It is better, under such circumstances, to raise the eyes and let them rest upon some object in a distant part of the room, or, if you can leave the operation, step to the window and look out for a minute or two; you will then return with the eyes refreshed, and can see as well as ever." And more recently, one of the most eminent of American oculists has written, that "one great cause of injury to vision is the *continuous* application of the eyes to book or work *after* they have become fatigued." This mention is made because the ideas therein contained represent a principle which holds good in the use of any faculty.

There is a very common belief that mere "exercise strengthens," without the recognition of any other element as necessary to that end. And so some seem to think that the more and longer they can possibly exert their faculties, the stronger they must be. As a result, we see fatigue carried to exhaustion, which is another name for weakening or debility.

Instances are common in various occupations and ages of individuals. The youth is too often crowded with study continuously through the day and perhaps a part of the night, till the mental process becomes actually debilitated, sometimes permanently. The business or professional man will not, or cannot pause for rest till he finds that he positively must, and sometimes not then, but drops at his post. The ambitious rower or pedestrian continues his exercise till his strength is absolutely gone, and sometimes his constitution shattered.

In our special department, the practitioner will labor too many hours continuously during the day, and perhaps the evening, till his nerves shake like so much loose cordage in the winds. And if he does not, as to my knowledge has occurred in one instance at least, fall dead by the chair, he finds a very long vacation needed to bring back a semblance of his former tone.

We also cannot ignore the fact that patients are too often allowed to suffer a continuance of endurance which has required days to recover from, and has sometimes been followed by more serious results. I emphasize the term *continuous* effort, because from that comes the harm when carried beyond the point of simple fatigue, on to the condition of exhaustion; that point, of course, varying in different persons, and in the same person at different times.

This rule, then, should be learned, and the earlier the better, namely: to rest, if possible, just when we are tired, and to let our patients do the same.

SOME ERRORS IN PHYSICAL DIAGNOSIS.¹

BY WM. PORTER, M.D.,

OF ST. LOUIS.

In this Association clinical facts are most in demand, and you are physicians in active practice with probably little time or inclination for the discussion of theories. I have, therefore, thought best that I should narrate briefly the history of a few cases in which errors have been made by myself and others

in the early diagnosis. These have been selected not because of their rarity or because gross carelessness was exhibited in the examination, but rather because in each unusual conditions existed. In each was a hidden snag in the channel of investigation. May the record of them, and whatever of discussion may follow, make plainer sailing for all of us.

The first case is one in which the diagnosis at the initial examination was hæmoptysis. Mr. M., æt. 27, of slight figure but in fairly good general health, consulted me two years ago, after having had slight hæmorrhage, in which the blood came freely, though not in large quantities, mixed with mucus. At the time, he had a mild attack of acute bronchitis, and was somewhat hoarse. He referred to a well-defined pain in the lower right clavicular region, and was impressed with the idea that there was the origin of the hæmorrhage. The bleeding had quite ceased before I saw him. Upon physical examination I found slight pharyngitis, some redness of the vocal cords, and laryngeal hyperæmia; and in the right infra-clavicular region, at the place where he had the pain, there was some dulness and small mucous râles. There was mucous non-purulent expectoration, slight elevation of temperature, and pulse of 98. I felt, with this evidence, justified in giving a somewhat guarded opinion, though not based on his own conclusions. A few weeks after I saw him during a hæmorrhage, and he again referred to the pain in the chest. This time I found little or no dulness, and no râles or other symptoms of bronchial or pulmonary lesion. Looking into his pharynx I saw blood slowly trickling down from behind the soft palate, and with the rhinoscopic mirror found the lesion to be a ruptured superficial vessel high up on the posterior pharyngeal wall. A net-work of these vessels, some of them much distended—a phlebeccstasis pharyngea—explained the origin of the recurring hæmorrhage. At the first examination the local symptoms as well as the somewhat abnormal pulse and temperature were due to the bronchitis, from which he was convalescing, combined, as it may have been, with some localized lobular inflammation.

Hæmorrhage from the larynx and pharynx may, under certain conditions, be thought to be hæmoptysis, especially if there be present some abnormal bronchial or pulmonary condition. Laryngeal hæmorrhages are now well recognized phenomena, though not very often seen even by the laryngologist. Sometimes the lesion is sub-mucous, as reported by Fraenkel² and Sommerbrodt,³ when rapid infiltration of the laryngeal tissues results, and consequent dyspnoea. This class is not so likely to be mistaken for pulmonary hæmorrhage as where the laryngeal lesion is capillary. Here there may be a more or less profuse bleeding without pronounced subjective laryngeal symptoms. Hartman³ reports such a case in which had there been no laryngoscopic examination, the hæmorrhage would undoubtedly have been thought to be of bronchial origin. Hæmorrhages from the pharynx may also, as in the example given.

¹Berlin. klin. Wochenschrift, 1874.

²Berlin. klin. Wochenschrift, 1878.

³American Laryngological Association, 1875.

¹Read before the Missouri Valley Medical Society, Sept. 9, 1885.

be relegated to pulmonary origin. There are few cases of bleeding from the air passages in which a pharyngeal and laryngeal examination should be omitted, if only to confirm a diagnosis by exclusion.

The next case is one in which, while there was no doubt of the location of the disease, the error was as to the nature of it. I quote from my case book of 1876: Mr. T., æt. 50, came under notice in September of that year, with the physical signs of phthisis sufficiently well marked to warrant a diagnosis. There was a dulness over a small area two and one-half inches below the left clavicle, prolonged expiration, cough, expectoration, and shortness of breath. The patient was losing flesh rapidly, and was very weak. At first I did not suspect what now seems to have been the true nature of the disease, and he was treated as an ordinary case of phthisis. He returned to his home in the country, but grew worse, until October, when I saw him again. He then complained of pain over the tibia, and had frequent headaches. Upon inquiry he gave a history of syphilis contracted twelve years before, but thought he had been entirely cured. Under specific treatment he was relieved of his pain, and his pulmonary symptoms became less urgent. Thinking from this that syphilis had something to do with the disease in the lung, I gave him large doses of iodide of potassium andunctions of mercurial ointment. His cough and expectoration soon almost disappeared, and after a careful examination the following year I failed to find any evidence of deposit in the lung. During the last three months he had no treatment but the specific medication mentioned. He had improved in weight, strength, and appetite, and considered himself almost well. Though it is well not to be too confident, yet there is strong circumstantial evidence to support the theory that this patient was suffering from tertiary syphilis; that there was a deposit or syphilitic nodule in the left lung, where at first it was thought there was tubercular infiltration; and that this, under the influence of anti-syphilitic remedies, was removed, at least so far as to give no evidence of its existence.

In every case the diagnosis must depend in a great measure upon the history of the disease. There can be but little difference between the physical signs of this, and that of ordinary tubercular disease. In both forms there is a deposit, there may be hæmorrhage, and cavities may result from the breaking down of the infiltrated masses. It may be safe to suspect syphilitic phthisis when the physical symptoms point to slowly progressing disease in the middle and lower parts of the lung, the apices being free, in cases where there is a decided history of syphilis. The suspicion may be confirmed, if, when specific treatment is adopted, improvement takes place. It is well to remember in investigating thoracic disease, that syphilis of the lung is now a recognized condition, and may closely simulate phthisis pulmonalis in the physical symptoms. While so able a writer as Hutchinson, in his essay on "Constitutional Syphilis," enumerates almost every organ of the body except the lungs as liable to invasion from tertiary disease, on the other hand pulmonary syphi-

lis is described by Fournier, Goodhart, Von Barenprung, and Rollet, in Europe, and reports were made in this country in 1877 by Tiffany¹ and by the writer.² More recently additional evidence has been secured.

During the past year a young lady was sent to me on account of great obstruction to deglutition. There seemed to be almost a complete stricture of the œsophagus. There was a history of dysphagia, and well defined pain beneath the sternum and above the cardiac orifice for eighteen months. For eight months the patient had subsisted on liquid food alone. An attempt to pass an œsophageal sound failed. There had been no attack previous. Organic stricture was thought probable, spasmodic stricture possible. The patient was of exceedingly nervous temperament, and much reduced in strength and weight. After some time devoted to general tonic treatment, the bougie No. 12, which at the first gave much pain, was again used. This time it passed through the supposed stricture easily. That afternoon the patient had less difficulty in deglutition, and has continued to improve. I have not used the bougie since the first successful attempt at passing it two months ago, and yet she is now eating without difficulty, still in some dread of choking. In this instance the diagnosis of spasmodic stricture is assured, rather than of organic disease. The main feature here is the quick relief afforded by a single passage of the instrument. How much local and how much mental effect was produced by the procedure I know not. I only know the very troublesome condition is removed, to the great relief both of the patient and myself.

A case parallel to this is recorded by Dr. Henna,³ where, in a most obstinate case, the sound was passed but once, and almost immediate relief resulted. For nearly five months, *i.e.*, to date of publication, there was not the slightest return of the difficulty.

In the following case—a unique one in some respects—there was an error in the diagnosis, and an even more surprising result from slight instrumental interference. I quote again from my case book: Isaac H., a carpenter, æt. 30, came to me with this history: His general health had always been good, and he had had no trouble with his voice until the winter of 1862. At that time he was in the army, and much exposed. One day, after it had been more than usually wet and cold, to use his own words, "he caught cold in the throat." Hoarseness followed, and in twenty-four hours his voice was quite gone. His throat felt sore and stiff at the time and he had some difficulty in swallowing; both these symptoms soon passed away. Since then, eleven and one-half years, he had never spoken aloud. Several physicians had examined him, and had decided that there was some important organic lesion—the exact diagnosis I know not—and that the aphonia was permanent. Patient was a strong, well-developed man, without any symptoms of nervousness or debility, such as are often found in cases of so called "hysterical aphonia." Upon a laryngoscopic examination, I found a slight

¹Am. Jour. Med. Sciences, July, 1877.

²Missouri State Med. Association, 1877.

³Hospital Gazette, 1879.

bilateral paralysis of the adductor muscles of the vocal cords, which was barely sufficient to produce aphonia, the cords moving when phonation was attempted almost to the median line, leaving only a narrow space between them. The mucous membrane was of natural color, and there was no thickening or signs of recent inflammation. The case seemed in every way a proper one for faradization. This was done by means of Stoehrer's induction apparatus and Mackenzie's electrode, and in this way an electric current was easily applied to the affected muscles. The first day the patient was able to make a distinct vocal sound, and after the second application the following day, phonation was completely restored. Since then, his voice has remained perfect. It is needless to say that the physician was as much surprised as the patient at the unlooked for result.

From the history of this case, I have no doubt that the aphonia was produced in the first instance by catarrhal congestion, which affected the nervous supply of the adductor muscles of the cords; and after the congestion had disappeared, the nerve force was not sufficiently evolved to produce complete approximation. It is interesting to note that although there had been no complete action of the parts for so long, there was no apparent atrophy of either the cords or muscles, and that such slight treatment was enough to relieve aphonia so persistent. Mackenzie, in commenting upon this case, says that probably for a long time the patient had the power of vocalization, but that for some reason that power was not evolved. I cannot think that so little treatment could so quickly affect an organic change of so long duration. This man is now living in Western Pennsylvania, and has had no trouble with his voice since its recovery, now more than ten years ago.

Let me give the outline of two cases in which the error in diagnosis was in the location of the cause of disease. The first is one of that now well recognized class—reflex asthma. Mrs. P., of Tennessee, æt. 51, of good family history, and in former good health, had severe and frequent paroxysms of asthma during two years. She was, when I saw her, much reduced, scarcely able to walk, and exhibited all the physical signs usual in such cases. At first all efforts were directed to reach the disease *in situ*, without effect. Noticing that there was some nasal obstruction, I easily discovered the nares filled by small polypi. These being removed, the dyspnoea gradually disappeared. Since then I have seen a number of cases of asthma from reflex causes, and many more have been reported by others, but I need hardly say that this first case carried its lesson to me.

The last case is one which greatly puzzled me at the time, and was finally solved by the patient himself. Mr. J. consulted me on account of chronic naso-pharyngeal catarrh. So great was the disturbance that it seriously interfered with his duties of managing editor of a daily paper. There was profuse discharge of muco-purulent matter, both by the nostril and pharynx, with thickening and some ulceration of the mucous membrane lining the cavities. After patient treatment for some time there was an improvement in some of the symptoms and in the ap-

pearance of the cavities, but the offensive discharge, though lessened, still continued, especially from the right nostril. Finally, the patient became discouraged and abandoned treatment. Some months after, he came to see me with the statement that he was well. He showed me a small hard substance which had been expelled from the right nostril, followed by a rapid change in the quality and quantity of the discharge, which in a short time ceased. The foreign body was an embryotic tooth which had evidently ulcerated through into the maxillary sinus and so escaped into the nostril. It will be remembered that the floor of the antrum is often very thin, and conical processes corresponding to the first and second molar teeth are found; in fact, sometimes the floor is perforated by the teeth. Salter¹ says the antrum may extend so as to be in relation to all of the teeth of the true maxilla from the canine to the *dens sapientie*.

This is one of the few cases in which I can place a mistake to the credit of myself and the advantage of my patient, for had the cause of the persistent trouble been known, I would at least have suggested an operation. It was better as it was. In reviewing these mistakes, I trust I have not in so doing added to the list. The most proficient among us often err. We are fortunate when we can learn from our errors.

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

THE EFFECT OF GENERAL ANÆSTHESIA ON COCAINE MYDRIASIS.—MR. SIMEON SNELL, in a note on this subject, says: I am not aware that any observations have as yet been recorded as to effects of the general anæsthetics on cocaine mydriasis. So much has, however, been written respecting this remarkable and most valuable drug, that it is hardly safe to state now that any observation is original. At all events, I desire to draw attention to the following.

A short time since, cocaine was inserted into the eye of a case of strabismus, on which it was intended to operate, but for which it was afterwards deemed desirable to administer ether to overcome the nervousness of the patient. The phenomena about to be mentioned were then noticed. The cocaine had caused wide dilation of the pupil; but during the administration of the ether, and whilst under the anæsthetic, the mydriasis was observed to pass off and the pupil to become just as small as the other. The observation has been repeated in other instances. A few days since, in a case of nævus of the orbit in a baby, about to be treated with electrolysis, the pupil of one eye was purposely dilated with cocaine (five per cent. solution of hydrochlorate). Chloroform was then administered, and whilst the child was getting under its influence, the pupil became less large, and, when fully narcosed, it was as small as the pupil of the other eye. On the day this is written, the observation was repeated in a case for which ether was administered;

¹ Abscess of the Antrum, Holmes's System of Surgery;