for we can appeal to the interpretation of the passage by the various translators of John de Vigo's works, and who were necessarily familiar with his style. His works were translated into English in 1550, by Bartholome Traheron, and published as "The most excellent Works of Chirurgie made and set forth by Maister John Vigo, Head Chirurgion of our tyme in Italie"; and this translation was published in 1571 and 1586. In the "Considerations in Emorasgia", the translator renders into old English the Latin passage we have been discussing, in the following words. "Sometimes also it is necessarie to tye the veine, and chiefly the arterie. For when it is tied, the place is soone incarned. The manner to tye it is as followeth. You must put a needle under the veine with a cered thred, and draw it [*filum*] together softly; or else ye shal bynd the veine above, and tye the mouth with a threde." (Folio 135.)

In his well-known *Apologie*, Ambrose Paré cites various surgeons and authors who had described the tying of arteries with ligatures before his use of them in amputations. Amongst others, he states, in alluding to the preceding passage of John de Vigo, that John de Vigo, in treating of a hæmorrhage in bleeding wounds, "commands to tye the veine and the artery." (See his *Workes*, p. 1134.)

As I have already stated, Professor Smith has drawn his quotation of the words of John de Vigo, not from the original works of that author, but from a citation of them given by Portal in his *Histoire de l'Anatomie et de la Chirurgie*. Portal translates into French the passage adduced by Professor Smith. He observes that it does not appear that John de Vigo had himself tried the ligature, but "quelques-uns dit-il sont dans l'usage de lier les veines et les artères ouvertes avec une aiguille garnie d'un fil avec lequel ils resserrent les parois du vaisseau." (Tom. i, p. 624.) Of course, it is almost unnecessary to observe that the "lequel" which compressed the walls of the vessel was, in Portal's view, the thread or "fil", and not the "aiguille" or needle, or he would have written it "laquelle". Further, if Professor Smith had read even Portal's observations correctly, he would have found him agreeing in the same page that this description of the ligature of bleeding arteries with threads was as precise as anything that Ambrose Paré himself had written; and that hence the *gloire* of the invention of the ligature of arteries should be attributed to John de Vigo,—forgetting, however, as Portal here did, that Paré had himself cited Celsus, Avicenna, Guy de Chauliac, Hollier, Tagaultius, etc., as well as John de Vigo, as antecedent writers who had all mentioned the ligature of bleeding arteries and veins.

Full translations of John de Vigo's Latin work have been published in the French, German, and Italian languages. Of these no copies exist in our libraries here; but I have no doubt that they will be found to confirm the reading of the passages concerning hæmorrhage as given by Paré, Portal, and Traheron.

While thus showing that my friend Professor Smith has mistaken and mistranslated the language of John de Vigo, when he thought that that ancient author has described one form of acupressure, let me here add, that it is quite possible, and indeed probable, that the use of the needle as a hæmostatic agent in surgical operations and wounds may yet be found in the past literature of surgery; but I repeat, I have hitherto searched in vain for such notice. Others may be more fortunate in the pursuit; and for one I shall not regret any success they may have in such inquiry.

I had not the pleasure of being present at the delivery of Professor Smith's address; or otherwise I might, if allowed, have taken the liberty of pointing out at the time the error into which he had fallen.

POISONING BY LAUDANUM.—At Leicester, on Friday week, an inquest was held on the body of a child, named James Henry Herbert. On Wednesday deceased was unwell, when his grandmother went to the shop of a man, named Peberdy, who sells grocery and a few drugs, for a pennyworth of tincture of rhubarb. She was given the mixture, and told to give the child from seven to eight drops, which she did on her arrival home. The child then fell asleep, and, as it continued to be very drowsy, the parents began to make inquiries whether tincture of rhubarb would have such an effect. The mixture was tasted, and found to contain the bitter flavour of opium. The grandmother then went to Peberdy and asked what he had given her, when he said she asked for tincture of rhubarb and he gave her it, and showed her the bottle from which he served her; but she denied that it was the same bottle, upon which he said he must have measured it in the laudanum glass. He at length discovered that he had served her with laudanum; but, instead of promptly calling in medical aid, he resorted to his own skill in medicine, and suggested the propriety of giving the child a powder and a little antimony wine, which he sent it. In the meantime a doctor was called in; but his efforts were of no avail, and the child died in the course of the evening. The jury returned a verdict of "Manslaughter" against Peberdy, and he was committed on the coroner's warrant to take his trial.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE CHEST.*

By EDWARD CHARLTON, M.D.,

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It has occurred to us that a brief survey of the changes that we ourselves have witnessed, during the thirty years that we have been members of the profession, may not be unacceptable; especially if we confine our observations to one or two particular subjects. During the long period above referred to, all branches of medical science have been materially advanced, but we select for our theme one particular department, one for which we own to having a partiality, the subject of diseases of the chest. At the time when we commenced the study of medicine, it was thought that Laennec and his fellow labourers had exhausted the subject to which we allude. The stethoscope, it was said, had cleared up all that was obscure, our diagnosis with that instrument had been rendered almost infallible, and no longer could it be said as of old by Baglivi, "O! quantum difficile est curare morbos pulmonum. O! quanto difficilior eas cognoscere." Has Laennec's great discovery then effected all? Has it fulfilled all the anticipations entertained by its ardent advocates? We answer decidedly, it has not, though its indications are still to all of us of inestimable value. We can indeed distinguish by its aid and by percussion, chronic bronchitis from tubercular disease; we can follow the gradual development of the latter to its final result; we can compare the external improvement produced by remedies with that which really takes place in the lungs; we can detect the earliest signs of pericardial or endocardial affection during the progress of acute rheumatism; we can follow the accumulation or diminution of fluids in the thoracic cavity; we can diagnose an early stage of aneurism and an early stage of phthisis: but the stethoscope and percussion have not rendered us perfect either in the pathology or in the treatment of chest-disease. We may even accuse this wonderful discovery of having in some respects retarded the march of science; for the enthusiasts in its use turned their attention too exclusively to the physical signs of disease, and devoted less time than they should have done to the origin and treatment of maladies. But gradually the enthusiasm for the stethoscope died away, and auscultation assumed its true position as an adjunct to diagnosis, but not as the sole reliable means of discovering chest-disease.

Meanwhile, pathology as well as therapeutics had been undergoing a remarkable change. The old *post mortem* inspections by the naked eye, first begun by Morgagni and so fully carried out by the French school of Broussais and Andral, and by the great pathological school of Vienna, had now to give way to an improved method of examination, to the searching investigations into diseased tissue by the microscope. Histology now became the favourite pursuit; its advocates looked with scorn on the old naked eye pathologists; healthy and morbid tissues were diligently studied; wonderful theories were elaborated, reigned for a time, and disappeared, till some were heard to say that the minute analysis of tissues bid fair to increase the darkness that prevailed. But in the meantime some master minds were at work, unswayed by preconceived theories and bent only on investigating the truth. The doctrine of cell-development, so well elaborated by the great German pathologist of Berlin, Professor Virchow, was gradually brought to bear upon the mode of production of disease, and particularly was it found useful in elucidating that difficult problem in pathology, the formation of tubercle. The old French school of the commencement of the present century, the school of the solidists, always in opposition to the old humoral pathology, had ever regarded tubercle as a foreign body developed within the system by some mysterious agency. By many, tubercle was regarded as a mere local disease, and even at the present day we hear constantly the expression "abscess of the lung," as though the malady had not a constitutional origin. Virchow, however, has proved to us that true tubercle is a disease *sui generis*, produced within the lungs by constitutional causes, and formed from elements already existing there.

"It consists," says the Berlin pathologist, "of miliary masses of more or less transparent-cells containing one or many nuclei, so far resembling pus-cells as being developed like them from epithelium or connective tissue cells, but differing from pus-cells in that they do not as a rule break up into a pathological cream, capable of being absorbed; but after being massed together in the form of miliary semitransparent tubercles, they break up by a retrograde metamorphosis, beginning in the centre, into a fatty granular detritus, becoming more fully softened by inflammatory exudation from the surrounding tissues."

Much as the medical world is indebted to Virchow for having pointed out the nature of true tubercle, it is perhaps still more important

* President's Address, delivered at the Annual Meeting of the Northern Branch, June 17.

that he has shown the existence of a spurious tubercle, a true pus, which from some deficient vitality never breaks down into the ordinary cream, but may harden and contract into a low organic form, and remain as a permanent cheesy or cretaceous deposit. These deposits act as foreign bodies, they excite inflammatory action in surrounding parts, just like true tubercle; as grey, or particularly as cretaceous particles, they may be expectorated, but they are not the results of true phthisis. They may occur from local irritation, they may be caused by irritating particles inhaled into the lungs, as the siliceous dust from dressing freestone; but the tubercular diathesis, the true constitutional disease, is not then present. It is in such cases that there are probably formed the cretaceous masses so frequent at the summit of the lungs, with the condensed pulmonary tissue, and the puckered up pleuritic covering, which has of late years been so triumphantly pointed to as evidence of the complete cure of consumption. There are few amongst us will not have met with these deceptive cases, especially among stone-masons, and dry grinders of metal. We never received a stonemason into hospital with the general symptoms of phthisis, but we felt a hesitation and a doubt as to the true character of his case. When the expectoration contained cretaceous particles we always felt more hope than in ordinary phthisis, for we had seen so many of these cases do well. Some indeed ended fatally under our care; and in *post mortem* examinations we found that death had ensued from pneumonia, and not from true tubercular disease. This was pointed out to the profession twenty years ago, by Dr. Calvert Holland, but it was reserved for Virchow to explain the presence of these cretaceous masses, and to distinguish between true and false tubercle. Virchow has shown, too, that ordinary sarcoma, and even cancer, which we might regard as the very opposite of tubercle, may so degenerate as to be undistinguishable by mere inspection from the latter. The grey tubercle is then the true tubercle of phthisis; the yellow opaque tubercles are in many cases the result of ordinary inflammation and exudation. We will not, however, deny that inflammation may exist in, and may even be concerned in the production of true tubercle in a secondary sense; but under the influence of the tubercular diathesis this inflammation does not produce its ordinary results, a retrograde metamorphosis ensues, and the true tubercle may either dry up and wither into cartilaginous corpuscles incapable of further change, producing thereby a temporary cure, or it may go through the usual process of softening. This softening is of course rarely accomplished without the destruction of a considerable portion of the neighbouring pulmonary parenchyma, and thus, by the simultaneous or successive softening of masses of tubercle, certain portions of pulmonary tissue are isolated, loosened, and at length expectorated *en masse* from the lungs. Such portions are generally very small, and enveloped as they are in mucus they may escape detection. Recently it has been proposed by Dr. Fenwick, formerly of North Shields, to collect these fragments by boiling the mucus and pus of the expectoration in liquor potassæ, which liquefies the mucus and allows the heavier particles of lung-tissue to fall to the bottom of a conical glass, where they can easily be detected by the microscope. Now such evidence as this is really most valuable, for in the spurious form of phthisis no such destruction of lung-tissue takes place. Virchow has then taught us the existence of a true and of a false phthisis, he has proved that tubercle originates from abortive cell development, but he has not yet informed us whence originates the failure in the development of the normal cell. Is it in the brain from deficient nervous influence? is it in the stomach from imperfect digestion and assimilation? is the liver at fault? or, lastly, are we to seek the cause in deficient action or secretion of the pancreas? The latter is Dr. Dobell's theory, but we dare not yet pronounce it to be the true one. Here is a wide field laid open for investigation, a field in which there are already many ardent workers, but the further we advance in this direction the more arduous do our researches become.

It cannot perhaps be said that since the era of Laennec we have made great advances in the diagnosis of phthisis by auscultation and percussion. We have, however, greatly simplified the complicated nomenclature of sounds heard in the chest, we recognise the existence of moist and of dry sounds, but we no longer perplex the student with the minute difference between supercrepitant and subcrepitant *râles*, or between bronchial air-sounds or voice-sounds and pectoriloquy. We acknowledge in them a simultaneous cause differing only in degree. Another means of diagnosis has recently been added to our list, viz., the rise in the temperature of the body in phthisical disease as ascertained by the delicate clinical thermometers now in use. In fever, thermometric observations on the skin have been already found to be of great value, especially as regards the prognosis; but will the thermometer enable us to distinguish between true and spurious phthisis? We think not; for in both there is inflammatory action, which may and will elevate the temperature of the skin. After all, our predecessors, who knew nothing of auscultation or percussion, who were obliged to form their diagnosis upon the general

history of the case, and the outward signs they could observe, were not wasting their time, and at the present day we reap the benefit of their observations; we readily acknowledge that without an accurate knowledge of the early details, without a carefully considered history of the symptoms, we may, in spite of our boasted skill with the stethoscope, fall into grievous mistakes.

While, then, we concede that spurious phthisis may be, and often is, perfectly cured, can the same be said of true tubercular disease? If Virchow's doctrine be correct, that the true grey semitransparent tubercle may do and occasionally does, at an early period of its existence, dry up, obsolesce, and cease to be dangerous, can we cure the diathesis, the faulty assimilation, the defective nervous influence, the failure or alteration of the pancreatic juice, which may be the cause of the production of tubercle? Can we decide on the existence of the tubercular diathesis before the perilous matter is formed in the lungs? With certainty we cannot, but we do, with most of the best pathologists of the present day, acknowledge the identity of the scrofulous and tubercular diathesis, and the former exhibits its presence by outward signs often appreciable at a very early period of life. The old physicians were right; the existence of scrofula in a family or in an individual should make us prepare against the invasion of tubercle, and adopt, as far as lies in our power, those hygienic measures which may ward off the disease. Have we, then, with our increased acquaintance with the nature of tubercle, advanced *pari passu* in the treatment of this dreaded disease? Is the mortality from phthisis lessened, or does it not still form one of the most important items in the bills of mortality? Do not the hurry and haste in which we now exist, the wild passion for money-making, the wilder and still more frivolous pursuits of fashion or pleasure, compensate for our better knowledge of tubercular disease? To a certain extent this may be the case; but from the time when Sir James Clark, thirty years ago, published his admirable essay on climate in the treatment of phthisis, a better prospect has been opened to us, and some here may live to see the day when the hygienic and the prophylactic treatment of phthisis will not be left merely to the isolated opinion of the medical attendant, but, like the great popular questions of vaccination, of cholera, and other epidemic diseases, will become a subject of careful legislative enactment. Still it cannot be said that the medical profession has been backward in the attempt to stay by treatment the ravages of phthisis. Every new remedy (and their name is legion), has been carefully tested; and meanwhile great and marvellous has been the change that within the last thirty years has occurred under our own eyes in the therapeutics of this malady. The old shutting up in a room and lowering treatment are exploded; tonics and open air exercise, whenever the latter can be borne, have taken the place of these. Iron and quinine have replaced the lancet and sedatives; it has been found that the cough is moderated while the appetite is improved by these tonics; and assimilation is far more vigorously carried on, than when the digestive powers were weakened by the constant repetition of opiates. Great attention is now paid to the functions of the skin; we have become altogether a bathing and washing people to an extent that our forefathers never dreamed of. That cod-liver oil has had its day and will soon be numbered among the things of the past, we are by no means willing to allow. We regard this remedy as really valuable, as an easily assimilated fat, helping to support the system while we strive by other tonics to alter the tubercular diathesis. It may be that the appearances of returning health that it produces are often fallacious, but we have ourselves, we are sure, seen many cases where its use has long protracted the disease. Of late years the statistics of phthisis have shown us that the malady is of much longer average duration than was laid down by Louis thirty years ago. We have indeed improved since then in the power of detecting the early stage of the malady; but, even allowing for this, we are disposed to believe that the greater average duration of phthisis at the present day is due partly to the tonic and more rational invigorating treatment employed, and partly to the free use of cod-liver oil. But there is another circumstance which above all has contributed powerfully to prolong the phthisical patient's existence, and in some few cases perhaps to effect a cure. The facilities afforded by railway travelling are now so great that in a few hours the ailing invalid can leave our Arctic winter, and our still more bitter spring, and be enjoying the soft southern breezes and open air exercise on the northern or southern shores of the Mediterranean. The exodus of the healthy and their families from England during the winter and the spring months is as yet only beginning. In a few years, if peace continue to reign on the continent of Europe, it will be infinitely more extensive; indeed we anticipate that no one who can afford a winter's residence abroad will care to stay at home. While the phthisical patient of limited means must, during our winter and spring, remain the greater part of the time within doors, the sojourner at Mentone, or at Hyères, may be out for hours each day in the open air. During the

last winter, a season of such severity as will be remembered by us all, the thermometer at Hyères only sank one single night to the freezing point. To how many scrofulous and hence possibly phthisical children may not this southern annual journey have been the means of stopping the first advances of tubercular disease, and how many cases of the already established malady may not valuable lives have been prolonged for months and perhaps for years?

We have been carried away by our subject, and we fear we have trespassed too long on your time and attention, or we would have referred to the advances made within the period alluded to in the diagnosis and treatment of other chest-diseases, to the sounder views regarding asthma and its causes, to the improvements in the treatment of pleuritic exudations, and, last and not least, to the fresh data we have acquired for the management of the disease of the heart and large vessels. Here there has been indeed a change. The alterations produced by mechanical obstruction to the circulation are now recognised, not as disease, but as the consequences of disease; and the hypertrophy of a heart, when the valves are diseased, or when obstruction exists in the course of the aorta is no more the disease itself than is the accompanying dropsy. Within a very short space of time a valuable addition has been made to our means of diagnosis of heart disease by the invention of the sphygmograph and cardiograph, by which instruments the rhythm of the pulse and heart can be accurately recorded on paper. Already have these ingenious instruments done good service in the diagnosis of the obscure forms of cardiac and aortic disease; but the whole subject must be revised by their aid, numerous and accurate observations must be made and recorded, before the profession can appreciate their importance relative both to diagnosis and to treatment of these recent inventions.

All that we have laid before you this day, gentlemen, is to prove that medicine as a science is not standing still; that there is before us yet an ample field for investigation; and that so long as we continue to practice our noble profession we must ever be content to be students, and not rest on our oars in the belief that we have mastered all the intricacies of medical science. We are keeping pace, we believe, with this rapidly progressive age; we are working earnestly and faithfully in the true paths of close observation and conscientious induction; and though in our difficult profession there is much that is obscure, yet, when we ourselves remember how much that thirty years ago was dark has now become light we are willing to hope that the maturer years of our professional life, will witness changes as great and as important as those that have marked the earlier part of our career.

ON THE INFLUENCE OF THE ALPINE CLIMATES ON PULMONARY CONSUMPTION.*

By HERMANN WEBER, M.D., F.R.C.P.,
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CASE III. H. F., aged 31, a German, came to London in 1852, had a chronic cough in 1853, and hæmoptysis in the summers of 1854 and 1856. He spent then seven months in Cairo, where he became better, without, however, entirely losing his cough. He had again hæmoptysis in March 1857 in Cairo, and much cough during the summer of 1857 in London. There was improvement during the following winter at Cannes and Nice; but he was much worse after his return to London. He was first seen by myself in July 1858. He had lost 29 lb. in three years. There was dulness on the left side from the apex to the fifth rib, with bronchophony and crackling rhonchus in the supra- and infra-clavicular spaces; and an analogous condition on the back of the same side. Nothing abnormal was discovered on the right side. He had shortness of breath. Pulse 85; thoracic expansion, 35 to 36½ inches. He went to Valparaiso, and had there again hæmoptysis. He spent then eight months on the Peruvian Andes (at an elevation of between 9,000 and 10,000 feet), and gained flesh and lost cough. He went afterwards to New Orleans, where he again began to cough and lose flesh. He was sent thence to the table-land of Mexico, where, to his own feeling, he entirely recovered his health. When seen by me in the autumn of 1860, the dulness on the left side reached only from the apex to the third rib. This portion was much flattened; and there was absence of vesicular breathing, but no bronchophony, and no rhonchus. He had gained 24 lb. in twenty-seven months. Pulse 66; expansion of chest, 36 to 38 inches. He remained well until the spring of 1866, when he again began to cough, was often feverish, lost much flesh, and had some hæmoptysis. When seen in the beginning of October 1866, the old affection of the left side had remained almost unchanged; but on the right there was dulness from the apex to the fourth rib, with broncho-

phony and occasional crackling rhonchus in the subclavicular space. He had lost 20 lb. in twelve months. Pulse 95; chest-expansion, 35½ to 37 inches. He went to the Valley of Jauja, in the Peruvian Andes, and lost his cough almost entirely; and, when seen in June 1867, he had gained 15 lb. The dulness descended on the right side only to the second rib. There was no rhonchus, but scarcely any respiratory murmur over the dull space. Pulse 74; expansion of chest, 36 to 38 inches.

The rapid improvement repeatedly obtained in this case by the removal to elevated regions is very striking; and it is also important to remark, that the improvement effected by the stay at Cairo and in the South of France was neither so great nor so lasting as that from the mountain sojourn.

CASE IV. B. D., from the lower parts of Switzerland, came to London in 1864, aged 22. He was much depressed by the fogs and dulness of the atmosphere. He had repeated attacks of bronchitis during the winter; and in the spring of 1865 he coughed, and became emaciated during the summer. There was slight dulness in the left clavicular and infraclavicular region, with diminished respiratory sounds. He spent the winter at Bordeaux and at Cannes; he never lost his cough entirely, and continued to lose weight. He returned to London in May 1866. Dulness extended on the left side from the apex to the third rib. He had, early in June, an attack of sore-throat, which was with him the usual forerunner of bronchitis; he became feverish, and by the end of the month a pleuropneumonic affection was ascertained in the lower part of the right side, which gradually crept upwards to the upper third of the scapula. By the end of July, the pyrexia had almost ceased, under a treatment of milk, quinine, and cod-liver oil; but the dulness over the back of the right side had not yielded. There was crepitant rhonchus over the upper part of the dull space, and absence of respiratory murmur over the lower; pulse 92 to 100; expansion of chest, 31½ to 33 inches. The dyspnoea was great at every exertion; frequent cough, with about two and a half ounces of mucopurulent expectoration. He had lost 27 lbs. in as many months' stay in London. In this state he went, towards the end of July, to the Righi (Kaltbad and Scheideck), lived there almost entirely in the open air, and drank about two quarts of milk every day. In less than six weeks, he was able to take considerable walks; and in October he had lost his cough almost entirely. He spent the winter in different parts of Switzerland, usually above 2,500 feet above the sea-level. He had not a single attack of sore-throat and bronchitis; and when he returned to London, towards the end of May, the right side was quite normal; the left side was in front, in the supra- and infra-clavicular spaces, slightly sunk in; there was moderate dulness and scarcely perceptible breathing from the apex to the second rib. He had gained 19 lb. in weight during ten months, and felt in every respect perfectly well.

CASE V. B. K., aged 21, had pneumonia of the left side about ten years ago. He came to London in spring 1865, and began to cough and lose flesh in the winter 1865-66. Hoarseness supervened in spring 1866, and the cough gradually increased. When seen in July, he was thin and pale, with circumscribed red cheeks; he had chronic swelling of the tarsal portion of the eyelids; pulse 105 to 110; respirations 26 to 30; temperature every evening slightly increased. There was fresh pneumonic affection of the lower part of the left side; dulness and absence of respiratory murmur on the right from the apex to the third rib. The evening pyrexia gradually subsided under perfect rest and milk diet; but the pneumonic affection slowly crept upwards, the dulness extending on the posterior part of the left side from the bottom to the upper third. When he left England towards the end of August, there was crepitation with slight bronchophony over the greater part of the left scapula; and the older affection of the right side had remained unchanged. He was advised to go to the Davos, but went first to Germany; and only after having been attacked by fresh colds he repaired in November to Davos am Platz, where he stayed until the middle of April, and, in spite of a rather unfavourable winter, entirely lost his cough, and gained 7 lbs. in weight; and the spirometer showed an increase of pulmonary capacity amounting to more than 900 cubic centimetres. According to Dr. Unger's report at the time of A. B.'s departure from the Davos, nothing abnormal could be discovered on the left side, except, perhaps, slight dulness in the lowest part; and the dull space on the upper portion of the right side was likewise diminished. In addition, the affection of the eyelids, which had existed for several years, had entirely disappeared without remedial interference.

With regard to the experience collected at Davos am Platz, accurate records date only from February 1865, when Dr. Unger, himself formerly consumptive, and then not yet quite recovered, came to the village, accompanied by a young gentleman with extensive lung-disease. Between February 1865 and March 1867, 35 patients with consumptive affections had been under the observation and treatment of

* Concluded from page 59 of JOURNAL of July 27th.