Some of these fluid collections solidify, or become absorbed, or remain quiescent. Yet in those cases where necrosed bone exists in conjunction with an abscess, and the dead bone is acting as an exciting factor of mischief, a dependent opening should be made in the loin or back, and the sequestra removed. I have frequently discussed this operation with the late Mr. C. F. Maunder, of the London Hospital, and have performed the operation so far back as May, 1879.

Permit me to draw your attention also to this girl's case, who is now quite well, and wearing a plaster-of-Paris jacket in Percy Ward (March, 1885).

A. R., aged 19, housemaid, has been under my care (off and on) for the last six years, and was readmitted this year, suffering from diseased lumbar spine and psoas abscess on the right side, discharging in the centre of Scarpa's triangle. She was compelled, in 1882, to have her right abscess opened; I removed, by open incision, 60 fluid ounces of pus, in March, and kept her at rest in bed for three months, washing out the abscess-cavity with weak iodine-solutions. The operation was demanded by reason of her right leg and thigh becoming greatly swollen, by pressure on the common, external, and internal iliac veins on that side. She made a complete recovery, and left for Brighton on July 11th, 1882, with the wound closed, and a spinal jacket put on by hammock-suspension. Early this year, 1885, she was readmitted, because the old wound had reopened; and was discharging a tablespoonful of pus daily. Again she was well nourished, well nursed, and well rested; and again, in March, 1885, she was discharged with the wound closed, and a new jacket on. She has had spinal jackets adjusted in 1880, 1881, 1882, 1883, 1884, and 1885; all have been very good ones, and the last two have been worn as ordinary clothing, by addition of eyelet-holes and lacing, after cutting open the cylinder.

While on the subject of psoas abscess, I will give you a sketch, showing the relationship of parts as they pass beneath Poupart's ligament, and an easy way of remembering the same.

Fig. 4.

You will notice that the initial letters of *In Parvo* give the initial key to the following structures: 1. I. Iliac muscle; 2. N. Nerve—anterior crural; 3. P. Psoas muscle; 4. Ar. Femoral artery; 5. V. Femoral vein; 6. O. Femoral opening.

This *memoria technica* carries *multum in parvo*; I generally mentioned it to my class, when lecturing on anatomy; some of you may find it worth remembering as surgeons.

There is an interesting clinical fact in this girl's case, corroborating Claude Bernard's experiments on the control exercised by the sympathetic in the neck over the corresponding pupil. At 2½ years' old, she had a cervical abscess on the left neck; this was opened at the Children's Hospital in Great Ormond Street, and a scar resulted, situate one inch over the left clavicle, and one inch and a half from the anterior border of the left sterno-mastoid tendon. The left pupil is permanently contracted (about size of No. 7 shot).

On February 27th, 1882, my colleague, Mr. George Cowell, examined her left eye, and kindly gave me the following note.

The left pupil was dilated under the influence of atropine; there was excessive hyperæmia of the left optic disc, not amounting to neuritis. Hypermetropia requires convex glasses of 20 inches focus. R.V. = $\frac{2}{3}$, L.V. $\frac{2}{3}$, Hm. = $\frac{2}{3}$, R.V. $\frac{2}{3}$ nearly, L.V. $\frac{2}{3}$. Possibly, the in-

trusion of cicatricial tissue on the middle cervical ganglion of the sympathetic, resting on the inferior thyroid artery, may explain the vaso-motor and nervous phenomena on the optic disc and iris respectively.

Let me conclude to-day by insisting on the importance of an early correct diagnosis of spinal caries, and the necessity for treating such on broad principles (both local and general), and, to avoid disappointment in treatment, to state how ridiculous it is for an educated surgeon to expect success when the disease is hereditary. The surgeon is called in far too late after the deformity is recognised; for the prevention of spinal caries opens out the wide field of inculcating amongst all the good of sanitation, temperance, regular living, and all such virtues that establish the sum total of well being.

Mechanically, those safeguards, under the direct control and manufacture of the surgeon, far excel any of the much vaunted instrument-maker; I must "praise the bridge that carries me over;" and, discarding cervical cases, and those complicated with abscess in other spinal regions (which, in my opinion, are best treated in the recumbent posture), I have not yet met with any case which cannot be well treated in the manner here described, and often used in our hospital. Spinal curvature is very rare amongst the lower animals, so far as I know, and is possibly one of the penalties we pay for walking in the upright position.

ON THE EMPLOYMENT OF DIGITALIS IN ACUTE FEBRILE DISEASE.

Read before the Bath and Bristol Branch.

By HENRY F. A. GOODRIDGE, M.D., F.R.C.P.,
Senior Physician to the Bath Royal United Hospital.

Two purposes have been sought to be accomplished by the administration of digitalis in acute fevers. One has been to reduce the febrile temperature. With this view Wunderlich used it in enteric fever; and many authorities, particularly on the continent, have followed his example. But the only doses which were found available in their hands were so large, that, having regard to the other physiological properties of the drug, they could hardly, in ordinary practice, be considered safe; while its advocates themselves claimed for it only a very moderate and ephemeral efficacy, looked upon its operation as rather indirect than direct, and, in short, had clearly no intention of placing it as an antipyretic on a par with quinine or its allies of more modern introduction. The other purpose for which digitalis has been used in acute fevers, is to give strength to the action of a weak heart, and to diminish the frequency of the pulse. The late Dr. Anstie, in an article, characterised by his wonted ability, which appeared in the *Practitioner* for September 1873, insisted upon the value of digitalis, given for this purpose in adynamic fevers, and particularly in enteric fever. He, however, adduced no cases in illustration.

There are, undoubtedly, two very common diseases in which, at certain stages of them, any remedy possessing the properties thus attributed to digitalis must be deemed most valuable. One is croupous pneumonia, where, along with high fever, we may have extensive consolidation of the lung, in perhaps a more or less damaged subject. We know that often the supreme question of prognosis in such a case is, whether the right ventricle will bear the overwork imposed upon it. If by any means we can succeed in enabling it to do this, and so tide over the crisis, we may save the patient; in the contrary event he will die. The other disease, and that which Anstie had more especially in view, is enteric fever. Here also we know what, in the third week (may be a little earlier or later), heart-failure means; what the short weak first sound and rapid diastolic pulse at this period denote;—hypostatic congestion of the lungs, that may prove fatal. Of course, the free use of alcoholic stimulants is imperatively required in this, just as it was also in the previous, instance. But if we possessed a real heart-tonic, which would at once retard the heart's action, and give greater force to the ventricular contraction, at the same time also raise the tension of the arterioles, in all adynamic fever known to be low, how much better would be our prospects of successful treatment! Now, perhaps there is no therapeutic agent the physiological action of which has been more diligently and more thoroughly studied than digitalis; and various animals, from the lowest to the highest in the scale, have been laid under contribution for experimental research. The results obtained have been occasionally discrepant, and questions, I need not say, still remain for

TABLE I.—Croupous Pneumonia.

No.	Initials of Patient.	Sex.	Age.	Day of attack on which digitalis commenced.	Before digitalis.		Administration.	Total quantity taken.	After digitalis.		Result.	Remarks.
					Temp.	Pulse.			Pulse.	Temp.		
1	E. G.	F	25	6th	103	132	Tinct. $\mathcal{M}$ x 6tis horis, 7th day 4tis horis (with am. carb.) to 10th day, $\mathcal{M}$ xx besides in night-draught	5iv in 4 days	112	98.8	Recovery	Defervescence on 11th day (lysis). No appreciable fall of pulse-rate before temperature got to near normal, pulse never got below 88; very severe case. Parturition 6 weeks before attack.
2	S. S.	F	17	4th	103.3	132	Tinct. $\mathcal{M}$ viii 6tis horis (with am. carb.), 8th day 8vis horis only to 9th day	3iiss in 5 days	68	98	Recovery	Defervescence on 7th day (lysis). Pulse fell with the temperature, not before; fell to 52 on 10th day, but rose to normal frequency after.
3	C. E.	M	24	7th	102.7	120	Tinct. $\mathcal{M}$ viii 4tis horis (with am. carb.) to 10th day	3iiss (nearly) in 3 days	84	98.4	Relief	Defervescence on 10th day (crisis). Pulse fell rapidly with the crisis, not appreciably before; no depression of pulse followed (syphilitic subject).
4	W. B.	M	30	5th (?)	101.4	132	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.)	3ii in 2 days	148	104.6	Death	Died on 8th day (notes imperfect). No post mortem. Complicated with diarrhoea.
5	E. P.	F	51	7th	102.6	92	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.) to 9th day	3ii in 2 days	88	99	Recovery	Defervescence on 10th day (lysis). Neither temperature nor pulse-rate very high (tolerance of digitalis?).
6	G. E.	M	17	6th	103.6	132	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.) 7th day $\mathcal{M}$ v only, to 11th day	3iiss in 5 days	60	98.4	Recovery	Defervescence on 11th day (lysis). Pulse fell with temperature, not appreciably before; left pneumonia, slight jaundice.
7	M. J.	M	35	6th	102	120	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.)	3iiss in 36 hours	128	102.4	Death	Died on 8th day. Recent intemperance, grey hepatization of upper lobe of left lung (post mortem).
8	J. H.	M	21	6th	102.6	108	Tinct. $\mathcal{M}$ x 6tis horis (with am. carb.) 7th day 4tis horis, 9th day 8vis horis to 12th day	5iv in 6 days	56	97.6	Recovery	Defervescence on 9th day (crisis). Pulse did not fall before crisis, then to 80 and was firmer, having previously been soft and dicrotic (syphilitic subject).
9	H. D.	M	25	4th	103.2	108	Tinct. $\mathcal{M}$ x 6tis horis (with am. carb.) 5th day 8vis horis ($\mathcal{M}$ xv twice in night-draughts besides) to 10th day	3iiss and upwards in 6 days	76	98	Recovery	Defervescence on 9th day (lysis). Pulse-rate variable somewhat, as was the temperature, in the earlier days, no permanent reduction until defervescence, fell to 64 after; patient intemperate.
10	S. G.	F	23	5th	103.4	132	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.) to 8th day	3iiss in 3 days	88	98	Recovery	Defervescence on 8th day (crisis). Pulse rapidly fell with the crisis, not before; secondary fever on 10th day, and pulse rose again to 128, never got below 72; attack during lactation.
11	A. D.	F	20	5th	104	132	Tinct. $\mathcal{M}$ viii 6tis horis (with am. carb.)	3iiss in 6 days	140	104	Death	Died on 11th day. An anæmic subject; pulse never below 120, nor temperature (except on three occasions) below 102. No post mortem.
12	S. L.	F	21	7th	104.2	160	Tinct. $\mathcal{M}$ x 4tis horis (with am. carb.) to 8th day	5i in 24 hours	160	104.4	Recovery	Defervescence on 11th day (crisis) to 99.4°, but not to normal till 16th day; pulse not below 100 till after this date; very severe case, digitalis given for 24 hours without smallest effect on pulse.

solution; but there are two principal points upon which authorities seem pretty well agreed, and which for a moment we may recall.

The first is, that digitalis in moderate doses increases the force of the heart's action. Although observations on the isolated heart of the frog, as some of us may recollect who were in the physiological laboratory at Cambridge at the annual meeting of the Association in 1880, point very distinctly to this drug acting directly and locally upon the muscular tissue of the heart; the experiments of Traube and others leave no doubt that in the higher animals its influence is exerted chiefly through the vagus nerve; digitalis, indeed, acting as a stimulant to this nerve or its centre in the medulla. Obviously a more forcible contraction of the ventricle, however brought about, must promote the circulation in the coronary arteries; but, according to Gaskell, the vagus acts less as a motor nerve than as a trophic one, and he regards it as the nerve of nutrition of the muscular tissue of the heart. But we know that the vagus is also the inhibitory nerve of the heart, or, at least, that it dominates its inhibitory mechanism; so digitalis, in moderate doses, stimulating the vagus or its centre, reduces the frequency of the pulse; and this effect furnishes the most ready and reliable test of the action of the drug generally. The second point is, that digitalis increases arterial tension by constricting the arterioles. Whether this constriction be brought about through the vaso-motor nerves, or by a direct influence on the involuntary muscular fibre itself, there seems to be no question as to the fact, and there is evidence to show that it contributes somewhat to the action of the vagus in retarding the pulse. Thus, then, digitalis, in regard to its physiological properties, appears exactly to meet the requirements we have seen to arise in the course of pneumonia and enteric fever, and to give much promise of success if used as a remedy in such cases and in such conditions.

Have these expectations been realised in clinical experience? is the question we must now ask; and the answer, there can be little hesitation about it, must be in the negative. Twenty years ago, when the old doctrine that digitalis was always a depressant of the heart's action still retained a foothold in the minds of the profession, Thomas,

proceeding independently, made a trial of it in a number of cases of croupous pneumonia; and he found for result that it had but little action on the pulse before and up to the crisis of the disease. From their silence on the point, it would seem that English authorities have not cared to repeat Thomas's observations, or to verify them for their own satisfaction. Thus, in the only special treatise on pneumonia in our language, there is a short reference to the use of digitalis for antipyretic purposes, but nothing from the author's own experience, either on this use of it, or as a cardiac tonic. So likewise in the articles on pneumonia in Reynolds' *System* and Quain's *Dictionary*. In the latter, in a paragraph on the treatment of heart-failure, this drug is just adverted to, but in the briefest possible way. In the Collective Investigation Report, it is simply stated that, of the total number of cases, 1,037, digitalis was used in sixty-five cases; it seems that space would not allow any particulars to be given.

Having myself from time to time administered digitalis in croupous pneumonia and also in enteric fever, I have been induced to put together in a tabular form a few cases of each disease in which it was used. After what was said at the outset, it will be understood that the reduction of temperature was not at all my purpose; but there is one point here on which I would venture a remark. We are told that cardiac failure in pneumonia mainly depends upon the pyrexia present, and that the best way of obviating the former is to moderate the latter. Doubtless, to allay the pyrexia if possible is most important, and with this view I have given, occasionally, with great advantage, full antipyretic doses of quinine; this was done, for example, in Case XII of the pneumonia series, a very severe case. But I am not prepared to admit that the cardiac failure mainly depends upon this condition. The heart, or rather the right ventricle, is mechanically overworked by the consolidation of the lung, and in direct proportion to its extent; while the fever, if sharp, is usually short, and not to be compared in duration with what obtains in enteric fever, where the temperature may be for awhile equally high. I can see no reason, therefore, why we should not seek after any and every direct means of sustaining the power of the heart.

TABLE II.—*Enteric Fever.*

No.	Initials of Patient.	Sex.	Age.	Day of attack on which digitalis commenced.	Before digitalis.		Administration.	Total quantity taken.	After digitalis.		Result.	Remarks.
					Temp.	Pulse.			Temp.	Pulse.		
1	H. S.	F	14	20th	103.6	144	Tinct. $\mathfrak{M}$ x 6tis horis, (with acid. hydrochl. dil.) to 22nd day	5i $\mathfrak{M}$ xx in 2 days	104.4	132	Death	Died on 23rd day. Slight temporary reduction of pulse, though temperature rose. Lumbrici in stomach and bowels, hypostatic congestion of lungs. <i>Post mortem.</i>
2	G. P.	M	28	20th	104	120	Inf. 5ii 6tis. horis to 22nd day	5ii in 2 days	104	120	Death	Died on 27th day. Facial erysipelas made its appearance on 20th day. No effect of digitalis on pulse first administration, pulse rose in spite of it second.
2nd admin		istr	at	ion 24th	103.8	140	Tinct. $\mathfrak{M}$ viii 4tis horis (with tinct. ferri perchlor.) to 26th day	3iiss and upwards in 2 days	102.6	168		
3	J. S.	M	18	Relapse. 7th	104.5	136	Tinct. $\mathfrak{M}$ x 8vis horis (with quinine gr. iii) to 14th day	5iiss in 7 days	103.8	120	Death	Died on 15th day of relapse from perforation of bowel. No digitalis in primary attack; it was continued nearly up to supervention of symptoms of perforation on 15th day. A little fall in pulse, corresponding to a little fall in temperature, then final rise to 178.
4	E. H.	M	24	26th	102.4	144	Tinct. $\mathfrak{M}$ xx 4tis horis with ol. terebinth to 27th day	5ii in 24 hours	105	114	Death	Died on 28th day. Except on 26th, pulse was never above 124, and usually not much above 100; thus before taking digitalis on two or three occasions, when his temperature was 104, his pulse was only about 96. Had two or three antipyretic doses of quinine, but without much effect.
5	S. S.	F	13	Relapse. 7th	102	140	Tinct. $\mathfrak{M}$ x 6tis horis (with quinine and iron) to 19th day	5viii in 12 days	102	130	Recovery	Long convalescence. Pulse never got below 100, and was usually much higher. Temperature not permanently down to normal till after 47th day. Cold baths and antipyretic quinine in primary attack but no digitalis.
6	H. T.	F	14	27th	102	128	Tinct. $\mathfrak{M}$ x 4tis horis, (with tinct. fer. perchlor.) to 29th day. Tannic acid also freely used	5ii in 2 days	104	100	Death	Died on 30th day. Intestinal hemorrhage on 14th day, and again less profuse on 27th day. Effect of digitalis apparently nil.
7	E. F.	M	19	13th	102	104	Tinct. $\mathfrak{M}$ x 8vis horis to 18th day	5iiss in 5 days	100	80	Recovery	Cold baths and antipyretic quinine until 12th day, then threatening hemorrhage. Pulse fell with the temperature, but no obvious effect of the digitalis.
8	E. H.	F	15	21st	102	120	Tinct. $\mathfrak{M}$ xv 4tis horis 23rd day 8vis horis tantum to 25th day	5ivss in 4 days	98	80	Recovery	Cold baths and sodii salicyl. with occasional antipyretic quinine, to 16th day. Pulse did not begin to fall until 23rd day, when temperature first began to fall. Pulse irregular and intermittent on 24th day, and for four days after, but never got below 80. Furunculi during convalescence.
9	S. S.	F	17	19th	104.2	124	Tinct. $\mathfrak{M}$ xv 6tis horis, (with ol. tereb. and sp. eth.) 20th day 8vis horis tantum to 27th day	5vi nearly in 8 days	98	92	Recovery	Cold baths; one only during digitalis period (on 21st day). Sodii salicyl for three days before digitalis. No pulse-fall until temperature began to fall on 26th day. <i>Relapse.</i> —No baths during digitalis period. Pulse fell to 56 on 18th day and remained low for some days, and was somewhat irregular and intermittent for awhile, but no fall again in relapse until temperature began to fall on 16th day.
			Relapse 7th	103.8	140	Tinct. $\mathfrak{M}$ xx 6tis horis, (with pot. brom. and sp. eth.) 8th day 8vis horis tantum, 14th day 6tis horis again to 16th day	5x in 9 days	99	72			
10	J. H.	M	19	19th	101.6	132	Tinct. $\mathfrak{M}$ x 8vis horis, (with acid hydrochl. dil. and cinchona) to 24th day	5iiss in 5 days	100	96	Recovery	Cold baths, but none during digitalis period. No fall of pulse until 22nd day, when temperature began to fall. Pulse never got below 72 and showed no irregularity after. First cardiac sound at one time, (before digitalis) "very papery."
11	C. F.	F	17	22nd	102.8	128	Tinct. $\mathfrak{M}$ xv 4tis horis, (with ol. tereb. sp. eth., etc.), 24th day $\mathfrak{M}$ x tantum to same evening	5iiss in 2 days	101	76	Recovery	Cold baths at first. Dichrotism marked. Pulse fell with temperature on 24th day, not before; was 60 only on 28th day, and had been irregular and unequal since 24th. <i>Relapse.</i> —No reduction in frequency of pulse, but rather reverse, until fall of temperature on 12th, and then not so marked as in primary attack; occasional irregularities again. Complicated with otitis media.
			Relapse 8th	103	124	Tinct. $\mathfrak{M}$ vi 6tis horis to 13th day	5ii in 5 days	99.4	116			
12	A. F.	F	36	Relapse 6th	103.6	144	Tinct. $\mathfrak{M}$ viii 8vis horis, (with ol. tereb. sp. eth., etc.), 10th day 6tis horis, 13th day 4tis horis to 15th day	5ivss in 8½ days	98.4	140	Death	Died on 20th day of relapse from perforation of bowel, which occurred on 15th day. Frequency of pulse undiminished, except on one or two occasions after antipyretic doses of quinine, and then not lower than 108. She was not under my (H.F.A.G.'s) observation during primary attack. Great exhaustion of strength. <i>Post mortem.</i>

In reference to the mortality noticeable in this Table it should be borne in mind that only in cases of more than average severity was digitalis employed.

To resume: the cases tabulated are few—a dozen of each disease—far too few for any generalising purpose. Still, if Thomas's conclusions are valid, these cases ought so far to show it; and so unquestionably they do. In every instance of recovery, with one doubtful exception, the pulse was found not to fall to any appreciable degree under the administration of digitalis until the arrival of the crisis, or rather of the defervescence, this being sometimes by lysis; while, in the three cases which succumbed the pulse-rate increased in spite of the digitalis. To exhibit these facts, however, satisfactorily, a separate chart of each case, with temperature and pulse-curves both delineated,

would be required, and this with twenty-four cases is a task I have been unable to undertake. Not to trespass upon the time of the meeting, I may shortly state that the same thing, *mutatis mutandis*, is found to hold in the enteric fever series; that is to say, that, as long as the temperature continues above a certain height, the digitalis does little or nothing towards reducing the frequency of the pulse.

The question remains, How is this enigma to be explained? A remedy marked out by its physiological properties as especially adapted to relieve certain conditions—a remedy, too, which does not often disappoint us in other cases, which does excellent service, for

instance, in certain forms of chronic heart-disease—how is it that this remedy, when administered to patients in those special conditions which we have been considering, fails to be a remedy—proves to be, for the occasion at any rate, powerless? Several years ago, Dr. Lauder Brunton, while studying the effect which high temperature in fever would have upon the vagus nerve, and the way in which this might modify the action of the remedies then employed, surmised that possibly the failure of digitalis to act upon the pulse, as observed by Thomas, might be due to paralysis of the inhibitory apparatus in the heart, through which the vagus acts upon it; and he performed experiments in order to test the truth of this supposition. The experiments were made on rabbits; but as these animals were found, from the natural quickness of their pulse, not so suitable for the investigation, Dr. Brunton has recently, in conjunction with Dr. Theodore Cash, repeated the experiments on the cat, in which animal, as in man, the inhibitory influence of the medullary vagus centre is more marked. Omitting details, which will be found in the *Practitioner* for October last, I feel I cannot do better than give the conclusion at which these observers arrived in their own words—namely, “that a high temperature lessens the inhibitory power of the vagus centre in the medulla to such an extent that digitalis, and probably all drugs which act like digitalis on this centre, lose, to a great extent, their power to restrain the action of the heart and slow the pulse. The administration of digitalis, or of drugs which act like it, to patients in a febrile condition is, therefore, likely to have much less effect on the pulse than at the normal temperature, and, if the temperature be very high, they may have no effect at all while this persists.” As already intimated, clinical illustration of this teaching is amply supplied in the tabulated cases. To take only that one before referred to for another purpose: A girl, aged 21, on the seventh day of her attack of croupous pneumonia, having a temperature of 104.2° and a pulse of 160, had one drachm of the tincture of digitalis given to her in divided doses during the ensuing twenty-four hours. At the expiration of that time, her temperature was 104.4°, and her pulse remained exactly at 160. I should add, the girl ultimately made a good recovery.

What, then, is the practical outcome of this subject? Shall we henceforth discard digitalis in our treatment of acute febrile disease? I do not see that this should follow. 1. Although I have no adequate results from experience to offer on the point, I am disposed to think that, by combining some antipyretic, as quinine, with the digitalis, better success may be obtained; if we were not able to hasten on the defervescence by this means, a good remission would be no small gain, whereby the action of the vagus would be for a brief space restored, and the digitalis would in the same measure find its opportunity. 2. It should not be forgotten that the crisis, or rapid defervescence with critical discharges, in fevers, and particularly in pneumonia, is in itself not unattended with danger. Symptoms of collapse may supervene, nay, a fatal collapse, as I have witnessed. Digitalis, if given judiciously, and in moderate doses, before the crisis, I think is some protection against this formidable event.

In conclusion, it is most important to bear in mind that the digitalis, given with so little manifest result during the fastigium, may take effect with cumulative energy after the crisis; otherwise, the unwary practitioner, getting no immediate response, may be tempted to push the dose, with the result by and by, when defervescence sets in, of having a grave toxic explosion. Drs. Brunton and Cash append a caution on this point, and more than one of my cases give a hint in the same direction.

SEVERE VOMITING IN PREGNANCY: MISCARRIAGE: DEATH, WITH REMARKS.

By P. HORROCKS, M.D.,

Assistant Obstetric Physician to, and Demonstrator of Practical Obstetrics at, Guy's Hospital.

M. L., aged 39, came to Guy's Hospital amongst my outpatients last July, complaining that she had been vomiting incessantly for three weeks. She considered herself two months pregnant. On examination, I found the uterus about the size of a two months' gestation; there was no malposition, and, with the speculum, no erosion. She appeared very anæmic, and in answer to inquiry, said she was always more or less pale, but that she had become much more so during the last few weeks, owing, she thought, to the vomiting, which prevented her from keeping any food down at all, so that she was practically starving. After treating her in vain for a fortnight, I took her into the hospital, and by rest in bed, with very careful dieting, and the trial

of various drugs, of which tincture of iodine, in minim doses, appeared to be of most service, she got so much better that she went out apparently cured on September 20th, having been in the hospital five weeks, and being now between three and four months pregnant.

Whilst in the hospital, it was found that she had a mitral systolic *bruit*, probably dating from an attack of rheumatic fever twenty years ago. There was no albumen in the urine.

About a week after leaving the hospital, her legs began to swell, and her urine escaped whenever she coughed; but she was not sick, except early in the morning.

Her husband came to the hospital early in November to say that she was much worse. I gave him an order for her admission, but for some days she was too ill to be brought. She was admitted on the second occasion on November 12th, under my colleague, Dr. Galabin, who has kindly allowed me to make use of the case. Sickness was not now a prominent symptom, but she had great dyspnoea and oedema of the lower extremities. The urine was of specific gravity 1010; it contained no albumen. Urine passed involuntarily.

On the 15th, she was very sick all day. On the 17th, she was suddenly delivered of a child, which breathed a few minutes and then expired. It appeared to be about equal to a six months' fetus. She seemed better for a few hours, when she became unconscious, dying the next day without regaining consciousness. At the *post mortem* examination, the uterus was not found to be displaced. There was no erosion of the cervix. It was enlarged, corresponding with the recent delivery, but nothing abnormal could be discovered about it. The liver was extensively diseased by a primary encephaloid carcinoma, the parts not infiltrated by cancer being fatty. The heart was large, and the mitral valve had old fibrinous deposits on it. The kidneys were healthy.

REMARKS.—The recent discussion on this very interesting question at the Obstetrical Society drew forth so much, and the time was so limited, that no opportunity was given to myself, amongst others, of making any remarks. Had there been more time, I intended to mention the above case, which seems to me well worth recording.

It may be that the cancer of the liver had nothing to do with the severe vomiting in this case; but, had there been no pregnancy, I do not think anyone would have thought there was anything strange in this symptom with such a lesion, whilst the vomiting itself was so severe as to be, at all events, very unusual from pregnancy only.

The liver-disease is interesting, also, in its bearing upon the reference made by Dr. Matthews Duncan to the researches of Hecker into the question of degeneration of the liver in pregnancy. Dr. Matthews Duncan drew attention to the difference between the sickness of pregnancy and the sickness *in* pregnancy, the former being that due to the pregnancy, and the latter being due to some other cause acting accidentally during the pregnant condition. Obviously these two forms of vomiting are quite distinct; and, in discussing the question scientifically, it is necessary to bear them well in mind, and so avoid all kinds of complications and differences of opinion which arise inevitably when one speaker is talking of one thing, and another of another thing.

But whilst this distinction is clear logically, it is by no means easy to be always certain with which form we are dealing, when a patient, who is pregnant, is attacked with severe vomiting; and I notice that the title of Dr. Graily Hewitt's paper is “Severe Vomiting *in* Pregnancy” and not *of* pregnancy. Now, if a case occur with severe vomiting in pregnancy, *plus* some disease which *in* itself is capable of producing severe vomiting, who can say that the vomiting is due to either the one or the other? Cases are on record where vomiting has not stopped, even after the induction of labour, and yet it is said that the vomiting was due to the pregnancy. Might there not have been some other cause in those cases?

When there is some obvious and well marked malposition of the uterus, and the replacement into its normal position is followed by the cessation of vomiting, it is tempting to say that the malposition had caused the vomiting. But it is quite certain that there are cases of severe vomiting in pregnancy without any malposition, and without any other ascertainable cause for the vomiting than the pregnancy either *ante* or *post mortem*, and which would therefore come under Dr. Matthews Duncan's “*of* pregnancy.” But where there has been no *post mortem* examination in a fatal case of vomiting, I do not think one is entitled to say that the pregnancy caused the fatal vomiting. It may have been the cause and the only cause, or it may have been an aggravation of some other cause, or it may have had nothing to do with it.

That pregnancy is a cause of vomiting is so well recognised, that vomiting is considered a symptom of pregnancy. At the same time, no one has ever yet proved in what way the vomiting is brought about.