PUERPERAL INSANITY.

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(Concluded from page 586).

PROGNOSIS AND RECOVERY.

THIS form of insanity is considered by all authorities to be the most recoverable. It is for this reason that some recommend home treatment for all, and much is to be said for this view, but terrible anxiety, worry, and a great responsibility are incurred, and it is a form of insanity needing particular patience and involving great expense. Moreover the delirious impulses to infanticide and suicide cause much alarm, and furthermore the presence of the husband is often very undesirable, for, as Sir James Simpson stated, "the organ diseased gives a type to the insanity, so that with women suffering from affections of the generative organs the delusions would be more likely to be connected with sexual matters," and the husband's presence is often the exciting cause of erotic impulses.

As to prognosis in the different types, that occurring in early pregnancy is favourable, that in later gestation is apt to continue in an exaggerated degree until after confinement and during the puerperal period, and may afterwards become chronic.

Most of the puerperal cases get rapidly well, but I have known several cases of acute mania on admission pass into acute dementia. Although contrary to the teaching of both Savage and Clouston, my experience of this form of insanity can relate numerous and frequent relapses, which I think more common than is generally believed. Insanity during lactation has the tendency (as in the puerperal form) to get rapidly well, but warning must be sounded against the risk of low forms of inflammatory diseases indicating a general want of recuperative power and a low state of nutritive tone which not infrequently make themselves manifest by a tendency to gangrene or phthisis, and indicating also the necessity for a stimulating and vigorous form of treatment. Albuminuria in puerperal insanity is not common, when it occurs the prognosis is grave. In 1 of our cases the convulsions only ceased after the administration of chloroform. A return of menstruation is a satisfactory symptom.

Clouston states that the insanity of pregnancy rarely passes off before confinement—3 only of my 56 cases were discharged recovered before confinement—but that from 75 to 80 per cent. of puerperal and 80 per cent. of lactational cases recover. Savage bears the same testimony, adding that they hardly recover completely under five months. Bevan Lewis also quotes the recovery-rate at 80 per cent. Our own statistics bear a like interpretation, as in the 120 puerperal cases (including among the recovered 4 relieved and 5 cases who are improving and have been under treatment on an average two months), 88 recovered, a proportion of 73 per cent., and 13 died—10 per cent. Of the 83 lactation cases, 49 recovered (including 1 relieved and 2 resident and improving under treatment), a proportion of 60 per cent., and 14 died, a proportion of 16 per cent., whilst of the pregnancy cases, 56 in number, 27 recovered (including 1 relieved and 1 improving cases under treatment less than three months), a proportion of 48 per cent. and a death-rate of 21 per cent.—yielding a grand recovery-rate of 63 per cent., and a death proportion of over 15 per cent in the 259 total cases. Of the recoveries, 43 per cent. occurred among the puerperal cases before the expiration of four months and 31 per cent. before the expiration of three months.

The death-rate is highest among the insanities of pregnancy and lowest among the puerperal cases. Most of the deaths among the lactation cases died after over two years' residence, as also among the pregnancy cases and they had become chronic, but the majority (70 per cent.) of the deaths among the puerperal cases died under six months' treatment.

Clouston's statistics of recovery out of 60 cases of puerperal insanity are 55 per cent., and of deaths, 8 per cent.; out of 40 cases of lactation, 77½ per cent., and of deaths 2 per cent.; out of 15 cases of pregnancy, 60 per cent., and of deaths 13 per cent. Batty Tuke's statistics give the recovery-rate among 13 puerperal cases as 79.4 per cent.;

TABLE XII.—Comparative Length of Residence of Mania and Melancholia Cases.

Duration of Residence.	Recovered : Puerperal.			Recovered : Lactation.			Combined Totals.
	Mania.	Melan.	Total.	Mania.	Melan.	Total.	
Under 1 month	1		1				1
1 to 2 months	6	1	7				7
2 " 3 "	9	8	17	2	1	3	20
3 " 4 "	3	6	9	2	10	12	21
4 " 5 "	5	5	10	1	7	8	18
5 " 6 "	6	3	9		3	3	12
6 " 7 "	5	2	7	3		3	10
7 " 8 "	2	3	5	4	1	5	10
8 " 9 "	3	1	4		2	2	6
9 " 10 "	3	1	4	1	2	3	7
10 " 11 "					1	1	1
11 " 12 "	1	1	2	1		1	3
1 " 2 years	3	1	4	3	1	4	8
2 " 3 "				1		1	1
Totals	47	32	79	18	28	46	125

and M. D. Macleod, quoting 620 "puerperal" cases as 77.3 per cent.⁶

PATHOLOGY.

It is desirable, if possible, to distinguish the form of brain affection which is due to pregnancy and the puerperal period, including lactation, from that which occurs independently of the bodily condition under consideration.

The parturient state, as already referred to, involves marked psychic and bodily transformations, and these are caused by the new uterine eccentric reflex and the active state of the reproductive organs. These changes during a first pregnancy cause an anatomical and physiological strain upon the organism which opens up channels in the nervous system hitherto undeveloped, and these channels are brought into fresh activity with each repeated gestation. A reflex process goes on, which, although not directly dependent upon the higher nervous system, nevertheless profoundly reacts upon it, and any unfavourable nervous accompaniments or developments tend to be repeated at each successive similar crisis. It is known that when the gravid uterus is cut off from the cerebral centres by a complete accidental section of the cord, natural labour pains come on at full time if the pregnancy proceeds, also the mammary glands enlarge and proceed to secretion, even when all the nerves entering the mamma have been divided. Absorption through the placental circulation and liquor amnii of material necessary for the building up of embryonic and fetal structures, and the discharge of waste products from the fetus, suggest considerable alterations in the mother's blood. Whether this means a change in the phosphorus-containing elements of the blood is uncertain (we know that the most vital and most highly vitalizing cells and tissues of the body contain this element in some proportion), but certain blood changes that occur during pregnancy possibly involve a slightly toxæmic condition of the maternal blood, and which lasts for a considerable period. Some have compared this to a form of anaemia, there being a material diminution both in the number of the red blood corpuscles and also in some forms of albumen, whereas an increase is said to take place in fibrine and extractives—conditions which appear to favour the frequency of thrombotic affections. Some chemists have described a condition of peptonuria in association with this condition. From the sallowness, the deposit of pigment, and, as some chemists have stated, an increase in the coefficient of urototoxicity, it is probable that profound changes do occur in the maternal blood during gestation which may, in part at any rate, account for the mental transformation incident to pregnancy. The form of insanity which characterized the 56 cases referred to in our statistics was in the main the depression of melancholia, which was more marked than its antithesis the acuteness of mania, possibly owing to the impending fear of danger and the apprehensions which the arousal of maternal instincts for the first time probably excited. Bevan Lewis

states that fundamentally distinct as these two mental states of melancholia and mania would appear to be, the process of reduction is the same in both. What the nature of the process (which causes so great a transformation in the mind of the parturient woman) may be is not definitely ascertained, and from the 12 deaths (22 per cent.) which took place in those suffering from the insanity of pregnancy, there was nothing pointing to any definite form of mental disorder peculiar to this period.

Only one died before confinement; she was admitted suffering from melancholia, and died within 3 weeks of admission with pathological symptoms of general paralysis, for the pia was adherent over the frontal and parietal regions, the ventricles were dilated, and the ependyma of the fourth ventricle granular. There were several abscesses in the lower lobe of the left lung, and similar ones in the kidney. The uterus contained a fetus of about the fourth month, the placenta was formed and attached to the back wall of the uterus, and the cord was round the neck and leg of the fetus. Two died within one week after confinement, 1 from pneumonia of the right lung, which was solid, and there were recent vegetations upon the mitral valve. The uterus was nearly the size of the closed fist, the wall three-quarters of an inch thick; the lining membrane presented a reddish flocculent aspect, which was much thicker over the placental site. There were no signs of septic changes, the appearance being that of a normal uterus a few days after parturition. The other patient died from puerperal eclampsia, but there was no necropsy. One female died two weeks after confinement from septic peritonitis. She was weak-minded, and the cerebrum upon examination was small and ill-developed. The 8 other deaths occurred after an average residence of four years; 2 were from general paralysis, 1 of these being also phthisical, 1 died in the status epilepticus, 1 from chronic Bright's disease (cerebral venous thrombosis), 1 from syphilitic brain disease, 3 from phthisis (1 a general paralytic), and 1 from colitis (melancholia).

The relation of general paralysis to this form of insanity I consider to be accidental, for the disease had been in existence for a considerable time previous to pregnancy; in one case which lasted five years, general paralysis was known to have lasted over two years and a-half before admission. During pregnancy the patient was liable to general or hemiplegic seizures, with alternating periods of albuminuria, and consequent regression of mental and physical symptoms, yet no premature confinement took place in these cases. When parturition is over, and the acute additional stress following this stage has passed, the general paralysis appears to make slower progress.

In those cases of insanity occurring after confinement only one was a general paralytic, and she had marked signs of congenital syphilis. After confinement the morbid and effete material which is taken into the maternal circulation during the early uterine involution must tend to produce in the predisposed a profound irritation of the nervous system, and especially so should the functions of secretion and excretion be checked by interference with the venous, lymphatic, and other excretory organs. It is in this stage in neurotic women and in those with an inherited tendency that the most violent delirium occurs. This of all others in the lying-in is the stage of septic infection when saprophytic bacilli gain entrance into the blood, and either themselves multiply in the blood, giving rise to general septicaemia and pyaemia or produce general toxæmia through the formation of poisonous chemical substances. Whether saprophytic bacilli have pathogenic potency possibly depends upon the vital resistance of the blood and tissues; there are cases in whom the resistance is so slight, owing to an unstable nervous system, that toxic products, and these alone, may cause maniacal delirium. The foul, dry, and coated tongue, the sordes on lips and teeth, the loaded bowels, scanty concentrated urine and dry skin, point to an accumulation of nitrogenous or other morbid products in the blood. The chemistry of vital activity is not at present sufficiently complete to state with definite accuracy the form and nature of the various basic substances containing nitrogen which in chemical constitution resemble the vegetable alkaloids. The identification and isolation of some of these ptomaines from putrefying material and from the cultures of bacteria concerned in putre-

faction have been accomplished by some chemists. Some of these are toxic in very minute doses, others are non-toxic.

Dr. W. L. Arnold has recently investigated the bacteriological condition of the lochia in puerperal women by inserting a sterilized tube into the uterus, withdrawing some of the contents, and making cultures, with the result that in some streptococci, staphylococci, anaerobic bacteria, and various bacilli have been identified and pure cultures obtained, in others no bacteria were found, and the indications from these researches would point to treatment by antitoxins as a remedy to which we shall presently refer. Dr. Mott has kindly examined the blood of two cases of puerperal mania, and made cultures, but with negative results as to micro-organisms.

It is uncertain and improbable that all forms of puerperal insanity are due to the presence of bacterial poison, although unquestionably some are of septic origin, the sudden and violent symptoms favouring the theory of septic absorption, but an elevation of temperature usually accompanies septic infection, and some of the cases, although received from the second day after confinement, had no fever, the temperature remaining normal throughout an acute delirium lasting for several days. The temperature in most of the puerperal and lactation cases was taken on admission and often afterwards and it was exceptional for it to be raised above 1 to 3 degrees.⁷ There is no doubt, however, judging from the analogy of poisons and of alcohol, that some morbid material—animal, vegetable, or mineral—circulating in the blood is able to cause disordered energy in the cerebral cortex with consequent mental aberration, and if the uterine surface be not at fault other toxic influences are found in the uræmia or other hæmic states.

With regard to lactation insanity, the great drain upon the mother who, from inability to act otherwise in the lower classes, is often obliged to nurse her young, and who also from the fear of another pregnancy continues this for many months beyond what is necessary, entails acute bodily exhaustion, and to this loss of albumen her mental breakdown must in great part be attributed. Statistics of insanity in the rich and poor during this period support this view, as also does the prevalence of deaths from pneumonia with gangrene of the lungs and phthisis, the latter causing about 24 per cent. of deaths in this class. Impoverished blood supply, uterine subinvolution, and a general cachectic condition often accompanied this form of insanity in many of my cases. As to the association of this class with general paralysis only 1 case occurred among 83 cases. She had seizures five months after confinement, and she was in addition the mother of five children. It is not improbable that the exhaustion of lactation may have precipitated what might otherwise have been further delayed.

TREATMENT.

No greater truism has been uttered than when Gooch stated that no medicinal agents can relieve a disordered mind except indirectly through the disorder of the body with which it is connected, and which must therefore be ascertained and discriminated.

The treatment of disorders during this physiological period must depend upon whether the stage be that (1) of pregnancy, or (2) childbirth, and (3) after confinement. And first as to pregnancy: Out of 56 cases whose insanity occurred during pregnancy 49 were delivered in the asylum, 47 at full term. Only 1 died before confinement, and the cause of death was recorded as vomiting connected with the parturient state, although the necropsy revealed the lesions of general paralysis. It has been recommended by some authorities that if the onset of insanity be early in pregnancy, abortion should be procured. Unless this treatment be adopted for convulsions or uncontrollable vomiting, I fear that it has but little to recommend it. This form of insanity is generally a recoverable one, and the symptoms in many pass off either towards the end of pregnancy or soon after confinement, whereas the chances are remote of operating successfully upon a patient who is not only quite incapable of assisting her own aseptic treatment, but who on the contrary may add further risks to it owing to her own mental condition, and these disabilities appear to me to be strong contraindications to premature delivery. On the other hand there is an end to anxiety as to the future of the child if it survives, but this does not concern us. The great outbursts of excitement

Analysis of the Puerperal Deaths.

State	Previous Attacks.	Neuroses.	Heredity.	Onset, Sudden or Gradual	Form of Insanity.	Ascertained Cause.	Cause of Death.	Duration of Residence.	Some Post-mortem Remarks.
156 M.	None	No	None stated	4 weeks after confinement	Melancholia	Puerperal state, sleeplessness	Exhaustion of melancholia	Under 3 months	Skull cap dense, adherent over frontal lobe. Pia, general congestion; not adherent. Cortex, section pale; (?) wasted convol. White matter, dry, pale, and soft; slight granular. Ependyma in part of 4th V. Heart, endocardium, v. blood-stained; all valves very much thickened. Liver, grey, fatty, soft. Kidneys, commencing fibrous. Uterus not named.
245 M.	None	Headaches; rheumatic fever 9 years back	None stated	3 weeks after confinement	Melancholia	Puerperal state	Exhaustion of mania	5½ months	No necropsy.
333 M.	Cambridge Hosp. Frinton Hosp.	None stated	None stated; mother died shortly after birth of the patient	Sudden, 3 days after birth of child	Mania	Childbirth and previous attacks	Exhaustion of mania (syncopal)	1 month	Skull cap, thick. Dura, thick, excess cerebro-sp. fluid. Pia, much thickened and congested; not adherent. Cereb. conv., good, brain firm; white matter rather congested; grey, good in amount. Lat. vent. not dilated. Heart, ante-mortem spots; <i>nil</i> . Lungs, caseating nodules in L. R.L. oedem. Uterus not named.
431 M.	None	None stated	None stated	Sudden, 8 days after childbirth	Mania	Serious bodily illness; hectic temperature on admission	Exhaustion of puerperal mania and phthisis	6 weeks; 8 days after admission	No necropsy.
521 M.	None	None stated	Mother insane and phthisical	Sudden, 1 month after confinement	Melancholia	Shock from death of mother; poor health	Exhaustion of pneumonia	3½ years	Brain (?) Bilateral lobar pn. R. ovary, small cyst. Small clot in uterus. White matter pale. Slight granules 4th V. Some commencing pachy. haem., int.
624 S.	None	None	None stated	Sudden, 13 days after confinement	Acute mania	Worry and ill-health	Exhaustion of chronic brain disease and phthisis	Over 2½ years	No necropsy.
739 M.	None	Hysteria and pains in head	Mother and sisters	Gradual, for about 3 months	Melancholia	Miscarriage, ill-health, worry and heredity	Exhaustion of melancholia and cardiac failure	4 days	Conv. good; grey and white matter firm and greatly congested. Blood, dark fluid. Cavity of uterus slightly dilated; congestion of fundus. Marked erosion of os.
822 S.	None	None stated	None stated	Sudden, immediately after confinement	Mania	Shame and shock	Exhaustion of phthisis	5½ months	Uterus, <i>nil</i> .
925 M.	One, but not in asylum	Influenza.	Father, rheumatism	Sudden, about 1 week after confinement	Mania	Previous attack	Exhaustion of puerperal mania, debility, and cardiac failure.	7½ months	Heart, dark, fibrous, tough. Uterus and ovaries <i>nil</i> . Brain, <i>nil</i> . Kidneys, cortex and pyramids congested. (?) Pigmentary degen. of heart.
1039 M.	None	None stated	None stated	Gradual, for 6 weeks after confinement	Melancholia	Anaemia, heart disease, phthisis, puerperal state	Exhaustion of phthisis	3 months	Conv. somewhat wasted. Uterus, <i>nil</i> . Cortex, soft and pale. Pia strips. Liver and kidney fatty. Both lungs, tuberculous nodules breaking down.
1128 M.	None	Anxious and fearful	None stated	Gradual from 1 month after confinement	Acute melancholia	Fright, shock, bodily illness	Exhaustion of broncho-pneumonia and gangrene of lung	2½ months after admission; 4 months after confinement	Brain, <i>nil</i> . Uterus, <i>nil</i> .
1227 M.	None	None stated	None stated	Ill mentally 1 week before admission	Melancholia	Confinement	Exhaustion of phthisis and morbus cordis	Over 2 years	No necropsy.
1320 M.	None	Influenza	None stated	Sudden, 4 days after confinement	Melancholia	Confinement, bodily disease, albuminuria	Exhaustion of cerebral abscess due to pyonephrosis	3 days after admission	Cerebral abscess L. frontal lobe, due to pyonephrosis, associated with renal calculus. Uterus perfectly involved, and more like 1 month than 9 days.

Analysis of the Pregnancy Deaths.

Age.	Sex.	Previous Attacks.	Neuroses.	Heredity.	Time of Onset.	Form of Insanity.	Ascertained Cause.	Cause of Death.	Duration of Residence.	Some Post-mortem Remarks.
126	M.	Hoxton House 6 years ago	Epilepsy	Father and aunt insane. Father and mother phthisis	4½ months pregnant on admission	Epileptic mania	Puerperal heredity	Exhaustion of status epilepticus	5 years 7 months after admission	Died. Epilepsy 3 years 7½ months after admission. Cystic ovaries. Uterus nil.
234	M.	Cambridge House (7 months pregnant)	None stated	None stated	Depression came on when 4 months pregnant	Melancholia (? general paralysis)	Pregnancy, previous attack and worry	Exhaustion of melancholia with vomiting and pregnancy (general paralysis)	18 days after admission	Died 3 weeks after admission. Brain, pia adherent over frontal and parietal adhesions. Ventricles dilated. Fourth ventricle, granular abscess in base left lung. Several abscesses lower lobe left lung. Abscess left kidney. Uterus contained a fetus of about 4 months. Placenta was formed and attached to back wall of uterus; the cord was round the neck and leg of fetus.
235	S.	None	Headaches	Mother phthisis	When about 3 months pregnant	Idiocy and mania (congenital)	Pregnancy	Exhaustion of mania and peritonitis	Over 2 months after admission	Died 10 weeks after admission, 2 weeks after confinement. Cerebrum small, ill developed. Abdomen—peritoneum inflamed, flakes of lymph throughout the cavity, but more especially in the pelvic region. Uterus large, thick-walled, the walls on section showing large dilated openings of the uterine veins, the interior of the uterus covered throughout, with the exception of the cervix with dark flocculent membrane which could be stripped fairly easily in places, showing beneath the infected wall of the uterus.
425	M.	None	Epilepsy	Grandmother, grandmother's sister, mother, and three aunts insane	6½ months pregnant	Melancholia of pregnancy	Pregnancy, heredity	Exhaustion of syphilitic brain disease	Over 2 years 7 months after admission. Confined 2½ months after admission	Died over 2½ years after admission. Right ovary large cyst, size of pigeon's egg. Uterus nil. Brain sclerotic.
524	M.	None	None stated	Mother's uncle insane for 5 years	6 months pregnant	Mania of pregnancy	Pregnancy and heredity	Exhaustion of phthisis	Over 4 years 7 months after admission. Confined day after admission	Died over 4½ years after admission. Phthisis. Brain cortex soft. Anaemic. Kidneys tuberculous.
627	M.	Yes. Berrywood 1890; after birth of child	Neuralgia	None stated	About 12 days about time of quickening	Mania of pregnancy	Pregnancy and previous attacks	Exhaustion of pneumonia and mania	2½ months after admission, and 4 days after confinement	Died 10 weeks after admission, 4 days after confinement. Pneumonia. R. lung solid. Heart, recent vegetations, mitral valve. Uterus was nearly the size of closed fist, the wall ½ inch thick; the lining membrane presented a red, flocculent aspect, which was much thicker over the placental site. There were no signs of any septic change, the appearance being that of a uterus a few days after pregnancy.
724	M.	Colney Hatch 1893. Fisherton House 1895	None stated	None stated	3 months pregnant	Mania of pregnancy	None stated	Exhaustion of phthisis	Over 4½ years after admission, and 4 years after confinement	Died 4 years 3 months after admission. Phthisis and tuberculosis of intestine. Uterus nil. Brain anaemic.
825	M.	None	None stated	Aunt believed to have been a lunatic	4½ months pregnant on admission	Dementia (? general paralysis), acute melancholia	Death of father, heredity, shock	Exhaustion of general paralysis (chronic Bright's disease)	5 years 3 months after admission; 4½ years after confinement	Died 5 years 2 months after admission. Chronic Bright's disease. Cerebral venous thrombosis with softening.
931	M.	None stated	Bad headaches; injury, severe fall	Mother paralysis, brother epileptic and paralysis	2 months pregnant, 2½ months pregnant on admission	Mania	Heredity, pregnancy, worry	Exhaustion of mania and puerperal eclampsia (abundant minuria)	Over 7 months after admission, and 6 days after confinement	Died 7 months after admission and 4 days after confinement. Puerperal eclampsia. No necropsy.
1019	S.	None stated	None stated	None stated	3 weeks pregnant, 1½ month pregnant on admission	Ep. dementia	Epilepsy	Exhaustion of paralytic dementia (general paralysis)	Nearly 3 years after admission; 2 years 4 months after confinement	Died 3 years after admission. Right ovary dermoid cyst. Chronic meningitis. Paralytic dementia.

Analysis of the Pregnancy Deaths (continued).

Age	Previous Attacks.	Neuroses.	Heredity.	Time of Onset.	Form of Insanity.	Ascertained Cause.	Cause of Death.	Duration of Residence.	Some Post-mortem Remarks.
11 37	None stated	Headaches; chronic rheumatism	Father intemperate	2½ months pregnant on admission	General paralysis	Pregnancy	Exhaustion of general paralysis	Nearly 4 years after admission; 3 years after confinement	Died nearly 4½ years after admission. General paralysis. Uterus healthy. Pulmonary hypostasis.
12 27	Hanwell 1893, Brentwood 1894	None stated	Paternal side eccentric; alcohol	9½ months pregnant on admission	Ric. melancholia	Pregnancy, heredity, and previous attacks	Exhaustion of ulcerative colitis	3½ years after admission; 3½ years after confinement	Died 3 years 9 months after admission. Colitis. Uterus subinvolved. Ovaries thick capsule. Skull much congested.

Analysis of the Lactation Deaths.

Age	Previous Attacks.	Neuroses.	Heredity.	Onset, Sudden or Gradual.	Form of Insanity.	Ascertained Cause.	Cause of Death.	Duration of Residence.	Some Post-mortem Remarks.
1 13	Colney Hatch	Yes	Uncle insane, father intemperate	Gradual	Mania	Lactation and previous attacks	Exhaustion of gangrene of lung	Over 4 years after admission	Brain pia adherent; cortex wasted slightly; congested.
2 32	None stated	Headaches	None stated	Gradual; since confinement 6 months ago	Melancholia	Confinement and adverse circumstances	Exhaustion of melancholia, phthisis, and pneumo-thorax	2½ years after admission; 2½ after conf.	No necropsy.
3 31	None	Neuralgia	None stated	Gradual; 8 months after confinement	Melancholia	Lactation, phthisis, and morbus cordis	Exhaustion of enteritis and mania	11 months	No necropsy.
4 29	None	Chorea	None stated	Gradual	Mania	Heart disease, anaemia	Exhaustion of mania and colitis	4½ years	Brain undeveloped; moderate septic; broncho-pn.; chronic mitral and dilated heart; first degree atheroma; fatty liver; cloudy fatty kidneys; colitis; ovarian capsules thickened; uterus, cervicitis (slight); body of uterus pale.
5 26	None stated	Headaches	Cousin insane	Gradual; 5 months after	Melancholia	Lactation	Exhaustion of diarrhoea and cardiac failure	Over 4 months	Pia thickened; slightly opaque; worm-eaten adhesion; uterus normal. Small (?) abscesses in kidneys; capsule thickened and adherent in both. No necropsy.
6 37	None stated	None stated	None stated	Gradual	Mania	Worry by illness of children	Exhaustion of double basal pneumonia	2 years and 2 months	No necropsy.
7 26	None stated	Headaches and epileptic fits	Mother intemperate	Gradual; 2 months after confinement	Melancholia	Lactation	Exhaustion of phthisis	1 year 5 months	No necropsy.
8 27	None stated	Headaches and epileptic fits	None stated	Gradual; admitted when baby 5 months old	Mania	Lactation, ill-health	Exhaustion of acute rheumatism and hyperpyrexia	Over 5 months after adm.; 12 months after conf.	Uterus normal; ovarian veins very varicose. Heart soft and pale; haemorrhages on end of cardiac. Brain: Pia thick, opaque, very congested; cortex and white matter soft. Lungs congested.
9 29	None stated	Fits (paralytic)	None stated	Gradual; admitted when baby 6 months old; mentally abnormal	Dementia of general paralysis	General paralysis	Exhaustion of general paralysis	18 months after conf.; nearly 1 year after admission	Menstr. uterus; ovaries nil.
10 34	None stated	None stated	None stated	Sudden; admitted when baby 13 months old	Melancholia	Lactation	Exhaustion of acute colitis	Over 3 years after adm.	No necropsy.
11 34	None stated	None stated	None stated	Gradual; 3 months after confinement	Mania	Lactation	Exhaustion of phthisis pulmonalis	Nearly 4 years after adm.	Tuberculosis of lungs and intestines; some wasting of convulsions.
12 29	Berks Asylum	Yes	None stated	Sudden; 10 weeks after confinement	Melancholia	Lactation and worry	Exhaustion of colitis	Nearly 3½ years	Chronic wasting of brain. R. broncho-pneumonia; dilated and fatty heart; colitis.
13 39	None	None stated	None stated	Sudden; 10 weeks after confinement	Mania	Puerperal state and drink	Exhaustion of pyelitis, bronchitis, and fatty heart	2 days after adm. 13 weeks after conf.	Brain—grey and white matter soft, pale, heart soft, fatty. Blood dark and fluid. Uterus—small amount dirty greenish-brown mucus coating its walls. Lungs—lobar pneumonia.
14 26	None	None stated	Mother died of paralysis	Gradual; 3 months after confinement	Melancholia	Privation, seduction, and parturition	Exhaustion and phthisis	2½ yrs. after adm.	Brain nil.

which are not infrequent symptoms of this variety, the marked fits of depression and fear culminating in suicidal attempts, require the most constant vigilance on the part of those around her, and in private practice the grave question of home or special hospital treatment becomes of paramount importance. The dislike and mistrust shown by the wife towards her husband, coupled with the general acceptance of trifling mental deviations at these times, and the feeling of repugnance against putting pregnant women away, make it difficult, if not impossible, for the husband to do so, and she is generally nursed by her friends. On the other hand the indifference and possible danger to her children, and the heedless regard to the home ties, may make it necessary to remove her. The impulses to suicide and homicide are not infrequently aggravated by the presence of friends, whereas the regular routine of asylum life favours regular processes of thought and reflective action which are the first indications of recovery. Asylum treatment often renders unnecessary the excessive and damaging use of narcotics, calmatives, and restraints which must be used to prevent the noise and destructiveness of patients in their own homes. Asylum treatment means decisive feeding, and it rids the patient for a time of the female relations, who almost invariably have a prejudicial effect upon her. This question most often resolves itself into one of means, and I would hesitate to send the well-to-do pregnant woman from home when she can obtain all the advantages of asylum care, which is impossible for the poor. The general treatment is that of the parturient female—a light dietary, gentle exercise, bright surroundings, attention to the bowels by saline aperients, and sleep by mild hypnotics, the best of which are chloral and bromide in combination. Complications which may arise, such as eclampsia, must be dealt with after the methods and upon the principles of obstetric practice.

Insanity occurring after the puerperium needs more special treatment, both general and local. This is the most recoverable form, and well-to-do women, if suffering from the first attack, should not be sent away from home within the first six weeks of the onset of symptoms. I would even endeavour to make this my rule in all cases of puerperal insanity. At the same time this is one of the most difficult forms to deal with, owing to the emotional disturbance and the tendency to infanticide and suicide. It will be an intense relief to the family to avoid the stigma of an asylum when this is possible, and the gratitude of patients upon recovery from this form of insanity for everything that has been done for them—and they require vigorous treatment—is in marked contrast to the recovery from any other form. Moreover, to the mother herself it will be an intense relief, as Savage states, to think she has only been suffering from "fever" and not brain disease, and it will help her to go through subsequent attacks if she can be treated at home and got in an asylum. For the mania of this disease the "wet pack" has been used successfully, and is recommended, but I have had no experience of its use.

I have used continuous immersion with water at 100°, but had to give it up owing to the struggling. I have had satisfactory experience of the electric bath treatment when cases have appeared to become chronic and stuporose, or indifferent to their surroundings. Although the insanity of childbirth is impulsive, wild, violent, and noisy, it is a busy delirium not of a sthenic character, and treatment of too antiphlogistic a kind is undesirable. I know of no form of insanity which so well repays generous treatment, and the free administration of liquid, easily assimilable nourishment is a necessity. Indeed, the essence of general treatment may be summed up in "compulsory super-alimentation." Dr. Savage agrees that the great danger in these cases is starvation, and that the crux of treatment is decisive feeding. Refusal of food is the most serious symptom in all cases of puerperal insanity, and must be combated with at all cost, as when bodily improvement occurs in puerperal insanity it is not infrequently the forerunner of mental recovery. Food should be given during every quiet interval, and at each opportunity, as the exhaustion from this form of acute delirious mania is intense. It is for these cases that alcoholic stimulants appear to be absolutely necessary. Cases are reported in which within a week or so of admission into the asylum, puerperal women have developed gangrene of the extremities necessitating amputation; and, although it is open to critical suggestion that this

is a proof of septic or bacterial origin I have not met with such in any of the 259 cases under review, although I have met with cases in which, when pneumonia has occurred the hepatized lung has failed to undergo resolution, and gangrene or phthisis has resulted. I often (probably in more than 25 per cent.) use the nasal feeding tube for puerperal and lactation cases—eggs, beef-tea, milk, and malt liquor, malt extract, and cod-liver oil are pressed upon the patient, who, during puerperal mania, can bear free doses of calomel, podophyllin, jalap, or croton oil, not only once but frequently repeated. Sleep must be obtained, and for this opium and morphine are both unsuitable, the former is contraindicated owing to its effect upon the secretions, and also owing to its stimulating effect on the nervous and circulatory organs; sulphonal is useful when there is much motor excitement. Paraldehyde is satisfactory, but more so are chloral and bromide in combination. It is important to relieve headaches which often accompany sleeplessness, and I have successfully used antipyrin and potassium bromide. Iron, strychnine, and digitalis I have used during the later stages of involution, and the great change from a cachectic waxy pallor to natural colour is rapidly apparent when iron is tolerated. A return of the menses may be looked upon as the forerunner of permanent mental improvement, and means to encourage this should not be omitted.

Before recovery is complete I have, as already stated, frequently noticed relapses and a return of mental confusion after apparent convalescence. This pathological periodicity appears to be the equivalent of the physiological periodicity occurring in normal sexual and reproductive life. At times, after prolonged mania, a dull, listless condition of semi-stupor is developed which requires a special effort to overcome. I believe it is at this stage that a change from the asylum to home surroundings may prove beneficial; or, if the patient is treated at home, a change from home is attended with marked improvement. If this be neglected an incurable dementia may set in and become progressive. One cannot insist too strongly upon a return to home life in these cases. As to local treatment, vaginal douches of boracic lotion, Condy's fluid solution, and carbolic acid have been used in many of my cases, and the latter appears to soothe also, as some patients have asked to continue them.

In cases where an offensive discharge occurs and the temperature points to the retention of membrane or clot, it is necessary to dilate the cervix under an anaesthetic and "curette" the endometrium. In one case this was successfully done. In another, confined before admission, sudden haemorrhage occurred about the seventh week after childbirth, and which recurred twice. The vagina was packed with ice and normal saline solution injected into the rectum.

In 2 cases I have used the antistreptococcus serum, but beyond the slight reaction evidenced by elevation of temperature, which may possibly have been due to the fear on her part that some harm was being done to her, no good resulted. Thyroid extract has been tried in several cases. Marked physical reaction resulted but no mental benefit accrued, and the cases have become chronic.

The breasts need special attention. Glycerine extract of belladonna has been used, as also strapping, and in some cases abscesses formed which had to be dealt with.

With regard to stimulants, I have seen cases admitted during lactation as the result of its indiscriminate recommendation and administration, and it affords another instance of the abuse of a valuable and powerful therapeutic remedy.

I have already referred to the prevention of this form of insanity by discountenancing the marriage of hysterical and neurotic persons, and upon this I should like further information from the practice and experience of others.

I conclude by expressing my firm belief in the maxim that insanity is, and ever will be, the product of two factors—stress, and heredity, and the greater the inherited vital resistance of the tissues the greater will be the strain required to overcome it. Our duty as professional men is to raise this resistance against the action of selective toxins by combined effort, and thus render growth more perfect, life more vigorous, and death more remote.

REFERENCES.

5 *Textbook*, 1882. 6 *BRITISH MEDICAL JOURNAL*, 1886-7. 7 *Lancet*, 1883.