Especially to be deprecated is the everlasting number work and arithmetic drill, which appears to have become a mania with the larger part of the teachers in our schools to-day. From the time the unfortunate child enters the first primary, through the eight long years until he emerges from the grammar course, he is subjected to a continual grind in number work, problems and examinations; morning, noon and night they are a veritable "old man of the sea" to them, hanging like a pall over their hours of leisure, and, even invading their dreams, they have become not only a menace to the health and happiness of the children, but also a nuisance to their parents, who can not enjoy a quiet half hour because a puzzled child can not solve a long list of problems far beyond its comprehension, and appeals for help. But, after all, what results are attained from all this work, worry and grind? I believe I am justified in saying that they are nearly always inadequate, and often a dismal failure, and that any 11 or 12-year-old pupil who had never looked into a written arithmetic, but who had been carefully drilled in mental arithmetic, can do better work and obtain a clearer comprehension and more thorough grasp of the subject in three or four years than the struggling child obtains by its eight years of arduous and detestable toil.

Then, too, the system of examinations in vogue in so many schools is a veritable *bête noir* to the pupils, who are kept in a constant state of worry and irritation, and subjected to a continuous nervous strain. The work, instead of being inspired and vitalized by a love for truth, and a desire to penetrate and understand the secrets and laws of Nature, becomes a mere mechanical cram and filling-up process to pass the examinations. This sort of work, as every one knows, has not only little real educative value, but by leading to makeshifts and subterfuges of various kinds, as well as downright cheating, degrades the pupil. Healthy mental and physical growth and activity are conditioned on an enjoyment or appreciation of the work being done. A distasteful task, or one done under compulsion, fatigues the mind much sooner, and leaves a much more evanescent impression than one which arouses the pupil's enthusiasm and engrosses his whole attention.

When the teacher so directs the pupil as to call his physical and mental powers into play, spontaneously, the dry rot of formalism and routine vanishes as if by magic, from the school, and instead of the tired, disgusted look on so many young faces, produced by the mechanical leveling process, which by confining within restricted bounds, reduces all to the same plane of mediocrity, we see the flashing eye, the eager intent purpose, and the whole soul of the pupil aroused by a noble enthusiasm. Who will say that in true educative value, one hour of such work is not worth weeks, nay months, of spiritless cramming.

Nor are spontaneity and interest less important in physical than in mental work. Free, unrestrained, spontaneous play in the open air is of infinitely greater value in developing the body than any indoor formal exercise, although, properly directed, gymnastic exercises, if subordinated to outdoor sports, can be made valuable adjuncts.

So many pitfalls and dangers lie hidden in the pathway of the rapidly evolving child that in order to guide him wisely and safely through the intricate labyrinth, to avoid the Scylla of physical ills, on the one side, and the Charybdis of mental evils and abnormalities on the other, it is necessary that the physician should at least have a clear outline knowledge of his evolution, and

know something of the physical and mental characteristics and potentialities impressed on him throughout the ages.

PROGNOSIS OF LARYNGEAL TUBERCULOSIS.*

BY ROBERT LEVY M.D.

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In view of the many authentic cases of cures, both spontaneous and under treatment, which have of late years been reported, it is with some surprise that the vast majority of general practitioners as well as a fair number of laryngologists still look with but little hope on every case as soon as the verdict of laryngeal tuberculosis is given. The general statement "prognosis-grave" is sufficient to satisfy the conscience and condemn the patient. This view is certainly to be looked on as misleading to say the least, especially as it is generally given more prominence than the modifying and qualifying statements which usually follow. It is quite as much to be regretted, as so well put by Schech in Heymann's "Handbuch," that the present "beloved joy" over the results of modern treatment produces much harm both to our science and to the patient by promises which can not be fulfilled.

It is with the hope of presenting the subject in a conservative manner, with such deductions as shall be of practical value, that I offer the results of some years' observation of carefully recorded cases. One can not as yet say that all opportunity for differences as to the prognosis of this serious affection no longer exists, and for this reason radical changes are year by year noted in the views of all observers. The history of the curability of laryngeal tuberculosis is still being made, and one must not therefore expect to be too dogmatic; and still it must be conceded that certain well-defined conditions are positive indications for reliable prognostic inferences.

For these reasons the laryngologist becomes a valuable guide in early and accurate prognosis as he is in the diagnosis of this disease, and were he to examine every case of tuberculosis of the lungs or other organs his usefulness would doubtless be increased by the detection of tubercular infiltration or other lesion in the larynx which passes unnoticed until the patient is beyond hope.

The report and demonstration of spontaneous cures of tuberculous lesions in the larynx by men of undoubted veracity and authority can not be too strongly presented and reiterated—Kidd, Heryng, Rosenberg, Zendziak and others—for it was from this that hope first sprang and that the curability of this hitherto greatly deplored condition was established by the pioneers. Encouraged by nature's lessons in repair she was assisted by our scientific efforts, until cures under treatment began pouring in from all sides by scores of men, such as Krause, Heryng, Bergengrün, Thost, Newmann, Massei, Wolfenden, Symonds, Gougenheim, Gleitzmann, Murray, Krieg, Whistler and many more equally authentic reporters.

In spite of the enormous amount of optimistic literature on this subject one can not ignore two important criticisms, namely, the question of diagnosis and that of the proof of cure. It would be desirable could we in all cases produce such incontrovertible evidences as in Krause's and Heryng's cures, in which post-mortem microscopic investigation demonstrated to the satisfaction of Virchow and E. Fraenkel the complete absence of tubercular lesion. Even this evidence may be questioned by the hypercritical, for Schrötter, in commenting on

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Heryng's case, says that greater time must yet elapse before we may accept such conclusion.

For all practical purposes it would seem that Delavan's statement is more than sufficient, when he proposes "to call that case cured in which all trace of active disease has disappeared from the larynx and all active symptoms referable to that organ have passed away, particularly where there is no recurrence of the local trouble during the remainder of the patient's life." I would go a step further and call a case cured in which all active indications of disease fail to recur after two, or in some instances after one year from their cessation. I do not deny the necessity of waiting, but why refuse a cure to those cases which become not recurrences, but new attacks? In other words, many a case may be considered cured which in later years, because of continued pulmonary disease either through local infection or the lymph or blood channels, develops another and new case of laryngeal involvement. The lesson we draw from this statement is that without other exciting causes such cases would remain free from laryngeal disease.

As to diagnosis, it is not necessary to await the appearance of typical ulcerations. Irregular spots of redness, characteristic anemia, typical infiltration and soft papillomatous excrescences are sufficient guide to the experienced. Catarrhal ulcers are rare, and where they occur in phthisic patients they should be looked on as suspicious, to say the least. Avellis has shown that tumors not typically tubercular may yet be so, and even though Schnitzler doubts the tubercular nature of an apparently typical ulcer, because of its readiness to heal, Beale shows how easily an evident catarrhal ulcer may become tubercular.

The presence of tubercle bacilli in the sputum will often clear up a doubtful case, but where they are absent or of doubtful origin, an examination of the scrapings from a suspicious lesion will almost invariably give positive results.

Having thus briefly considered such general topics as would seem essential to a clear judgment of the prognosis of laryngeal tuberculosis, what special questions may assist us in arriving at practical conclusions?

In studying my cases I am particularly impressed with the influence on the progress and termination of the cases by: 1, the nature of the lesion; 2, the position of the lesion; 3, the combination of lesions; 4, the pulmonary complication; 5, the coexistence of syphilis; and 6, the treatment.

The Nature of the Lesion.—Tubercular infiltration is frequently seen alone, but in the majority of cases only early in the disease. It is often associated with new formations of papillomatous appearance, and alone or in this combination continues indefinitely. It is not my purpose to prove, beyond question, a position by offering statistics; these can be perverted to suit any occasion; but one may obtain at least a glimpse of the truth by a study of numbers of cases.

My records cover several hundred cases, but many are incomplete as to result. I find, however, 144 complete accounts of cases, of which 84 were of the infiltrative and papillomatous variety, and of these 26 have gotten worse or died; only 8 of the 26, however, were materially influenced in their downward march by the laryngeal complication, making a percentage of 9 plus. The remainder were either cured or improved. Cases of the ulcerative variety numbered 60, and of these 37 got worse or died, of which 29 were hurried to an unfavorable ending by the laryngeal disease, making a percentage of 48 plus, the remainder being improved or cured at last re-

ports. It is thus shown that a favorable view may be accorded the infiltrative and papillomatous variety over the ulcerative by 39 per cent.

The Position of the Lesion.—No portion of the larynx is exempt from tubercular attack, and it would indeed be tiresome and but slightly profitable to classify in minute detail and separately each site on which a lesion has been found. In a general and practical classification one may be content to divide the lesions into: 1, those which have not yet attacked the epiglottis and aryepiglottic folds; and 2, those in which the epiglottis or aryepiglottic folds or both have been also involved. My records show 103 cases of the former, of which 11 got worse or died, and 41 of the latter, of which 29 died. The relative percentage shows that of Class 1, 10 per cent. plus, and of Class 2, 70 per cent. plus succumbed, thus making the class in which the epiglottis or aryepiglottic folds were involved 60 per cent. more fatal. I am frank to admit that these figures may be subject to criticism, for so many elements must enter into an analysis of cases; still they present the relative gravity of various lesions in laryngeal tuberculosis on a more definite basis than has been heretofore attempted. In a general way many authors have shown results which are in accord with those above given. I refer principally to Krieg, Heryng, Bosworth, Wolfenden, Symonds, Gougenheim, Schech.

While therefore admitting the great gravity of cases in which the epiglottis and adjacent structures are involved, one must recall not a few cases in which even here a cure resulted. Cohen, Symonds, Castex, Heryng, Curtis, Newmann, Whistler, Gleitzmann, the author and others, have placed such cases on record. I have records of 12 such cases cured or improved. Of these, 4 were possibly mixed with syphilis, the remaining 8 being purely tubercular, of which 4 are improving rapidly and 4 are known to be cured.

The Combination of Lesions.—By this I refer to cases which are mixtures of two or more of the forms already outlined or the association with edema, acute tuberculosis or pharyngeal tuberculosis. When complicated by the last named, the prognosis is most grave.

The Pulmonary Complication.—Krause has shown that it is possible for laryngeal cures to result even while the lungs continued to fail, while Browne has shown that improving the larynx may bring about pulmonary improvement. Still the rapidity, extent, length of time, stage and nature of the lung disease must have a very close bearing on the course of the laryngeal complication. Thus also, as Heryng points out, age, constitution, surroundings, the number of bacilli and, according to Thost, whether the disease be hereditary or acquired, play a part in determining the denouement.

The Coexistence of Syphilis.—That syphilis may modify the course of laryngeal tuberculosis is well established. The question of diagnosis, however, becomes here a most important one, for doubtless many an atypical syphilitic lesion has been mistaken for a tuberculous one. The presence of tubercle bacilli in scrapings from such a lesion throws much light on the case. The weight of opinion seems to favor the mollifying influence of syphilis, but as Rice has said, "the prognosis will depend on which one of these two diseases is the more active." or, as Schech puts it, the prognosis becomes more unfavorable as the tuberculosis gets the upper hand. In four otherwise unfavorable cases which I saw cured, syphilis was a decidedly possible complication and greatly influenced the favorable termination.

Well-Selected and Skilful Treatment.—That properly

chosen surgical or medical treatment may greatly influence the prognosis of this disease must be acknowledged. The many remedies which have been followed by individual success and the many rules which have been laid down for surgical and other interference are evidence of rather chaotic conditions in the matter of indications for treatment. Above all should great care and consummate skill be exercised in the application of heroic measures. Many a case has been injured by unskilful or improperly selected treatment.

DISCUSSION.

DR. GEO. L. RICHARDS, Fall River, Mass.—At the Denver meeting I had the pleasure of reading a paper on the same subject, and when the paper was afterward published in the *JOURNAL*, some time in May of this year, I appended a footnote giving the condition of those still living on the 15th of May. One, at least, had no return of the trouble up to the present time. Two are noteworthy as illustrating a point to which Dr. Levy has referred, namely, that the laryngeal trouble may remain cured while the pulmonary condition is getting worse. One of my cases had no return of the laryngeal trouble up to the time of death from pulmonary affection. In another case the laryngeal trouble has been in abeyance for two years, although the patient is slowly succumbing to the pulmonary condition. For the local medicament I used 10 per cent. monochloroparaphenol applied either directly with a swab or with a spray, usually preceded by lactic acid. The results have been as satisfactory as with any treatment in laryngeal tuberculosis; that is, the cases get better but the tuberculosis progresses. I would like to recommend this treatment for the local lesion.

DR. S. E. SOLLY, Colorado Springs, Colo.—I much appreciate Dr. Levy's paper. His conclusions, as usual, are right. I have been gratified in Colorado in procuring comparatively good results in the treatment of laryngeal tuberculosis. The point Dr. Richards made, that many cases are cured even when the pulmonary tuberculosis progresses is true. While I have had a few patients in whom the epiglottis or the folds were affected yield to treatment, yet I agree with the essayist that they very rarely recover. I have three cases of recovery from this condition in my mind at the present time. They were, however, cases in which the laryngeal tuberculosis developed after they came to Colorado, as I saw them in the very beginning, and treatment arrested the progress of the laryngeal disease. These patients are all doing well, both as regards their local and general condition. In one I removed a considerable portion of the epiglottis and in the other two I curetted deeply and then rubbed in lactic acid. The affection of the epiglottis most often starts in the middle of the under surface, and active and early treatment at this point not infrequently prevents ulceration developing on the free edge. I have in a bad case removed almost the entire epiglottis, with relief of the local disease.

DR. H. W. LOEB, St. Louis, Mo.—I should like Dr. Levy to state to us whether or not he considers the climate of Colorado has anything to do with the rather better prognosis in his results than we get in this part of the world. I have had but one case apparently cured or at least doing well now, five years after the treatment. I do not think the treatment did any good at all. In that case the diagnosis was verified by three other laryngologists.

DR. WILLIAM DUFFIELD, Phoenix, Ari.—I do not want to make any comments or discuss this paper. It is one of the best discussions of this subject that has been either read or printed, to my mind, and my only regret is that every general practitioner could not have heard this paper, because of its great importance to the general practitioners throughout the country. My brief experience as a laryngologist in a western health resort only bears out what Dr. Levy has said. His classification is so excellent and his prognosis so nearly that of our experience that I can only commend his paper. I want to add the testimony of one who lives in that section and who has some experience, that tuberculosis of the larynx is no longer entirely hopeless, and that our prognosis should be very much better than it has been in the past. I hope the attention of practitioners in general will be called to this paper, because I believe it one of great importance.

DR. HOWARD S. STRAIGHT, Cleveland, Ohio—My experience of something like ten years is in line with that of Dr. Loeb. The statistics Dr. Levy gives are very much more hopeful than the results I have had in my cases. I have had one case that I have watched about nine years. The patient is a girl who had tubercular laryngitis with ulceration of the vocal cords and partial loss of the epiglottis two years before com-

ing under my observation. When I saw her she had a lighting up of the process and I supposed she would live only a few months, but she is still living. It is the only case that I have had a chance to follow up all these years. I have seen a good many cases, and with us the disease is almost universally fatal. They almost all die and as a rule within a year.

DR. F. J. QUINLAN, New York City—This is a paper that should provoke much expressive thought from us, coming as it does from a man who is probably in position to see these cases more frequently than we do. As I tried to follow the Doctor, he didn't seem to me to dwell on those forms of laryngeal tuberculosis that are concealed, for instance, in the first stage, viz., that of hyperemia, followed by tumefaction, and then the stage of ulceration and breaking down. I do not know whether the Doctor considered ulcerative tuberculosis in his essay. It is almost impossible, except from the examination of the sputum, to tell any form of tuberculosis. The Doctor admitted, whether intentionally or otherwise, that medication affords a great deal of ease to this class; and I think relief given the patient in deglutition, improving the voice and, improving the general health, is of the greatest importance. For instance, when the epiglottis or part of the arytenoid is involved, much pain is given him in swallowing, and if relief of the pain of deglutition could be brought about, then nutrition and assimilation would certainly be improved. I have used, and very gratifyingly of late, euophen, which arrests and clears up many of those low grades of ulcerative tubercular laryngitis.

DR. ROBERT LEVY, Denver, Colo.—There remain very few words to say in closing. In the first place, it was not my intention to deal with the treatment of laryngeal tuberculosis. All I said under that topic was that proper treatment plays an important part in the prognosis of the disease. Methods inappropriate to the case often undoubtedly hasten its serious outcome, while many cases with properly selected treatment improve. But I had no intention of dwelling on treatment. As to the results, shown by the report of cases, being influenced by the climate of Colorado I simply say that you can draw your own conclusions. Reports have been made from various parts of the country. Dr. Solly, in an essay some time ago, gave a recovery of 25 per cent. Recently another reporter in a resort in the Catskills reported some 40 per cent. of cures. But the point I wish to make especially in regard to prognosis is that the character of the lesions, the situation of the lesions, and the combination of lesions, play the most important part in determining the prognosis. That is the point I wish to particularly bring out. We are now in a position to say that the prognosis of laryngeal tuberculosis must be considered from various standpoints. This paper was presented in order that we might, on seeing a case, be guided in giving something like a reasonable assured prognosis.

RELATION OF UTERINE DISEASE TO SOME OF THE INSANITIES.

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There is no organ or portion of viscera which is not intimately connected with the brain through the sympathetic nervous system.

We know that cell metamorphosis is interfered with by excessive irritation; that cell nutrition is hindered thereby, and, as a result, the function of the cell lessened.

When we consider the function of brain cells, and especially of that portion where we expect mentality to be located, the importance of perfect physiologic conditions is manifest to insure perfect psychologic action. We know that in the brain certain associations of cells called centers have control or inhibitory influence over many of the lower reflex functions when in perfect healthy action. Hence, if these lower reflex functions are badly disturbed or interfered with by disease or accident, may we not expect defects in those functions of the brain above men-

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