussion.

Dr. H. MACNAUGHTON-JONES said he ventured to take part in the discussion, appreciating as he did the enormous importance to the woman of the whole question involved in the occurrence of amenorrhœa. He had for a number of years taken a considerable interest in the psychological relationships of the internal genitalia to the affections of women. Possibly that might be because some of his earliest associations were centred round a large lunatic asylum with which, in his younger days, he was connected. In the year 1893 the Gynæcological Society devoted two whole evenings to the subject, and he introduced the discussion. Later on—namely, at the Ipswich meeting of the British Medical Association in 1900—when the subject of the relationship of crime and insanity to sexual troubles in women was brought forward, he again opened the discussion. That was why he ventured to say a word at the present meeting. He proposed to confine his remarks to the question whether there was sufficient justification to separate out, as a type and class, a form of insanity to which the term "amenorrhœal" might accurately be applied. The profession was to-day in a better position to approach the discussion of the subject as compared with a few years ago, because terms could now be more accurately applied to such mental conditions in women as neurasthenia, psychasthenia, hysteria, melancholia, hypochondria, which were more clearly differentiated. Side by side with more accurate grouping of the particular symptoms associated with each of those conditions there was, as had already been said, a far more accurate knowledge of the whole subject of menstruation, ovulation, the relation of ovulation to metabolism, both that of the ovary itself and of the body generally, and more particularly to the uterine functions, both in the pregnant and the non-pregnant states. And in recent years

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both homoplastic and heteroplastic transplantations of the ovary had proved beyond all doubt the enormous importance of the ovarian secretion. In addition, owing to our better knowledge of the development of the corpeus luteum and the part it played in menstruation and pregnancy, and the whole influence of the lutein secretion, which was administered in certain mental conditions associated with menstruation, the profession was now in a different position in regard to the knowledge of the psychical effects of the ovarian secretion. But he would like strictly to limit himself to the very important point as to whether there was justification for speaking of "amenorrhœal insanity." He held that there was nothing more dangerous than to introduce a term which had not a strictly accurate and scientific basis to justify it. In the medical profession, unfortunately, terms were applied in order to justify certain practices and grounds of practice; and he could conceive of nothing more dangerous than to get into men's head that a woman suffering from amenorrhœa, whether primary or secondary, who happened to show some curious psychásthenic or neurasthenic symptoms, was necessarily to be classed as an amenorrhœal lunatic. From anything which had been said that afternoon it seemed to him that nearly all the causes which led to amenorrhœa were those which also led to insanity—heredity, anæmia, chlorosis, environment, trauma, shock, mental disappointment. He thought that would be the common experience of many present. A woman whose menstruation had been regular became melancholic, and the menses ceased. The menses had nothing to say, in that instance, to the melancholia. Some few years ago there were statistics published which were taken from several large asylums, and it was shown that among those suffering from dementia, delusional insanity, melancholia, epileptic mania, the number who had simple amenorrhœa was very small. He made this statement with some hesitation in the presence of his psychological listeners. Before accepting such a term as "amenorrhœal insanity" he thought there should be more solid grounds than there appeared to be at present. He had always understood that the organ most affected in insane people was the heart; certainly in a large proportion of cases of insanity the heart was found to be affected. But one would not, on that account, speak of cardiac insanity. No one felt more strongly than he did about the enormous importance of the sexual activities in women and the whole influence of the genitalia on them, both mentally and physically. It was the strongest link in the chain of a woman's life, and if it were weakened, that weakening would at once affect her whole physical and mental condition. But, while admitting that, he would submit that it was a more or less dangerous innovation to accept a term which did not at present seem to be scientifically justified.

Dr. PERCY SMITH said he was very glad to hear Dr. Macnaughton-Jones' remarks. He remembered and took part in, many years ago, the discussion on the relationship of diseases of the pelvic organs in women to insanity. He also recollected the discussion at Ipswich, as he was President of the Section. He quite agreed with Dr. Macnaughton-Jones that it was a dangerous thing to apply such a term as amenorrhœal insanity. When he saw the title of Dr. Ewart's paper, he thought it was a hark back to a classification of insanity which had been, to a large extent, abandoned. But he hoped to hear in the paper some description of what the author meant by amenorrhœal insanity; yet he regretted to say he did not gather the information he desired in that matter. The author did not describe any form of insanity which had a special association with amenorrhœa. He would have liked to hear a larger amount of material from Claybury Asylum used; for instance, how many cases in the last two years had been admitted with amenorrhœa as a part of their insanity, and what was the special group of symptoms associated with that amenorrhœa. But the author said, and all would agree with that, that there might be amenorrhœa with both melancholia and mania. There was often insanity associated with amenorrhœa, but, in his opinion, there was no special amenorrhœal insanity. It must be remembered that amenorrhœa was an extremely common symptom in all the acute insanities of women. One met with it in cases of melancholia, in acute mania, in puerperal cases and so on. It was very rare in association with the more chronic insanities, the cases of delusional insanity, or early dementia, or chronic dementia. But one did not meet with amenorrhœa as a necessary symptom. It was exceedingly common in young women who were attacked with what might at first appear to be neurasthenia or

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psychasthenia, but which developed into definite melancholia. It seemed to him that if there were any form of insanity to which the term amenorrhœal insanity should be applied, it was in the type of case occurring in young women in whom, commonly, there was a history of prolonged fatigue or stress. For instance, one saw it in shop assistants, telegraphists, telephonists, and others following monotonous occupations for long hours, perhaps with insufficient nourishment, and who, in consequence, became anæmic and worn out, who lost flesh and became run down, sleepless and depressed. Generally it appeared that the amenorrhœa was not the primary condition followed by melancholia, nor was it that melancholia was the primary condition followed by amenorrhœa, but that both had come on concurrently. It was a common observation that the patient recovered when the menstruation was re-established. In many of those cases there was amenorrhœa for six or more months. During that time, in the course of treatment, flesh was put on, sleep was being restored, and the mental state was becoming more normal, though the patient was evidently not yet quite well, and then menstruation recurred as the last evidence of the recovery of the general physical health, after that date the patient again reached her former level of mental health. Dr. Ewart said that the diagnostic point in favour of amenorrhœal insanity was that within three months of the re-establishment of the menses the patient was fit to be discharged. That seemed to say it was difficult to diagnose amenorrhœal insanity until the patient had recovered. But it was desirable, if possible, to diagnose it early in the attack. It was a good rule that a patient who had had an attack of mental disorder, of whatever nature, and who had recovered to the point that menstruation had returned, and had had two menstrual periods consecutively without any relapse of the mental symptoms, should be regarded as recovered. With regard to the question of treatment, there was one thing which one felt absolutely certain about, namely, that such cases did not need any local treatment. The question was always raised by the relatives of the patient somewhat as follows: This girl has had amenorrhœa for six months: she has been under care for mental disorder, and she seems well on the way to recovery, but her menses have not returned; is there not some local disease? Should not something be done locally? His answer to that was, unless one felt that there were definite indications of local pelvic disease, that no case of that sort should be examined. The author had well said that the attention of the patient should not be concentrated on the pelvic functions in these cases. Thus the treatment resolved itself almost entirely into one directed to improvement in the general health. Dr. Jones very properly referred to the fact that iron was found to be the sheet anchor for the anæmia, and he, Dr. Smith, felt that most of the cases, if they were going to recover menstruation, would do so without any local treatment. But should there be evidence of pelvic disease, it should, of course, be treated in just the same way as similar disease would be dealt with outside the asylum. He felt, however, that there was no royal road to the cure of amenorrhœa in insanity by any special form of treatment.

Dr. RUSSELL (Glasgow) assured the meeting he had not come prepared to speak, but as a provincial member he would accept the Chairman's invitation to say a word on a point or two which occurred to him while listening to the paper and the speeches which followed. He ranged himself on the side of those who criticised the term. He believed the knowledge available did not yet justify the term "amenorrhœal insanity." But the paper which had been read, even if it did not justify the use of that term, made out a strong case for the study of the subject from the present point of view. His experience had been that when the subjects of amenorrhœa had shown nervous disturbance, the stoppage of the menses had been the effect rather than the cause. He could remember cases where there certainly seemed to be a danger of profound mental disturbance and where the removal of the ovaries cut short the symptoms which threatened insanity. He could think also of a case he was interested in, particulars of which he published in Glasgow, which had a profound interest from the point of view of mental disorder. It was a case in which an asylum attendant on duty in an epileptic ward developed epilepsy. Very naturally she was considered as having probably acquired it from the associations of her work. But two or three years later she was found to have developed a large growth in one of her ovaries which doubtless was responsible for the commencement and the persistence of her epileptic attacks. The removal of this large tumour and of the other ovary, which was also found to be

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similarly affected, was at any rate followed by the complete cessation of the attacks. They had found difficulty in getting a satisfactory discussion of this subject in the Glasgow Society, evidently because knowledge was not yet sufficiently definite. He, Dr. Russell, believed the condition under discussion bore a marked relation to some toxic condition. One was aware of the influence of toxins on the nervous system. Sometimes the toxæmia was due to food, and he felt that some of the cases of actual insanity in young women were due to a persistent neglect of the proper principles of feeding, and the omission of seeing to a regular relief of the bowels. When admitted into an asylum they were put upon proper treatment, hygienic and other, and the normal and proper functions of the body were soon re-established.

The PRESIDENT said he did not propose to deal with the subject at any length, the more so because he was sorry—from the point of view of a lively discussion—to say that he found himself in almost complete accord with nearly all the previous speakers. He did not believe there was such a condition as amenorrhœal insanity, if by that was meant a special form of insanity produced by amenorrhœa. It was known that amenorrhœa was one of the commonest symptoms in all forms of acute insanity, but the form in which it was commonest was probably melancholia, and he thought that could be explained to some extent on the same basis as many other physical symptoms which accompanied that disease. Melancholiacs, for instance, were particularly subject to disorders of digestion, to anæmia, to cardiac irregularities, and the condition was also sometimes associated with affections of the kidneys; and probably Dr. Maurice Craig would say those symptoms were due to the heightened blood-pressure and the contracted arterioles which are found in such patients. Dr. Ewart, in describing what he called amenorrhœal insanity, mentioned very few pathognomonic indications; indeed the only one he gave was that the cases got well rapidly, and he cited twelve cases of apparent amenorrhœal insanity, which he afterwards said could not really have been instances of that condition, because they did not get well. That indication could scarcely be accepted. Amenorrhœa might precede the occurrence of insanity, or might follow it; also the menses might return before the insanity was recovered from, or *vice versâ*. That seemed to make it clear that amenorrhœa in insanity was merely a concurrence or syndrome, and not causal in any way. He quite agreed that the menstrual period affected the mental condition of the patient, but it did so just as it affected the mental condition of many sane women. He regarded the real basis of the whole condition as anæmia. Dr. Robert Jones had said that the typical cases of the kind which came into Claybury Asylum were young anæmic girls. It was well known that such girls were very liable to various nerve symptoms, and if, in addition, they had a bad heredity, a neuropathic diathesis, it was not surprising that mental breakdowns were common among them. He believed they must hold that the existence of amenorrhœal insanity as a definite morbid entity was, in the words of their Scotch friends, " not proven."

Dr. W. S. A. GRIFFITH said the question now being discussed arose out of a paper which he read in another place, and he made the suggestion that it would be better to debate it in such an assembly as this. He had not yet learnt exactly what Dr. Ewart meant by amenorrhœal insanity. Indeed, he did not think it was yet very clear what was meant by amenorrhœa. Possibly there was some misapprehension in regard to this. The discharge which occurred monthly was a mere phenomenon in menstruation, and he gathered that the meeting was discussing the absence of this, which might be a different matter from the absence of menstruation, just as the retention of the menses was different from the entire absence of the menstrual process, which occupies half the month in its inception, completion, and retrograde stages. He thought it would have been better if Dr. Ewart had said exactly what he meant by amenorrhœa. Were they discussing the mere absence of the visible discharge which, in the healthy woman, consisted of two chief constituents—mucus in abundance and a variable quantity of blood? It was known quite well that in some cases of so-called amenorrhœa it was the blood only which was absent. He suggested these points so that on a future occasion it might perhaps be possible to discuss the subject with more precision than seemed possible that day. The meeting would feel greatly indebted to Dr. Ewart for having brought the subject forward. With regard to treatment, Dr. Ewart asked him in what way he would treat amenorrhœa, because in a certain number of cases

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if menstruation could be re-established normally the patient stood a better chance of mental recovery. This was a difficult question to answer. No girl who was anæmic ever got well without her bowels being cleared out. This was so important that he put it in the first place. There were many cases of copræmia, or toxæmia, following the absence of this precaution. The administration of iron without clearing the bowels often made the patient worse. After attention to the bowels he placed food, fresh air, and iron as about equally valuable. It must be remembered that the function of menstruation depended on the ovaries, for if healthy ovaries were removed from a healthy woman she would never menstruate again, though she might bleed; this, however, was a different thing. The ovaries governed menstruation, and if a healthy girl did not menstruate for years there was something behind it which neither iron, nor purgatives, nor fresh air, nor exercise, would remedy. What that something was, was not yet known.

Dr. HAYDN BROWN desired to make a few remarks on account of having heard a certain observation made in Dr. Ewart's paper, *viz.*, that anything which served to take the attention of the patient away from the region of the pudenda was of value. Stimulated also by the remarks which he had heard in the discussion, he desired to mention a treatment which was only too little known, but was of vast importance, not only to gynæcologists and psychologists, but to every earnest member of the profession, namely psycho-therapy. This was not only valuable as a treatment, but it shed a flood of light on the nature of the very conditions now under consideration. He had had unusual opportunities of studying the effects of psycho-therapy in borderland cases, and in connection with the functional conditions associated with menstruation, and he found psycho-therapy acted like a charm in all functional cases. It was important not only in amenorrhœa but in dysmenorrhœa and menorrhagia, and in mental conditions associated with the menopause. A good deal had been said about general ill-health in these conditions. It happened that in treating insanity on the one hand, or disorders of the menstrual period on the other, the physician was at the same time attending to the general health; and constipation, anæmia, and dyspepsia themselves yielded to psycho-therapy when it was employed in a proper manner. The question was one to which the profession would need to pay more regard in the future.

Dr. STODDART desired to associate himself with the speakers who denied that there was such a disease as amenorrhœal insanity, believing that the amenorrhœa was simply a concomitant symptom. But he would not like absolutely to close the door on the matter without quoting one case which occurred to him, and seemed to show that there might be such a disease, though no doubt it happened very rarely. The case he referred to was that of a young lady who was previously in perfect health and had a faultless heredity. In the summer time she bathed in the sea, and there seemed to be a definite association between the subsequent amenorrhœa and the form of insanity which developed afterwards. The menstruation ceased from the moment of the bathing, and when he saw her three years later she had not menstruated since. In association with the amenorrhœa she developed a form of insanity, which came into line with dementia præcox; there was the silly laughter followed by dementia. He had not seen her for eighteen months, but he believed she had never menstruated since. Therefore it seemed possible that this might be a case of insanity dependent upon amenorrhœa. The remarks of Dr. Haydn Brown suggested to him another case for mention in the discussion. It was that of a lady who likewise had not menstruated for three years, and had developed ordinary melancholia. She was unable to continue her work, was depressed, lost interest in life, and came into Bethlem Hospital. She was there now. Within a week he started psycho-analysis. After the second hour he began to penetrate her subconsciousness, and a marvellous result apparently occurred, for she menstruated that night. The menstruation took its normal course, and mental improvement began from that time. So one had to recognise that amenorrhœa might cause mental disorder; and, on the other hand, that mentality had a definite effect upon menstruation.

Dr. AMAND ROUTH (the President of the Obstetric Section), after congratulating the Joint Section on the excellent discussion, said he agreed with previous speakers that insanity had not been proved to be often due to the amenorrhœa in cases where the two were associated. Recent researches, however, into the bio-

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chemical causation of amenorrhœa, and into the possible causation of insanity by auto-toxæmia, made the temptation great to assume that these conditions might sometimes be ætiologically associated. Menstruation is almost certainly due to the gradual cyclical accumulation in the blood of certain chemical bodies, which are, perhaps, derived from the internal secretion of the ovaries and of the other ductless glands (adrenals, thyroid, pituitary). Dr. Blair Bell has done much excellent work, tending to show that some proportion of these chemical bodies consists of salts of calcium. Dr. Bell also believes that the uterus is homologous to the calcium chamber of birds, and that it actually excretes large quantities of these lime salts during the first part of the menstrual discharge, which is then largely made up of leucocytes, with the result that there is a marked and immediate lowering of the calcium blood-content. It is evident, therefore, that amenorrhœa might lead to a double auto-toxæmia, due, on the one hand, to an altered or diminished internal secretion of the ductless glands, including the absence of the primary products of lutein formation, and on the other hand, to retention of the substances normally excreted by the uterine glands at menstruation. Pathological chemists had not yet discovered what these toxic substances are, and it has not yet been scientifically proved that they cause insanity. This suggestive paper will lead to careful study of the subject.

Dr. EWART, in replying, said that the period allotted being too short, he had been compelled to considerably abbreviate his paper, and he was afraid an impression of disconnectedness would be conveyed, but he trusted a certain amount of coherence would be seen when the article appeared in print. As to the term "amenorrhœal insanity" he was merely contending that all those who accepted puerperal insanity as a nosological entity, would be justified in placing amenorrhœal insanity in a similar position. The cause of each was possibly some form of auto-intoxication, and the symptoms were practially akin; although both types presented the appearance of physical wreckage, there was no especial anæmia. The mental symptoms were those of acute mania or melancholia of various lights and shades, but before such an audience it would have been merely occupying time endeavouring to paint a picture of conditions about which they were experts, especially as many would probably not agree as to the terms used in defining the tints. As to the inability to diagnose a case of amenorrhœal insanity until after improvement—not recovery—has occurred, the same difficulty occurs in those cases called "dementia præcox," a term which should, in his opinion, include only a particular type of primary dementia which shows a progressive downward course and from which there is no recovery. He had seen many cases diagnosed as dementia præcox recover, but in the early stages, who can truly say, *this* case will recover, and *that* will not. It may be either a case of dementia præcox from which there is no recovery, or a case of adolescent insanity, from which many recover. Who can tell? He confessed that until improvement had commenced, he could not. The non-ability to digest milk is frequently hereditary, and this must mean not only some alteration in the constitution of the gastric juice, but possibly, also, a change in the glands themselves; in like manner shell-fish acted virulently on certain persons—in fact, what was a food to some became a poison to others. A mental alcoholic inherits a peculiar susceptibility to the poison of alcohol, and a mental amenorrhœic, to some toxin derived from the generative organs. These are the appropriate stimuli. Both individuals are potential lunatics, but had no alcohol been taken in the one case, and had menstruation not ceased in the other, neither would have become insane; therefore, as he saw it, the terms "alcoholic insanity" and "amenorrhœal insanity" are, from the ætiological point of view, perfectly justifiable. If there is any good reason for suspecting the development of a peculiar toxin in heart disease, why should there not be a cardiac insanity? His outlook on menstruation has been from the standpoint that the discharge of blood was an outward and visible sign of some inward condition connected with reproduction. He would not detain them any longer, as time was not sitting with folded wings, so he begged to thank the President and those present for their courteous patience.

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