distressing symptoms which occurs in this disease—namely gastric irritability; still there are some patients in whom this disagreeable symptom assumes as much the character of inflammatory action as of simple irritability; in these cases local bleeding will prove a valuable remedy. Patients are sometimes met with on this coast so weakened from the effects of the climate, that even local bleeding must be used with caution, in order to avoid debility; but in cases of primary fever this will seldom happen, as the patient is usually attacked before a twelvemonth's residence on the coast. In some patients dysenteric symptoms supervene during the attack of fever, and if they are attended by the slightest pain, or if unaccompanied by this symptom, and the patient is not extremely debilitated, local bleeding by leeches must be had recourse to. Local abstraction of blood then is to be employed in this disease. First, for the purpose of preventing or removing inflammatory affections of the brain. This indication is best fulfilled by applying leeches to the temples, or cupping glasses to the nape of the neck, or in some cases both may be required; the number of leeches used, and the quantity of blood drawn by the glasses, must of course be regulated by the symptoms present, but more so still by the strength and constitution of the person under treatment. Secondly, with the intention of subduing gastric inflammatory action, or irritation. Leeches are in this case to be employed, and as a general rule (to be varied according to the peculiar circumstances of the case) four dozen are required to produce any decided effect; if leeches cannot be procured, the cupping glasses may be applied, but the former are preferable, as they do not produce any pressure on the stomach, rendered tender by the existing disease. It is highly necessary to discriminate, if possible, between simple irritability of this organ and inflammatory action, as in the former local bleeding over the region of the stomach is at best a doubtful remedy, while in the latter it is absolutely and imperatively required. Thirdly, when symptoms of gastro-enterite, as they are termed by French writers, or when any symptoms indicating or supposed to denote local inflammatory action of any organ are present, local bleeding is of considerable assistance in removing them. In having recourse to local bleeding, where there is great prostration of the vital powers, it will be necessary to bear in mind that, in many of those cases, the debility is not real, and that relieving the labouring circulatory system will often prove a highly useful means of removing great apparent weakness. It is only necessary further to observe that, in some plethoric constitutions, I had recourse to local abstraction of blood, before any symptoms seeming to indicate such a proceeding had shown themselves, and were I again called on to treat the bilious remittent fever of Africa, I should make it a general rule to bleed locally, especially from the temples and nape of the neck, in all cases, unless symptoms contraindicating this treatment presented themselves.

Emetics.—This class of remedies, though strongly recommended by some writers, are not admissible in a disease which, like the one at present under consideration, is often accompanied by irritability of the stomach; there is, however, *one* exception to this rule; a patient is sometimes attacked with fever immediately after eating a hearty meal; in this case the stomach should be emptied by a gentle emetic, and the most appropriate is a scruple of ipecacuanha, dissolved in warm water, and exhibited in divided doses until the desired effect is produced; in some cases where there is much vomiting of bile, accompanied by great retching and nausea, especially if this takes place, which it is most likely to do, early in the disease, the patient will be considerably relieved by drinking freely of lukewarm water. In my next paper I shall conclude the treatment of bilious remittent fever.

REMARKS

ON THE SO CALLED

"MUSCULAR AMAUROSIS."

By EDWARD O. HOCKEN, M.D., &c.

Few will deny that it is highly desirable to supplant error by the knowledge of truth, to follow out reasonings on philosophic principles, and prove their validity by the actual operations of nature. If such be true in general science, how much more important must it be in the extensively useful science of medicine, so essential to the lives, health, and well being of the community at large. For it will be obvious that if unfounded opinions exist in pathology, they will lead to improper, if not injurious, treatment, by which not only science itself suffers, but the feelings, health, and pockets of such individuals as unfortunately become the subjects of its influence. Again, as in any science mere reasoning is useless unless actual facts are taken as the groundworks of inductive extensions, so especially in medicine, where well-observed cases, particularly when viewed in connection with post-mortem examinations, form the facts on which to reason. In taking cases, however, they may be made either most valuable, or, on the contrary, utterly worthless, according to the mode adopted. Unless we are furnished with the history, incipient symptoms, progress, and succession of morbid phenomena, the narration of the present may be unintelligible, and therefore the effects of treatment, in connection with it, worthless; whilst it behoves us to use the most careful suspicion as to the effects of any one particular mode of treatment, when others are simultaneously in operation. Let us take, for example, a small and unimportant mechanical injury inflicted over a joint of an extremity (say the hand), on its dorsal aspect, from the constant disturbance it is subjected to in the motions of such joint, it suppurates, inflames, and becomes exceedingly painful. Here the application of a splint on the palmar surface, by retaining the parts in constant apposition, and removing the source of disturbance, allows nature to effect a cure without, perhaps, any other treatment. But suppose this same patient betook himself to his medical adviser with his finger in the inflamed condition we have mentioned, and he (his medical adviser), on a theory of his own, divided the tendon which moved the joint, a cure might, doubtless, thus result, as in the former instance, and from the same cause—viz., quietness of the affected part; but, in the opinion of the surgeon, his theory (say tension of tendons, &c.) is supported, and hence, in his opinion, the effects of the operation warrant him to recommend a painful and unnecessary one in the same class of cases where the most simple measures would have been more efficacious. In both instances, however, if other measures had been employed, as local bleeding, purging, &c., much might have been attributed to their influence, which, perhaps, belonged exclusively to the rest and quiet.

This is a case exactly in point in reference to what has been termed "muscular amaurosis"—a barbarous term, which possesses no meaning whatever; under which head certain cases of simple and compound imperfections of vision, of a peculiar kind, commonly known under the denomination of "weakness of vision," and palpably dependent on atony of the retina, simple or compound, are classed, and several painful, unnecessary, and therefore injurious, operations are performed, by division, separation, or removal of several of the orbital muscles. As far as I am aware, Mr. Adams is the only English surgeon who actually practises these measures. If this gentleman has added anything to our stock of knowledge which bears the test of experience, if he has proved that a class of cases exist, previously unknown, and previ-

ously incurable, amenable to operative measures, although severe and dangerous in the performance and consequences, he deserves credit for his discovery, and the thanks of the profession for the practical benefit bestowed on them. Let me, however, now proceed to inquire a little more curiously into the facts of the case.

In the acceptance of a term, we must undoubtedly be guided by the general use and meaning stamped on it by the times in which we live; no one individual has the right to change the signification of the term, in the employment of the term itself; and this, whatever may have been the mere literal meaning, or the acceptance in the olden times, where frequently a wide and ill-defined signification was absolutely necessary, from the want of clear and definite knowledge of science. In the present day, the term amaurosis is restricted to those cases of "imperfection or loss of vision which result either from the diminution or entire suspension of nervous energy, whether functional or organic, sympathetic or symptomatic," although literally it means but "obscurity," and hence the term "muscular" must be inappropriate; for even, for the moment, allowing that these symptoms resulted from *some twisting or bending of the optic nerve*, and that amaurosis was an appropriate term, it would be as correct to speak of steatomatous, osseous, or fibrous amaurosis, when blindness resulted from their growth in the orbit. Again, supposing I were desirous of starting a novelty, I might with as much correctness speak of conjunctival cataract, or of cataractal scleritis, insisting that whatever limit the fashion and general assent of the present day chose to give to the term "cataract," it meant derivatively but "disturbance," and was applicable, on this account, to any disturbance of the eye or of vision.

What class of cases, according to Mr. Adams, deserve the name, and require the treatment, of "muscular amaurosis?" Not readily defined. If, however, we take the trouble to examine the cases given in illustration, we find that they are those of atony of the retina; "the distinguishing feature of which variety is, that vision is perfect when the eyes are first employed after rest. The patient can see small things as well as large; but sight fails, with watering of the eye, pain in the head and globe, &c., after the patient has exercised vision for some time."* It is, in fact, a variety of amaurosis, "the characteristic symptoms of which consist peculiarly and entirely in an impairment or loss of vision, without any morbid change in the organic matter of the eye."† Now, these cases are by no means of unfrequent occurrence in those who have overworked and overstrained their visual powers, especially where predisposition exists; it slowly increases for years, but is always curable by repose of the organs, and by counter-irritation in the neighbourhood; in fact, we remove the cause of the derangement, and stimulate the *vis medicatrix naturæ*, which steps in and completes the cure. Out of a very great number of cases, I have never seen a failure.

Turn we now to the example I have already given—the wounded integument of the dorsal aspect of the joint. In both instances the constant and habitual disturbance is the cause of the resulting evil, and in both rest is the cure; if, in the former instance, the application of the splint effected the cure, or the splint with antiphlogistic measures (necessary to remove the condition of inflammation already induced), surely it would be unwise to divide the tendon, because some one asserted that its morbid contraction originated the evil, and not the mere motions of the joint, illustrating his propositions by cures. If such were the case, he would, indeed, prove that such examples were curable by his operation (provided no harm resulted from it); but he would not prove that such was the pathology of the affection, nor such the best

mode of treatment. So in the form of amaurosis under discussion, if it is *always* curable by rest and counter-irritation (necessary on account of the condition of the retina already affected), it must surely be unwise to cut and mangle many of the orbital muscles and tendons, merely because it suits a theory, and examples of cure are brought forward in illustration, which, even if literally true and correct, prove only that the same affection may be cured by a much more severe and dangerous mode of proceeding, and that some people escape unharmed even when exposed to imminent risk and probable injury, and even come off without deformity and loss of power of motion in the injured parts themselves. On the same grounds, although we should avoid employing a pen-knife to cut a loaf, we should equally shun a hatchet when a table-knife was before us. I will reserve my remarks on pathology until I have said a word on the origin of the theory and operation.

The rage which so generally existed for squinting irresistibly harried men on to operate on all cases, without discrimination, whatever their cause or pathology might be, whether they were or were not suited for operative measures; and thus, among others, cases where the vision of the squinting eye was imperfect were "cut," to the relief not only of the strabismus, but of the amblyopic condition of vision itself: *post hoc, ergo propter hoc*, the vision was cured by cutting the rectus or recti muscles. This forms a fitting basis whereon to build a novel theory and erect a novel remedy. Thus, then, M. Petrequin, of the Hôtel-Dieu de Lyon, in a communication to the *Académie des Sciences* of Paris, remarks, "The theory of analogies rendered it probable, and strabotomy has demonstrated, that the motor system of the eye exercises considerable influence over its nervous system. From what I have observed in those who squint, I have been led to conclude that certain cases of amaurosis have for their primary cause a spasmodic condition of one or more of the muscles surrounding the globe of the eye. It is now a scientific fact that muscular spasm exists in strabismus; it is not less true that in most cases there is also considerable weakness of vision in the deviating eye. Myotomy, then, may become an heroic remedy against amaurosis depending on contraction of the muscles."*

Although my own experience tends to establish that of others, in respect to the improvement of vision occasionally in cases of strabismus after operation, by exercise and restoration to its normal axis, yet I attribute this to obvious causes. In those cases of strabismus where the vision has improved, or has been restored subsequent to the performance of the operation, the organ itself has become defective from the almost complete cessation of its appropriate functions and normal stimulus, and not from any primary amaurotic derangement of the visual nervous system; hence vision has improved gradually under exercise, by the progressive restoration of structure and nervous tone, which had previously failed from a defect in this particular. This explanation agrees with what we observe in other organs; thus, if we subtract the accustomed stimulus from any organ, or stop or impede the performance of its functions, its power of answering to an impression, or of performing its normal duties, gradually fails, and its structure atrophies; if, under these circumstances, we restore the part habitually to employment, by its ordinary stimulus it gradually regains its functional powers, as well as its integrity of structure. How any one could jump to the conclusion that the vision of a squinting eye was defective because subjected to muscular spasm, and that it required but relief from this to restore its healthy functions, and that hence there were cases constituting a class, similar in pathology to these forms of squinting amaurosis, although unconnected

* Vide author's paper, "Lancet," Vol. II., 1843-44, p. 358.
† Beer.

* "Gazette Medicale."

with the defect itself, and requiring two, or three, more operations, to make and to cure, and then to re-make a squint, by division, separation, and actual removal of a portion of those orbital muscles, the physiology of which is so perfect, harmonious, and beautiful, and so necessary to the good looks and comfort of their proper possessor, I am at a loss to define. Again, why should the forms of amaurosis, denominated "weakness of vision," have been selected, more than any other, as possessing this pathological causation, and requiring this "heroic" remedy? Because it is the only form in which such measures would not have been injurious, where the operations actually oblige the individual to rest his eyes completely, and the effects of the incisions and dissections (if they do not rise to an injurious height) stimulate the retina to put forth healthy efforts, just as I have explained that counter-irritation acts (and is so far necessary) in the same cases, when treated rationally and philosophically.

I will contrast our views of the pathology of the cases under consideration, and will see which bears the greatest probability of truth, although in neither are we able to see the actual seat of disease. Mr. Adams supposes that the optic nerves suffer some bending or twisting by the action of the recti muscles. How can he prove this? I believe that the optic never is, or never can be, bent or twisted to any injurious extent by the action of any or all the orbital muscles, for how often should we then become amaurotic during any powerful, strained, or extensive motion imparted to the globe? We can voluntarily throw the four recti into action conjointly, by an effort of the will, by which the globe is retracted, and its antero-posterior axis shortened; thus, in endeavouring to view distant objects, we partially close the lids, and retract the globe, which will be evident on trying the experiment ourselves, regarding others thus occupied, or, above all, in the efforts near-sighted individuals make to see distinctly. When the eyes are fixed on any bodies at rest, and the head or body generally are in motion, the eyeballs undergo rotation to a very considerable extent; but do we thus become amaurotic? No, certainly. Again, I maintain that mere bending or twisting of a nerve is not sufficient to interfere with its functions. Take the elbow, shoulder, knee, and hip joints as examples: we flex the elbow so as to form a very acute angle indeed with the humerus, but we neither suffer from paralysis of sensation or volition in the parts below. So also in the knee joint; in the shoulder or hip the nerves must surely be bent and twisted enough, during their various and extensive motions, to paralyse the nerves if they had a disposition to become so.

Take any part of the body and overstrain its functions, and one of two evils will result: it either inflames, and its functions are deranged or destroyed by that process, or the nervous tone of the part fails; it becomes inadequate to its functions, and atrophy results. This may and will occur, supposing the system be either above or below par; but where it is above, the tone is deranged in the part, and its vessels becoming enlarged, there is a great tendency to congestion. What I myself assert is, that "the tone of the retina may be destroyed or deranged by causes acting gradually or suddenly, quite independent of general debility, in a similar manner as the nervous powers of all other parts of the system may be diminished or destroyed by excessive employment, or powerfully depressing and rapidly enervating agents."* The idiopathic varieties have seemed to me to occur under two very different conditions: first, in connection with general debility, excitable nervous system, and cachectic health; the second with general headache and evident cerebral congestion, especially connected with the failure of vision induced by exercise

of the eyes. There can be no doubt, I think then, that these symptoms arise from atony of the retina, although some observers have regarded this as doubtful—a condition of the retina similar to that failure of function seen in other parts were the employment exceeds and overpowers the tone; implying a condition of exercise which exceeds that which would have met the exigency, and originated hypertrophy, and obeying a general law, seen throughout the system generally—viz., that where an increased demand is made on the functions of any part, if the part itself and the powers of the constitution at large permit, nature not only compensates for the increased loss by wear and tear, but exceeds this, rendering the part more competent for its increased duties; but, on the contrary, if the part or the constitution be unable to compete with the disturbing cause, either from deficiency of tone in themselves, or from the excess of the disturbing cause, then the function and structure are overpowered, and atony is superinduced; according to the severity of the cause, and the local or general deficiency, so the defect is proportioned, and its increase regulated by the same laws.*

If it can be proved that there are cases of any form of amaurosis, or even of "obscurity" of vision, not curable by simple measures or on rational principles, and that these can be and are cured by the operations proposed for the so-called "muscular amaurosis," then, after the failure of the former, the latter are justifiable, and the individual who proposed the measures and carried them successfully into operation, is justly deserving of commendation; and if Mr. Adams, or any one else, can clearly prove that such is the case, I shall be one of the first to acknowledge my obligations and to avow my previous error.

15, Southampton-street, Covent-garden.

Jan. 20, 1842.

POOR-LAW MEDICAL RELIEF.

RESOLUTIONS PASSED BY THE WORCESTER COUNCIL OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

Resolved,— "That Sir Robert Peel and Sir James Graham be requested to grant an interview to a deputation from this association for the purpose of laying before her Majesty's ministers the improved mode of parochial medical relief recommended by this association."

Resolved,— "That the following gentlemen be requested to form the deputation, viz.:—Dr. Hennis Green; Mr. Martin, Reigate; Mr. Toogood, Bridgewater; Mr. Ceely, Aylesbury; and Mr. Rumsey, Gloucester."

Resolved,— "That a letter be addressed to the president [of the College of Surgeons, requesting that two or three of the council of the College may accompany and co-operate with the deputation from the association in their interview with her Majesty's ministers."

Resolved,— "That the editors of the 'Provincial Medical Journal' be requested to reprint in the Journal the petition recommended by the poor law committee, and call the attention of the several local councils to the same, with a view to its being adopted by them."

* Vide author's "Sketch of the Pathology of Amaurosis," "Medical Gazette," Vol. I., 1839-40, p. 942.

* Vide author, "Lancet," pp. 358-9, Vol. II., 1840-41.