are pathological and not clinical, but it is improbable that the medical histories would have repaid an examination. In the great majority there would certainly have been nothing to suggest the presence of a tuberculous lesion of the lungs. The patients belonged to a class which does not, as a rule, regard slight ailments, and is obliged to work as long as strength holds out.

The affection, whilst in an early stage, may have been arrested by some intercurrent disease, for I have a firm belief in the antagonism of certain morbid processes. It may be that in some cases the resisting power of the individual was lowered by unfavourable surroundings, and that a condition of the tissues was established which allowed the bacillus to obtain a lodgment, and that this was followed by an increase of vitality, which prevented further extension of the morbid process, and shut off the disease products from the organism. In some cases the increase in vitality appears to come too late to arrest the local lesion, but early enough to prevent the generalisation of the disease. In such cases a whole lung may very slowly undergo destruction, whilst compensatory changes in its fellow provide for the respiratory needs of the body, death occurring only after many years, and then possibly from some other affection.

On reference to Series IV, it will be noted that a cavity was present in nearly all the cases. But in estimating the probability of arrest occurring in any given case, the extent of lung affected is of greater importance than the presence of a cavity, although widespread infiltration is naturally often associated with excavation about the site of the primary lesion. Arrest may be hoped for in cases of fibroid tuberculosis with a larger area of infiltration than in any other form of the disease. It may, however be stated that if the cavity can be recognised clinically the probabilities are that at some later period there will be an extension of the tuberculous process, and that death will occur from a tuberculous lesion.

But to this rule many cases are exceptions; many recognised and probably many which escape observation. I saw lately a lady, aged over 60, who was complaining of slight bronchial catarrh, and on examination of the chest I discovered a cavity at the left apex, which was proved with almost absolute certainty from the patient's history to have existed for forty-seven years.

The relation of the presence of the bacilli to the question of arrest is of great interest. So long as they continue in the sputa, the lesion cannot be encapsuled; and it is only in the fibrous barrier that safety lies. But their presence does not, in my opinion, necessarily imply that the area of infiltration is extending, and it is certainly compatible with the complete absence of symptoms and signs, and the enjoyment of what is often described as perfect health. I am acquainted with cases in which they have been present in the sputa whenever looked for since the discovery of the micro-organism, notwithstanding that the patient has generally enjoyed good health, and they may be the only thing of which he complains.

It is very unwise to allow the patient to concentrate his attention on the bacillus, as such a condition of mind may mean the destruction of hope—a factor of the utmost importance in the treatment of the disease.

It has possibly appeared to some of my audience that the pathological experience which I have related represents the arrest of pulmonary tuberculosis as of more frequent occurrence than their own clinical observations would support.

Many writers on the subject of "phthisis" refer to the few cases of complete cure which they have observed, but it must be remembered that their conception of the disease is clinical rather than pathological, that many of the cases when first recognised are fairly advanced, and that they leave out of reckoning altogether the cases which have been diagnosed as "catarrh of the apex"—"congestion of the apex," "pneumonia of the apex," a diagnosis which is often held to have been correct from the subsequent complete disappearance of the physical signs, etc., and also the cases of hæmoptysis, in which the blood was said to have come from the throat or elsewhere merely because there were no physical signs of disease discoverable in the lungs.

The well-known case of Sir Astley Cooper may be quoted

as well illustrating this point. He left directions that his body was to be examined after death with particular regard to certain points, one of which was "some suspected indications of phthisis in his youth." He is believed to have had an attack of hæmoptysis for which he bled himself. The result was that "at the superior and posterior part of the right lung was a small depressed and somewhat contracted surface about the size of a sixpence, a section of which exposed a calcareous mass very uneven upon its surface, and about equal to the size of a small pea. It was placed about three-lines distant from the pleura."

There can be no doubt that such lesions as I have referred to represent a period of ill-health, and it is highly probable that they might during their active period have been recognised by physical signs. Pulmonary tuberculosis in this early stage has been frequently overlooked in the past, but now that in the examination of the sputum we possess a test for the presence of the disease, it is possible to make a certain diagnosis at a much earlier period, and for this reason it becomes of great importance that we should be aware how frequently the process is arrested.

NOTES ON

"HEALED" OR RETROGRADE TUBERCLE.

Read in the Section of Pathology at the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.

By SIDNEY MARTIN, M.D., F.R.C.P.,

Assistant-Physician to University College Hospital; late Pathologist to the Middlesex Hospital.

In patients dying from diseases other than tubercle, tuberculous lesions, old or recent, are not infrequently found. The old tuberculous lesions are usually in the form of what is called retrograde tubercle, that is, tubercle which is no longer active, which no longer tends to generalise itself over the body. As a rule such old lesions are found at or near the apices of the lungs, in rarer cases in the mesenteric glands with or without healed tuberculous ulcers of the intestine. Retrograde tubercle in the lungs occurs in two forms, one of which may be called "calcareo-caseous tubercle," and the other "fibroid and pigmented tubercle."

In the first case, the healed tuberculous lesion is in the form of calcareo-caseous nodules, from $\frac{1}{8}$ to $\frac{1}{2}$ inch in diameter, and surrounded by dense and pigmented fibrous tissue; there are not infrequently nodules of fibroid and pigmented miliary tubercle near these calcareo-caseous masses. The area of lung affected is, as a rule, small, not more than 2 inches in diameter; not infrequently, however, there are only one or two small nodules present. In the majority of cases no other tuberculous lesion is found in the body.

In the second case, there are no calcareo-caseous nodules, but the miliary granulations are completely transformed into dense and pigmented fibrous tissue. In some cases only a small area of the apex of the lung is affected; in other cases the area is much larger, and extends over the posterior half of the upper lobes.

The great difference between these two varieties of healed tubercle is this: whereas the fibroid and pigmented miliary tubercle never contains any tubercle bacilli, the calcareo-caseous tubercle almost constantly does. The bacilli are not commonly very numerous. They are of normal shape, and occur singly or in groups of five to twelve.

For some time past I have noted all the cases of retrograde tubercle which have been observed in the *post-mortem* room at the Middlesex Hospital, and will shortly state the results of these observations. In 445 consecutive *post-mortem* examinations, 31 cases of calcareo-caseous tubercle were observed,

and 11 cases of fibroid and pigmented tubercle, making in all 42 cases of retrograde tubercle, or 9.4 per cent. In 21 cases the lesion was at both apices, in 21 at one apex alone, the right apex being affected in 12 cases, and the left apex in 9. The ages of the patients varied as follows: 20 to 30 years, 4 cases; 31 to 40 years, 4 cases; 41 to 50 years, 15 cases; 51 to 60 years, 10 cases; over 60 years, 8 cases. The greater number of cases—more than half—therefore occurred in patients between the ages of 41 and 60 years. Half of the cases occurring between the ages of 20 and 40 were observed in cases of pneumonia; these will be referred to afterwards. The diseases of which the patients died may be summarised as follows:—

Cancer and sarcoma	...	...	12 cases.
Lung diseases	...	...	10 "
Diseases of the circulatory system	...	...	8 "
Other diseases (single instances)	...	12	"

42 cases.

Retrograde tubercle is, therefore, most frequent in cases of malignant disease and those in patients dying of lung diseases. The following tables show in an extended form the nature of the diseases and the position of the tuberculous lesions:—

Calcareo-caseous Tubercle.

Cause of Death.	Age of Patient.	Position of Tuberculous Lesion.	
		Apex of One Lung.	Both Apices.
Cancer, 7 cases:			
—	37	—	Both.
—	41	Left	—
—	47	Right	—
—	48	—	Both.
—	50	—	Both.
—	53	Left	—
—	67	Right	—
Aneurysm of aorta, 2 cases:			
—	47	—	Both.
—	49	Left	—
Cerebral hæmorrhage, 2 cases:			
—	52	Right	—
—	63	—	Both.
Thrombosis of middle cerebral artery, 1 case:	43	—	Both.
Morbus cordis, 2 cases:			
—	46	Right	—
—	47	—	Both.
Pneumonia, 6 cases:			
Right lung, left lower lobe	60	Right	—
Right lower lobe	64	—	Right apex, three small cavities; left apex, one.
Right apical	37	—	Both. Healed tuberculous meningitis.
Right apical	22	Left	—
Right apical	29	Left	—
Right apical and patch in left lung	25	Left apex. Caseous bronchial gland	—
Edema of lung, 1 case:	29	—	Both.
Acute arthritis of knee, 1 case:	62	Left	—
Addison's disease, 1 case:			
Atrophic suprarenals	34	—	Both.
Cirrhosis of liver, 1 case:	57	Left	—
Spinal caries, 1 case:	31	Right	—
Uterine fibroid, 1 case:	46	Right	—
Malignant renal tumour, 1 case:	55	Right	—
Mania, 1 case:	54	—	Old at left apex. More recent at right.
Pyosalpinx, 1 case:	41	Right (small cavity)	—
Duodenal ulcer, 1 case:	—	Right	—
Enlarged prostate, 1 case:	73	Right	—
Pyonephrosis			

Fibroid Pigmented Tubercle.

Cause of Death.	Age of Patient.	Position of Tuberculous Lesion.	
		Apex of One Lung.	Both Apices.
Cancer, 5 cases:			
Sarcoma	44	—	Both.
—	55	—	Both; also right basal pneumonia.
—	58	—	Both; also in intestines.
—	58	—	Both.
—	67	—	Both.
Bronchitis and emphysema, 2 cases:			
—	47	—	Both. Right small cavity.
—	50	Right	—
Right emphysema, 1 case:	71	Left	—
Cerebral hæmorrhage, 1 case:	60	—	Both (three masses).
Granular contracted kidneys, 1 case:	42	—	Posterior half of upper lobes.
Multiple injuries, 1 case:	50	—	Both.

REMARKS.—Retrograde tubercle must be viewed as a tuberculous infection which has at one time invaded the body, and for some reason undetermined has remained local, becoming encapsuled with fibrous tissue after the nodule has undergone caseous and calcareous degeneration, or becoming transformed into fibroid tissue before caseation occurs.

Although in the cases mentioned there was no progressive tubercle present, yet retrograde tubercle may be present in one part of the body, and the patient die of active tubercle of another part.

To illustrate these cases of healed tuberculous lesions with acute tubercle elsewhere, I may quote four instructive examples:

1. The case of a male, aged 58, with calcareo-caseous nodules at the apices of both lungs, dying from a prostatic abscess (? tuberculous), and with recent tuberculosis of the left epididymis. There was thus a healed lesion in the lungs and a recent one in the testicle.

2. The case of a male, aged 54, who died of acute hydrocephalus associated with three tuberculous tumours of the brain. There were calcareous nodules at the apices of both lungs.

3. Two cases in children, in which death occurred from tuberculous meningitis. In one case the healed tuberculous lesion was evidenced in three large pigmented and completely healed tuberculous ulcers of the colon. In the other it was seen as a large calcareo-caseous mass in the mesentery (old tuberculous mesenteric glands), without any ulceration of the gut.

The clinical importance of such cases as these is apparent, for in the first place they show that a fatal outbreak of acute tubercle may occur in a patient who has recovered from a previous tuberculous lesion, and they show in the cases of tuberculous meningitis that the tubercle bacillus may in cases of meningitis enter the body through the intestine. The mode of entrance of the bacillus in the majority of cases of tuberculous meningitis is veiled in obscurity.

One of the most interesting lesions associated with healed tubercle of the lungs is acute croupous pneumonia. In cases of advanced chronic tuberculosis of the lungs pneumonia is not an uncommon occurrence, and is sometimes the immediate cause of death; it is, however, usually a broncho-pneumonia.

The presence of a healed tuberculous lesion in the lung might be supposed to predispose to the pneumonia by the local injury inflicted on the lung tissue through the mere presence of the healed lesion. There is no evidence that a healed lesion can have any other effect on the lung. In only two of the cases did the pneumonic consolidation occur near the tuberculous lesion. (Cases I and III). Case I began, also, as a right

basal pneumonia. No distinction is here made between the different kinds of pneumonia; some of the cases occurred in the early part of the year 1891, coincident with the epidemic of influenza; others occurred during last autumn and winter, and were isolated cases of the pneumonia which is usually ascribed to the effect of exposure to cold and wet.

SECTION OF PATHOLOGY.

W. H. DICKINSON, M.D., F.R.C.P., President.

DISCUSSION ON THE ARREST OF TUBERCULOSIS.

DRS. J. K. FOWLER and SIDNEY MARTIN read the papers published at page 938 and page 943 respectively.—Dr. SAMUEL WILKS inquired how far in cured phthisis, fibroid changes, and caseous deposit it had been proved that they were due to tubercle. Had it been demonstrated that the so-called fibroid phthisis in old people was clearly tuberculous, and due to bacilli? He believed with Dr. Fowler that cavities would close, and also that there was some relation between cancer and tubercle.—Dr. J. S. BRISTOWE expressed his general concurrence with the views put forward by Dr. Fowler in his very excellent paper. He believed that the arrest of tubercles both in the lungs and elsewhere was by no means uncommon; and that it was necessary to draw a distinction between tuberculosis as it presented itself to the clinical physician, and tuberculosis as it actually occurred; for many slight cases of the disease occurred and became arrested without coming under the notice of the physician, or if coming under his notice, were misunderstood by him. He believed, also, that the encapsuled cretaceous masses were often a source of danger at subsequent periods of life. He quoted one case in which it seemed quite clear that such a cured mass in an adult was the source of recent miliary tubercles in the lung, and of fatal tuberculous meningitis. He quoted another case in which, associated with a recent tuberculous mass in the brain, there was an old encapsuled caseous mass also in the brain, concerning which there was no clinical history whatever.—Dr. W. RUSSELL (Edinburgh) complimented Dr. Fowler and Dr. Sidney Martin on their papers. He was specially pleased with the manner in which Dr. Fowler had classified pulmonary changes, and believed it would help to clear up the confusion which still existed not only in the mind of the profession, but even in the teaching on this subject, from the variety of opinion expressed by different teachers. He had clearly brought out that so-called fibroid phthisis might be due to other than the tuberculous poison, and it was very desirable that the term fibroid phthisis should be given up, were it always easy to decide clinically what form of fibroid lesion was present. He was also much interested in Dr. Martin's observations as to the presence and absence of bacilli in different cases, and he would ask Dr. Fowler whether some at least of the scars found in the lung might not be due to causes other than tubercle. Dr. Fowler's general conclusions entirely agreed with his own observations.—Dr. BAGSHAW (St. Leonards-on-Sea) said that he had seen numerous cases of healed cavities in the *post-mortem* room. This was evidenced by cicatrices and cretaceous nodules. He agreed with Dr. Bristowe that many apparently healthy men were going about who were the subjects of old tubercle.—Dr. WILBERFORCE SMITH felt almost ashamed to recall a case of his own showing how ulcerative disease of the lung might be overlooked. He had attended many years ago, before the discovery of the tubercle bacillus, a middle-aged woman, on account of melancholic symptoms together with suppurative disease of the ribs. Nothing during the illness suggested respiratory disease, and only at a necropsy did he discover extensive ulcerative disease of the lungs.—Dr. ALBERT WILSON said that in a case of arrested phthisis he had made sections of healed cavities, and found that they were lined by a layer of flat epithelium, with dense fibrous tissue underneath. To the naked eye the cavities were smooth, pink, and contained mucus. There had been no bacilli in the sputum for the last year of life, but bacilli were found in sections of the lung.—The PRESIDENT (Dr. Dickinson) was glad to agree with Dr. Fowler in the abolition of the terms phthisis and consumption. Phthisis simply meant waste, strictly wasting of the lung, not of the individual; the term consumption, strictly, and according to the usage of the old writers, meant consumption

of the lung not of the body. These terms therefore implied excavation of whatever origin, and nothing else. If no excavation existed, both these terms were inapplicable. He could support what had been said as to the frequency of recovery from tuberculous disease, both on clinical grounds and also on the evidence of the *post-mortem* room. He could adduce the case of a distinguished physician. An infant, the son of a doctor, had in infancy what was called water on the brain. As a medical student he thought he had tuberculous disease of one apex. He died after the age of 50. Old adhesions were found at the base of the brain, and much cretaceous matter and fibroid thickening at one apex.—Dr. FOWLER replied.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

ON SUBCUTANEOUS TENOTOMY OF THE SPHINCTER ANI IN THE TREATMENT OF FISTULA.

THE ordinary method of dealing with a fistula *in ano* by laying the track open is, though usually successful, a tedious and troublesome affair in regard to the after-management of the wound. The principles of the operation are first to quiet the restless contractions of the sphincter and, secondly, to refresh the granulating surface and allow the wound to heal from the bottom. Attempts to shorten the process by suturing the fistula have been frequently made with more or less success.

In thinking the matter over it occurred to me that, as far as obtaining rest goes, it would be a much less severe method to divide the sphincter subcutaneously at a distance from the fistula, while, if the fistulous track were scraped out, its freshened walls would be brought into contact and healing would occur. I have therefore tried this method in a few cases, and, as I have met with a measure of success, I am desirous that others should give my plan a trial also. The operation is a simple one. The left forefinger is passed into the rectum and the tip of the coccyx felt for. A sharp-pointed tenotome is then taken in the right hand and thrust through the skin about three-quarters of an inch to the left side of the middle line, just in front of the tip of the coccyx; the knife-point is pushed onwards until it is felt by the finger in the rectum beneath, but not through the mucous membrane. The knife is then tilted, and, cutting towards the skin, divides the sphincter subcutaneously close to its origin from the coccyx. The fistula is then scraped out thoroughly with a sharp spoon and some iodoform and boric acid applied with a firm pad and T-bandage.

The method is simple and less severe than the ordinary plan, and in uncomplicated cases, at any rate, is, I think, worth trying, since the subsequent dressing is simplified and confinement to bed shortened. The sphincter might of course be divided subcutaneously at some other point, if preferred.

Out of nine cases, five succeeded, three failed, and one was lost sight of after ten days, but was then apparently well.

G. A. WRIGHT, B.A. Oxon., F.R.C.S.,
Senior Assistant Surgeon Manchester Royal
Infirmary, etc.

PARTIAL JAUNDICE.

THE following case which came under observation lately will, perhaps, be of interest to some. The patient, a strong, well-nourished boy, became affected with jaundice five weeks after birth. For some days his mother observed his skin gradually assume a deep yellow colour; but beyond this there were no constitutional symptoms to indicate that the child was suffering from anything unusual. He was lively, took the breast eagerly, and slept well; his bowels moved regularly; bile was present in both stools and urine.

On examination, it was found that the upper half of the body only was involved, the discoloration descending to the umbilicus, where it ended abruptly, being sharply defined by a well-marked line encircling the body. Below this line the skin throughout remained unaffected, its pink healthy hue standing out in marked contradistinction to the intense