nual rainfall for four years being the lowest in Devonshire, St. George's Clyst having the same average.

I append a table of my own rainfall observations for six years, giving the quantity of rainfall and the number of rainy days in each month during that period, the result of which tallies exactly with Mr. Pengelley's, giving an annual rainfall of 31.68 inches, one hundred and seventy rainy days, and a fall of .18 inch on each rainy day.

Closely following the subject of rainfall is that of the relative humidity of the climate. Dr. Parkes states (*Practical Hygiene*, 3rd edition, p. 465) that "the most agreeable amount of humidity is between 70 and 80, saturation = 100. In chronic lung-diseases, however, a very moist air tends to allay cough. The evaporation from the lungs produced by a dry atmosphere appears to irritate them. Warmth and great humidity are borne as a whole better than cold and great humidity."

The great desideratum in a climate to suit persons suffering from phthisis is a moist atmosphere of a certain character—i.e., not too moist, for that is depressing and relaxing; nor too dry, for that is irritating to the mucous membrane of the air-passages; but, as near as possible, a mean betwixt these two extremes.

It appears from observations taken that the mean relative humidity for six years is 81; the mean relative humidity of the winter months, 82; of the summer months, 78. I cannot conclude this part of the subject better than by quoting from Dr. Shapter's work on the *Climate of South Devon*, 2nd edit., p. 128.

"From its size and climate, Sidmouth affords an agreeable residence to persons who have lived long in warm latitudes; it is well adapted to those labouring under affections of the liver, and during the autumn, winter, and spring seasons, for the consumptive invalid; it is probable that during the spring months it is the best place on the coast for those liable to pulmonary complaints. It has been asserted that Sidmouth is peculiarly injurious to persons labouring under menorrhagia. The experience of the local practitioners does not bear out this opinion; on the contrary, they deem it beneficial in those cases, as well as in dysmenorrhœa. It is also serviceable in cases where undue wear and tear of mind is followed by mental depression and nervous irritability. Calculus and typhus are unknown, and it is remarkably free from epidemics." These remarks of Dr. Shapter need not be taken even *cum grano salis*, which might be the case were they written by a local physician, though, in an experience of eleven years, I can confirm them in their entirety. That the climate is relaxing I strongly deny. I am quite ignorant of epidemics existing; and as to the palliative effect of the climate in phthisical cases, I could (would time permit) produce notes of numerous instances in which, if the malady were not cured by the climate, it lay dormant in some cases as long as twelve to fourteen years. To my mind, the mistake committed by many practitioners in sending their phthisical cases to warm climates is the sending them *too late*; it is in the stage of phthisical cachexia, before the mischief has developed itself too prominently by physical signs, that these climates are of use, not in the later stages, when the patient is only sent off to pass the last few days, or perhaps weeks, of his life at a distance from his home, his friends, and connections. And here there is the advantage of an English residence over a foreign one; it is more within reach of home; the houses are built to exclude cold, not (as I know to my cost in the so-called sunny south) built so as to be cool in the summer; it is within a few hours of anxious friends; it entails no sea-voyage; it has no temptations to sight-seeing; a cozy English fireside is obtainable, and there is hardly a degree of difference in the temperature. I have received letters from Nice when the snow has been reported as lying there, whilst consumptive invalids have been sunning themselves on the beach at Sidmouth. I fear I shall be accused of approaching the realms of poetry and romance, but I am prepared with data on which to ground my statements.

c. *The Rapidity with which the Soil dries after Rain.*—The town itself is built on a diluvial deposit of gravel overlying the red sandstone. To the geologist, the different strata rising up from the sea to the layer of flints on the summit of the hills afford an interesting study; the soil is of a porous character, dries most readily, so much so that in ten minutes after the heaviest rains, the esplanade, a raised walk facing the sea, is available for pedestrians.

I trust I have in some measure proved the facts with which I started. I might have added tables on the direction of the winds, showing the greater prevalence of winds from the seaward points of the compass, giving warmer feeling to the air in winter and a cooler one in summer; or referred to the quantity of ozone in the atmosphere, especially with sea-borne winds; the quality of the water; the lowness of the rate of mortality; the absence of phthisis and asthma amongst the natives of the locality; the entire freedom from epidemics; but I refrain, having already exceeded my limits.

I can only repeat that, I trust my statements may be taken not as a local matter, but as a mite thrown into the treasury of the British Medical Association on the score of the meteorology of Sidmouth.

The Tables referred to were too voluminous for insertion.

CLINICAL OBSERVATIONS ON THE DIAGNOSIS OF THE GENERAL PARALYSIS OF THE INSANE.*

By JOHN HITCHMAN, M.D.,

Superintendent-Physician of the Derby County Asylum.

GENTLEMEN,—It was not from the feeling that I should be able to convey any additional knowledge on the subject of "general paralysis" (or, as it has been named by an able Dutch physician, Dr. Salmon, "general paresis") of the insane, to gentlemen whose attention in practice has been especially directed to this malady, or to those who have made themselves acquainted with the writings of Calmeil, of Rodriguez, Baillarger, Meschede, Conolly, Griesinger, and others, on this grave disease, that I yielded to the solicitation of your Secretary, and consented to make some remarks on this subject, but because, as a matter of fact, I have often found, in consultation with the busy general practitioner, that he is less familiar with this disease than with others, and that a prognosis has often been given which would have been withheld had the true nature of the disease been understood.

It occurred to me that, without entering into a minute description of all the characteristics of the malady, which would occupy too large an amount of your time—without pretending to reveal what had been hid from other observers in this special path of practice, or attempting to evolve a new theory upon an obscure disease, but by simply illustrating the more prominent and diagnostic symptoms of the affection in the persons of two or three patients, I might occupy profitably a few minutes of this meeting. As I have previously stated, the malady has not received much of the attention of the general practitioner; and the aspect of the patient in the early stages of the disease is often so hopeful—the appetite, the sleep, the general appearance of the patient are often so good, and the body so well nourished, that, within my frequent observation, the medical attendant has held out to the patient's friends the most sanguine expectations of recovery; while to the experienced eye, the sufferer has evidently been smitten with an incurable disease—i.e., incurable as far as our present knowledge extends; not more hopeless, indeed, is acute miliary tuberculosis, than is the general paresis, or paralysis, of the insane.

The late Dr. Conolly, in his lectures on this malady before the College of Physicians in 1849, said: "It is extraordinary that scarcely a trace, if even a trace, of a description of a paralysis so distinct and peculiar in its character should be found until we come to the writings of physicians yet living." Delacy in 1822, and Calmeil in 1826, appear to have been the first to give us a full and lucid description of this malady. It appears to have been more frequent in France than in this country. It is said to be exceedingly rare in Italy. Guislain informs us that it is seldom observed in an asylum at Aversa containing three hundred and sixty beds, although intemperance is a frequent cause of insanity in that region; and he found no example in an asylum at Genoa containing two hundred and seventy beds. It has, I believe, increased considerably in this country; increased with the increasing wealth, luxury, social ambition, and display of the present time, although not unknown in a remote age. There are some who recognise the portrait of this malady in the description by Ulysses, as given by the illustrious Shakespeare in the play of *Troilus and Cressida* (Act 2nd, Scene 3rd):—

"Things small as nothing, for request's sake only
He makes important: *possessed he is with greatness*
And speaks not to himself, but with a pride
That quarrels at self-breath; imagin'd worth
Holds in his blood such hot and swol'n discourse,
That 'twixt his mental and his active parts,
Kingdom'd Achilles in commotion rages,
And batters down himself! What should I say?
He is so plaguily proud, that the death-tokens of it
Cry—*No recovery.*"

"Possessed he is with greatness", certainly reminds one of the disease; and the cry "*No recovery*" is a striking sentence. The whole condition constitutes a good seed-bed for the development of general paralysis; but the portrait is incomplete, for there is wanting the physical disorder which, in association with swollen and exaggerated ideas of personal

* Delivered at the Annual Meeting of the Midland Branch.

grandeur and importance, is characteristic and pathognomonic of the malady. There is insensate pride blended with stubbornness and anger in Achilles; yet this is not the disease; for the patients suffering from general paralysis are, as a rule, pleased and exultant in the sense of their greatness, their grandeur, or wealth, and they speak with smiling satisfaction, rather than "rage with commotion." The description of the poet indicates the kind of man who is likely to fall a victim to the disease; but it refers not to the general muscular debility, to the slow, pausing, confused hesitation of speech, which, in association with exalted ideas, as before stated, is the diagnostic criterion of the general paralysis of the insane.

The malady occurs very seldom in early adult life. It becomes more frequent after the age of thirty years; and my experience would cause me to specify the period of from forty to forty-five years of age, as that in which the malady most frequently develops itself. It affects all classes, like death itself—

"Equo pulsat pede
Pauperum tabernas, regumque turres":

but, in the upper classes of society, it affects the male sex almost exclusively. In thirty years, I have never seen a lady suffering from this disease; and my friends, Drs. Conolly and Stilwell, both of whom were largely engaged in private lunacy practice, informed me, in 1848, that they had never met with one. Among the female poor, and the lower middle classes of society, such cases are occasionally brought under notice. Men of a sanguine temperament, with energetic circulation and quick sensibilities, are especially liable to this formidable affliction. The causes, or alleged causes, are numerous, as in other diseases; but to give these influences force, there is generally some special individual bias. The most energetic agencies in the production of the disease in the more opulent classes of society are, I believe, intense and prolonged mental activity, carried on under emotional excitement; sexual excesses; and especially if, under either of these circumstances, large quantities of wine and alcoholic stimulants be resorted to; among the working classes, heavy and prolonged labour, sustained by large potations of ale or spirits, rather than by nutritious food and a due quantity of sleep. Dr. Maudsley, in his very able and graphic treatise on Insanity, published in Reynolds's *System of Medicine*, alleges that the two most marked cases of general paralysis he had ever seen occurred in "teetotalers", but in whom there was reason to suppose there had been, although marital, excessive and enervating sexual indulgences. So difficult is it to fulfil the apostolic precept to "be temperate in all things"; so very easy is it to adopt the Hudibrastic philosophy, and

"To compound for sins you are inclined to,
By damning those you have no mind to."

Dr. Conolly doubted the acting force of sexual excess in producing this malady, because he had so frequently met with this disease in "respectable married life." This good physician erred in overlooking the uxorious amative tendencies of some men; and his refined and sensitive nature caused him to shrink from inquiries in relation thereto. Subsequent research has shown that this fault or error is among the most frequent of the antecedents of the disease.

Men with large and active brains, strong hearts, great self-esteem, carrying on ambitious projects without available capital at all proportionate to their speculations, and, therefore, subject to frequent emotional excitement as to how claims may be met or staved off, frequently fall victims to general paralysis; as do, indeed, also more pure and gentle minds discharging prolonged duties under too acute a sense of responsibility, or who have been exposed to a great and sudden shock of the feelings by the unexpected death of a much loved wife or child, or from some such causes. High designs dashed suddenly to the ground, severe fatigue sustained by alcoholic stimulants, rather than by

"Tired Nature's sweet restorer,
Balmy sleep".

are frequent excitants, as illustrated by the number of cases which occurred among the soldiers in the Grand Army of Napoleon during the disastrous retreat from Moscow.

The phenomena of the disease are difficult to describe, but easy to detect. The guiding indication is to be found in the voice, and in the muscles of the tongue, lips, and face, which minister to this function. The tongue claims our especial and primary attention, as it is the first external bodily organ to exhibit the presence of the disease. Whenever the patient is excited from any cause, the tongue fails to execute the function of speech with its accustomed clearness and accuracy: it is not, at first, a stammer, but a pause—slight and transient, but still an obvious pause, as if the person were thinking of the word as he uttered it; and this faint pause is followed by a thick-muffled tone of speech, resembling that of an inebriated person; and an attempt at speech is occasionally preceded by a quivering movement about the mouth, lips, and adjoining facial muscles—a movement analogous to that which may be ob-

served when a person is struggling under strong emotion not to weep, or is about to weep. It is not a stammering or repetition of the syllables of words, but a lingering pause, and is more especially observable when the patient speaks words possessing a considerable number of consonants. In the very incipient stage of the disease, especially in the morning, or after meals, the patient may speak many sentences without the peculiarity being distinguished, save by one familiarised with the disease through all its stages, from the first faint flickering pause and muffled accent of speech to the last stage, when the poor sufferer can utter monosyllables only, or sounds of an altogether inarticulate character. In very rare cases this special characteristic voice is unassociated with ideas of personal grandeur, wealth, and power, and is accompanied by a somewhat melancholic expression of face, although, as a rule, on being questioned, the patient will assure you that "he is quite well", or "quite happy", or "all right": this state sometimes alternates with more exultant moods. It will generally be found that such patients inherit a strong bias to mental derangement. The case of T. G. before you illustrates clearly the diagnostic speech of general paresis, the absence of exaggerated ideas, and the presence of a special hereditary predisposition to insanity. His mother was of weak intellect, and was always in anxiety owing to the vices and caprices of her husband, who drank to excess, and died of pulmonary consumption. The grandfather, the uncle, and sister, of this patient were mentally deranged, and died in lunatic asylums. He has at various times received severe injuries about the head and face. He has still a scar above the left orbit produced by a fall from a horse; and he has lost the left eye by a blow from the lash of a whip. He has drunk to excess in past years; and, indeed, for so long as he had the pecuniary means of doing it. He has been insane seven or eight weeks. He first announced himself as "well off (though a pauper), had money in the bank, and was about to build". He burnt clothes to make up a fire; threatened violence to his own and other children; and his memory is greatly impaired. The exaggerated idea of his wealth has passed away, and he is now simply imbecile. His voice is very characteristic—more marked, indeed, than is usual in the early stages of the disease—and, therefore, I thought it more instructive and demonstrative of the special sign, which, in association with certain mental characteristics, is pathognomonic of a cerebral lesion of the gravest kind. This pause in speech develops itself early, and will always display itself if the patient be angered or excited from any cause: when he shows his tongue there will commonly be found a fibrillous tremor through the entire organ, or it will be protruded with a succession of quivering jerks. It is not, you will observe, drawn to one side, as in hemiplegia, but pushed forward in an agitated way, somewhat resembling the mode in which the fang of a reptile is displayed. As the disease advances the tongue cannot be kept in a protruded state, and in the last stages of the malady is often incapable of protrusion. The malady in T. G. has made rapid and unusual progress, as might be expected in a man who has been exposed to the malignant influences which appertain to hereditary transmission; to a (probably) drunken procreative act; to gestation in the womb of a mother agitated by a thousand fears; to poor and irregular nutrition in infancy; to defective intellectual training; and the daily example of drunkenness or depravity in his father, together with all the evils which appertain to mechanical blows about the head and organ of vision; and last, although not least, to intemperance on his own part. You will remember that the stolidity, or rather dullness, of T. G. is exceptional; that he appears before you as a strong example of the physical lingual characteristics—and, I might add, of the locomotion in this disease—but also as an example of those exceptions which crop up from time to time and destroy the symmetry and mar the dogmatic beauty of systemic treatises on disease. When the slow, pausing, lingering, slightly mumbled, voice to which you have been listening in T. G. is heard in association with insane ideas of a very exalted character—such as boundless wealth, thousands of acres of land, millions of gold; or with great pretensions to business; with ardent speculations; with busy restless action; with inflated ideas of personal importance, whether as to titles, position, and the like—then, in the startling language of Griesinger, your patient "may with almost absolute certainty be considered as lost". He may, under good treatment, survive two, or even three or more years; for on June 1st last I saw a gentleman who had been thus afflicted for four years and upwards, and who was then capable of walking considerable distances; but, as a rule, the patient sinks long before this into the most abject state of corporeal helplessness: the bladder and the rectum pour out their contents unheeded, and the sufferer is wholly dependent on others for the conveyance of food to his mouth, and for every other thing which requires muscular power directed by intelligent will. But I am forestalling, and by so doing am defeating the object of my observations—namely, to enable you to recognise this malady in its early stage, and thus to escape an error in prognosis, calculated to

cause intense disappointment to friends, and unjust suspicion of defective or wrong treatment on the part of those to whose medical care the patient may be confided.

It is impossible to describe the tones of a voice in words; it is almost as difficult to define the length of a pause, or give an idea of the amount of slowness in the flow of words, which would constitute a morbid sign; but in T. G. you have had the characteristic utterance in a clear and unmistakable and highly developed form, which may, perhaps, enable you to detect the disease in its more subtle and slighter manifestations. A very distinguished observer (Dr. Meschede) has said "that general paralysis constantly exists, and is evidenced beyond any doubt by the mental symptoms, without any perceptible defect of articulation or other lesion of motility". Now, this is true only in an ideal sense. It is as if you said it is impossible to have acute miliary tuberculosis without tubercles, or epilepsy without convulsions. The mind may conceive the existence of disease in such a nascent state and recognise the distinction, but it is not demonstrative; and, practically, neither disease can be affirmed to exist until its respective phenomena are displayed. I have stated already that in early morning and after meals, and, I might have added, for long periods of time, these lesions of motility sometimes disappear; but until they are evidenced the conscientious practitioner will refrain from giving a diagnosis. I introduce to you J. S. as a patient who has displayed them, but in whom they are now faint, but still to be distinguished by a careful and prolonged examination. General paralysis, or paresis, like other diseases, has its varying degrees of intensity and its shades of expression. The perfect case—the *chef d'œuvre* of this pathology—has all these previously described lesions of lingual motility, associated with the most exalted ideas of grandeur and power; but there are others, whose career is equally rapid towards death, which possess them in a more modified form. J. S. is one of these: contentment, self-satisfaction, placidity, a pleasing sense that everything is as it should be, take the place of the more exultant and grand notions; and the muscular tremor and vocal indistinctness are now, so to speak, microscopic, but still existent, and to be appreciated by careful examination, if not at one period, certainly at another, if carefully watched for. When I first saw him he boasted of his great age; alleged he "was 80 years old (he was 38)—older than his parents; had great wealth; and no one could do the work he did". At that time his voice was more indistinct than now, and the tongue and labial muscles were tremulous and jerking. It is an instructive case. He is the type or representative of those whose physical appearance, whose well-nourished systems, had deceived and misled their medical attendants in the cases to which I referred at the commencement of my remarks; and really, as he stood unquestioned before you, who would have suspected that he was the victim of a mortal malady! His bright eye, his ruddy cheek, his well-nourished body; his strong, burly, athletic look; and his countenance, radiant with smiles, suggested the healthy peasant rather than the invalid; and yet a minute examination revealed a group of morbid symptoms. During the past three weeks his pulse has been quick; once it has been as low as 72, and twice at 74; but on the 5th instant it was at 96, and these pulsations were registered at the same hour on each day. It has ranged from the above lower numbers to this the highest, the average for the time mentioned being about 84 $\frac{2}{3}$ per minute. His temperature has fluctuated considerably; but on the whole it has been rather above than under the mean normal standard, occasionally reaching 99.5 deg. Fahrenheit in the axilla; on the 23rd of May it was 99.8 deg., and on the 1st June 99.2; and these oscillations intimate, I think, the varying degrees of fulness of the capillary blood-vessels of the cortical substance of the brain, leading by their increasingly hypertrophied condition to the destruction of the nerve-tubes and cells of that structure.

In most cases of general paresis there is an increase of temperature as the disease advances to its fatal issue. One of the most marked cases of this disease which I have had under treatment during the past year died on the 24th May last; and in his there were in the last stages a very rapid pulse and a very high temperature, the former rising during the last week of life from 100 to 135 per minute, and the temperature in the axilla ranging from 98 to 103 deg., the latter being at 10 A.M.; on the five last days of his existence 101.4, 101.4, 101.2, 102.5, 103 deg. respectively.

I am indebted to Dr. Mickle, the assistant medical officer of the Derby County Asylum, for the thermometrical registrations, which have been taken by him twice daily with extreme accuracy in these and analogous cases. So long ago as 1839, Dr. John Davy pointed out the value of thermometrical observations in detecting latent pulmonary disease in the insane; and, from the knowledge derived from his papers, I was frequently in the habit of demonstrating to the clinical classes at Hanwell, in 1847-48, the elevation of temperature in adynamic forms of pulmonary tubercular disease—a disease often so masked by the cerebral disorder as to be latent from notice, until its presence was sus-

pected and looked for from the indications of the thermometer, there being no cough and no expectoration to excite attention. This instrument, by the researches of Wunderlich, and the experiments of Brown-Séquard and of Mr. Hutchinson on the temperature of parts after the section of nerves, promises to be of great diagnostic value in cerebral diseases, and is now extensively used in our best lunatic hospitals.

To revert to J. S.: he was pleased to speak of his excellent health; of his increase in weight; of the personal charms of his wife; his ideas on this subject resembling those tribes who regard obesity and size as the chief elements in beauty; and when he was speaking of these matters, you might have observed frequent twitchings in the orbicularis and other muscles near the mouth; and when uttering the words "pudding", "cowslip's wine", "stones-weight", and several others, there was the pause, or special voice-sound, in its incipient development, which was so marked a feature in the verbal utterances of T. G. His legs have not yet lost their co-ordinating power; but in T. G., you observed that the walk had become unsteady, the limbs were moved with apparent effort, and that decadence of power had commenced which will progress; the feet will be thrown out wider in the step; he will soon stagger in his gait, and retain his balance with such difficulty that, if called upon suddenly to turn round, he would fall. As the disease progresses, the ears participate in the general debility, and the head is very early incapacitated from movements requiring quick and complex movements of the muscles, as in writing or other such acts. A time comes when the patient is unable to walk: but this condition, as a rule, is not arrived at until after many months. The muscles do not waste as in ordinary paralysis; and this affection differs from paraplegia or hemiplegia in this particular, that, while these affections may remain, as it were, in *statu quo*, through long periods of time, there is in general paresis an irregular progressive diminution of power; it is irregularly progressive; yet, dating from month to month, the controlling power becomes less and less, and the strength sensibly diminished. Some observers think that the arm is affected at as early a stage as the lower extremities; but that the paralysis is more conspicuous in these, from the power required to sustain the weight of the body. After treating scores of cases, I am unable to acquiesce in this statement. Within a time, various in each individual, the muscular debility involves the whole system, accelerated much by epileptiform seizures, which occur at irregular intervals as the disease advances; deglutition even becomes difficult, and the patient runs great risk of choking; the power over the sphincters of the bladder and rectum is gone; bed-sores, despite of water-beds and every possible care, set in, and for weeks and months (unless apoplexy supervene) the patient lies a helpless, mindless, inarticulate being, and continues thus until death closes the piteous scene.

The only diseases with which general paralysis is likely to be confounded are locomotor ataxy and alcoholismus. Locomotor ataxy occurs at about the same period of life, and, like general paralysis, it is more frequent in males than in females; as in it the sufferers are often descended from insane parents, and the gait in each is deeply affected; yet, the ataxy is distinguished from general paralysis by the *absence* of mental alienation, and by the *presence* of lancinating evanescent neuralgic pains which precede or usher in ataxy; by the greater deficiency of co-ordinating power in the muscular movements, the arms of the ataxic patient being commonly thrown about to preserve the balance of the body in a far more marked and oscillating manner than is seen in cases of general paralysis; by the greater capacity to endure fatigue, and especially by the muscular power manifested by the ataxic patient when in bed, or so supported that individual limbs may act apart from that consentaneousness of action which is necessary to sustain the body erect while walking; in short, it is sharply defined from general paralysis by the absence of mental alienation, and the presence of neuralgic pains in its earlier stages.

In alcoholismus you have many symptoms in common, but the antecedent history, the odour of the breath, and the muscular tremulousness preceding for a considerable time the mental aberrations, will guide you to a safe diagnosis. It is well, however, to remember that alcoholismus sometimes leads to general paresis.

I stated at the commencement of my remarks, that it was not my intention to give a full portrait of the disease; to describe all the phenomena of its progress; to detail its treatment; or to elucidate its pathology; but simply to illustrate by living examples the special diagnostic marks which in the earlier stages will reveal to you a disease for which no remedy is known. My tale is told. It is a sad history; but, happily, through all the earlier stages, the patient is usually cheerful and serene; indeed, in no stage does he manifest a sense of suffering, and so long as he can articulate words at all, he speaks joyously, and, to use the graphic language of Conolly, "Of all fatal maladies it seems to be attended generally with the least sense of distress". Immediate sacrifices consequent on the cessation of all exertion are disre-

garded; increasing infirmities are forgotten or unheeded; utter helplessness ensues without the consciousness of it; and the mind, with interruptions of fitfulness, is usually lively and hopeful, and even joyous. To the exalted imagination of the patients their prospects are best; their wives are the handsomest; their affairs settled in the most satisfactory manner. Their health, they thank God, is restored; their accomplishments, they do not affect to conceal from you, are boundless. With faltering speech they declare that no public singer can rival them, and when they can no longer rise from a chair, or walk without help, they express an ambition to engage in athletic competitions, to run in a race, or fight in a ring, and thus sometimes, even to the last, or as long as speech remains, they are like happy children.

"Gay Hope still theirs by Fancy led."

OBSTETRIC MEMORANDA.

VERY EARLY PREGNANCY.

ELIZ. G., born in June 1857, was attended by me in the end of July 1869 for symptoms which were by her attributed to dyspepsia, and by her mother to the approach of the period of puberty. She suffered from morning sickness; her breasts were full, with dark coloured areolæ; and her abdomen was considerably enlarged, without any evidence of fluctuation. Although I failed to detect the foetal heart, I gave a presumptive diagnosis of pregnancy, which was incredulously received alike by the patient and by her mother. On January 10th, 1870, she again came under observation as the mother of a fine healthy-looking child, to which she gave birth on December 18th, 1869. Conception must have taken place in the previous March, when she wanted three and a half months of being twelve years of age. The mother was an epileptic, and six of her children had been subject to epileptiform attacks in childhood; but, with the exception of this girl, they had all "grown out of the fits". She was still occasionally subject to what were described as "nervous fits", and appeared to be of rather weakly intellect. She had never menstruated, and had no recollection as to when she began the intimacy which resulted in her precocious maternity and her paramour's introduction to the hard-labour department in the city gaol.

In this patient, conception occurred at an unusually early age for this country, where, so far as I am aware, the earliest case of delivery is that recorded by Mr. Robertson of Manchester as having occurred at the age of eleven. Probably one of the earliest authenticated cases of pregnancy is that reported by Dr. Curtis in the *Boston Medical and Surgical Journal* for 1863, the subject having given birth to a child at the age of ten years and eight months.

Chester, 1871.

WILLIAM HAINING, M.D.

MULTILOCLAR OVARIAN CYST: OVARIOTOMY: RECOVERY.

E. W., aged 33, married, had two children, the youngest 4 years old. She had never been pregnant since. Her labours and recoveries had been good. She had always enjoyed good health until May 1870, when she felt an enlargement in the left iliac fossa, unaccompanied by any pain; this gradually increased until it occupied the whole abdomen. When I first saw her, in March 1871, the swelling was very irregular, movable, and fluctuating in parts. Examination *per vaginam* showed that the uterus was drawn up, the os being almost out of reach of the finger; and a large mass was felt in the recto-vaginal pouch, pressing upon the rectum. Menstruation before the commencement of her illness had always been regular; but since that time had been constant, though scanty. Her motions were flattened, and were passed with considerable difficulty. During April and May, 1871, she was constantly troubled with violent attacks of vomiting, lasting sometimes for several days, and she was becoming very reduced and weak. On May 20th, the patient being under the influence of chloroform, the usual incision was made from the umbilicus to near the pubes, and the several structures were divided until the tumour was exposed. Several cysts were now tapped, but only a small quantity of fluid (not more than a few ounces) escaped. The incision was enlarged upwards for two inches, and several more cysts were tapped, but still the mass could not be removed. The incision had to be enlarged still more upwards, and then two larger cysts came into view; after these had been tapped, the mass was drawn forwards, and the pedicle (which was a long one) secured with whipcord well soaked in carbolic oil (1 to 5) and divided. The pedicle was secured lower down, cut off, and returned into the abdominal cavity, with a single whipcord ligature, both ends of which were

cut short off. A considerable quantity of blood and fluid was sponged out of the abdominal cavity, the omentum was drawn down and spread carefully over the intestines, and the wound brought together with six harelip pins. Carbolic oil of the strength mentioned above being applied over all, a broad flannel bandage kept the dressings in place. The only adhesions were a few slight ones to the rim of the pelvis; these were easily broken down with the hand. The patient took very little chloroform, and did not vomit once during the operation, which lasted in all thirty-five minutes. Immediately after the operation I gave her a suppository containing half a grain of morphia. Her pulse was 74, it having rarely been under 100 for two months previously. The tumour was composed of from twenty to twenty-five separate cysts, the contents of some being gelatinous, of others purulent, grumous, straw-coloured, limpid, etc. The mass when removed nearly filled a common wooden bucket.

For the second and third day after the operation, she was much troubled with tympanites, which was relieved by hot fomentations; she took nourishment well from the first, and was never once sick, nor even felt so. The needles were removed on the fifth day, the wound having entirely healed, and without the formation of a drop of pus. She took one grain of solid opium five hours after the operation, and had one-third of a grain of morphia injected into the arm until the tenth day. Catheter was used three times a day for nine days. Her pulse for the first five days ranged from 96 to 120; on the fifth day it suddenly went up to 140, and remained so for two days, after which it gradually fell again. She had at the same time an obstinate attack of diarrhoea, which no doubt accounted for the sudden rise in the pulse. On the tenth day she was carried to a couch to have her bed made, and was able to eat a piece of chicken. In less than three weeks she was able to sit up in bed by herself, and is now fast regaining her health and strength.

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CLINICAL MEMORANDA.

CASE OF A CHILD SWALLOWING A LARGE NUMBER OF PLUM-STONES.

On the evening of October 18th, I was called to see a little girl 2½ years old, who the day previous had swallowed a number of plum-stones. At my visit, I removed from her rectum by the finger 116 of these bodies. Previously to my seeing her she had passed three of them, and four escaped after my visit, making in all 123. The rectum was enormously distended; and there being almost no faecal matter, the sharp edges of the stones caused considerable bleeding and irritation during their removal. The next day the child was quite well.

Middlesbrough, Oct. 21st, 1871.

W. KETCHEN, M.D.

THE DURATION OF VACCINE PROPHYLAXIS.

How long does the prophylactic influence of vaccination extend? The following cases, which have recently occurred in my practice, bear upon the question.

CASE I.—S. J. A., aged 20, five years ago took cow-pox from milking infected cows. She had the eruption in her arms, chin, chest, and back. She showed me a cicatrix on the arm, and one beneath the chin; the latter resembling that produced by vaccination. On August 16th, 1871, I revaccinated this patient in three places, cross-cutting with a lancet. All three were successful.

CASE II.—On Aug. 25th, 1871, I was called to a child aged 5 years and 9 months, who had small-pox. On the arm were three good primary vaccination-marks, the operation having been done in infancy.

CASE III.—On July 20th, 1871, I attended H. G., an adult, suffering from small-pox. He told me he was successfully revaccinated in the early part of 1866. In both these cases the disease was modified.

From these cases I should limit the time of the prophylactic influence of vaccination to five years. In proof that revaccination does really possess a prophylactic power, though the time during which it exerts that power is finite, I may add that, during the present epidemic, I have successfully revaccinated at least 410 persons. Out of this number one only had small-pox subsequently. In this patient I saw the variolous eruption ten days after the operation. I had revaccinated him on account of his having been exposed to small-pox infection, and there can be little doubt that at the time of the operation he was already infected. The disease was modified. My experience as regards the prophylactic influence of revaccination is, I believe, shared by most