This procedure should make the surgeon feel very secure in these operations, as it is almost impossible to stitch the duct satisfactorily in many cases.

The methods of stitching the abdominal incision have not proved entirely satisfactory. Animal sutures may give way, causing trouble, and non-absorbable material, if buried, may have to be removed. I have been using a method which commends itself in a considerable percentage of cases. The tier suture with absorbable material has a high place in surgery, but the majority still close the wound by the interrupted through-and-through suture of non-absorbable material. The method described possesses the advantage of both, and obviates some of their objectionable features. I use interrupted sutures of silkworm gut, uniting the aponeurosis, recti muscles and peritoneum, and secure the sutures by means of very small silver tubes, corresponding in length to the thickness of the skin and subcutaneous fat, through which the ends of the suture are passed, and then through a perforated shot. After the aponeurosis has been well approximated, each tube is pressed well down and secured by the compression of the shot at the distal end of the tube. After all sutures have been secured, the skin is brought together with a very small suture of silk or catgut. The suture should be very superficial or subcuticular. The little tubes with shot project just beyond the wound. Compresses of gauze are placed on the sides of incision to approximate the subcutaneous fat.

The silkworm gut sutures should remain from two to three weeks, and may be removed by clipping the ends of the suture between the tube and the shot, and after the tube is removed the suture comes without difficulty. By this method the wound is free of all foreign material before the patient is discharged, there being nothing left to cause subsequent trouble. The method has a wide field of application.

In conclusion, I may say we have reason to regard the future of this Section, and of the Association of which it is a part, most promising—in fact, brighter than ever before. Much has been accomplished in making the editor of *THE JOURNAL* secretary of the Association. There yet remains one source of regret to all, and that is that the New York State Medical Society is not in affiliation with the Association. Let us hope that the time is not far distant when it shall be otherwise.

Original Articles.

A SYSTEM OF PERSONAL BIOLOGIC EXAMINATIONS THE CONDITION OF ADEQUATE MEDICAL AND SCIENTIFIC CONDUCT OF LIFE.*

BY GEORGE M. GOULD, M.D.

PHILADELPHIA.

The ranchman has his annual round-up; the merchant his yearly account of stock and balancing of books; the machinist gives his engine a thorough going-over at regular intervals; every military organization has its reviews and inspections, every government its budgets—indeed, every financial hair of the commercial head is noted, and not a sparrow of the hunter, Success, falls to the ground unnumbered; those that do not fall

are even more accurately numbered. But it is not so concerning the one piece of mechanism that conditions all these things, and that is the most valuable of all earthly possessions—the human body. For all practical consideration a man's body is his life, and yet civilization has come so far without any systematization of the business and mechanics of the entire single and personal life. The science of bodily living in its complete extent still awaits its discoverer. Numberless philosophers treating of the conduct of life have soared in superficial inexactness and easy generality over the heads and hungers of the individual liver, but they have utterly failed to formulate the physiologic and pathologic conditions of success and failure. All the biologic and medical special sciences have struggled toward an un-reached unity; all are single rays, as it were, awaiting the lens of a focalizing intelligence to illumine the concrete image of our total physical appearance here. War has devised a rough and crude system of physical examinations for the would-be soldier; insurance companies have more accurately examined the bodies and life-prospects of their policy-holders to estimate their financial risks; through the Bertillon system, criminology has still more perfectly fixed the anatomic measuring of the bodies of the lawbreaker; the Amherst and Harvard examinations have looked into the muscular functions of a few students for four years of their lives; the psychophysics laboratory has measured a few neurologic reactions; the medical practitioner has found out a few ways of reaching backward to the etiology of some single diseases; a few hundred school children have been subjected to some tests as to growth and the influence upon organization of poverty and wealth. But all these, I believe, are sporadic and ineffectual hints of a coming science of man, based upon a thoroughgoing and repetitive system of physiologic and pathologic examinations which will ultimately give us a genuine and all-comprising science of anthropology based upon all the data, morphologic, physiologic, and pathogenic, of the entire individual life. Prophecy and prognosis are based upon a thorough knowledge of the past and present fact, a rigid understanding in a scientific sense of the evolution of the organism and of its present departures from a normal standard. For his children a foresighted man must wish such an accounting, such a prophecy and prognosis; and as to himself every intelligent adult, when he awakens to scientific consciousness, must try to look forward through the years, and reckon up his powers and possibilities of life. This most important function of prevision has heretofore been left to the gypsies, the palmists, the astrologists, and the clairvoyants! Is it a wise way for science to leave the individual struggler, unconscious and ignorant of his own body and its fateful laws, incapable of learning the scattered and ununited half-sciences blindly converging to some far-off unity of mutual helpfulness and life? The crowning work of scientists is to turn science into prescience. The unification of the sciences dealing with the conduct of life; the making practical and useful our knowledge of the individual organism; and lastly to establish a scientific prescience—such are the ideals of a living anthropology.

Is it not at once plain that these ideals can be realized only by a system of periodic examinations and records made every year or every five years, throughout the life of the individual organism? Such a system of records

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may be held generally to comprise the following elements:

1. *The hereditary datum.*—The endowment at birth, the influence of heredity, must in every way govern and condition the development of the organism, and modify every reaction to environment. It is wise therefore in all ways possible to fix, at the opening of life, what is this datum of inheritance. Nationality, ancestral and genealogic histories, craniology, cerebriology, etc., help to make up the estimate of this factor.

2. *The developmental and historic record.*—Especially during the period of growth—childhood and adolescence—should the space between the annual or quinquennial systematic examinations be historically epitomized. The strains, work, illness, and tasks conquered or incomplete, are surely a necessary part of the life-chronicle.

3. *The morphologic or anthropometric examination is fundamental.*—In this the Bertillon system, modified, perfected, and expanded, or something similar, should form the basis of such a system of physical measurements, descriptions, and records, statistic and graphic, that any future variation of the organism would be detected in later examinations; and thus would be preserved the morphologic picture of the individual for the whole life.

4. *The physiologic record* would include the testing and tabulation of all the significant reactions and functions. These would be made up of all necessary dynamic tests of the muscular system; of statements of accurately observed metabolic and nutritional functions; the reactions and reflexes of each of the special senses, and of those of the neurologic and psychophysiologic systems. The profound influence of habits, both positive and negative, innocent or harmful, should also be remembered.

5. *The psychic or intellectual datum* is one too carelessly ignored in scientific and anthropologic studies. The fundamental qualities of character, disposition, memory, sentiment, religion, reason, morality, education, etc., are powerful influences acting upon and reacting to the environment and to disease, and if they are left out of the count a most valuable determinant of scientific prescience is lost.

6. *The pathologic element* is one heretofore almost or utterly ignored in anthropologic studies, and in instructions as to the conduct of life. The profession should urge its profound importance. The examinations at stated periods should in large part consist of the records of the findings of expert medical specialists secured by all the arts and instruments of diagnosis at their command. All departures from health and normality that indicate pathologic results or tendencies in any organ, or in the organism as a whole, are absolute conditions of estimate as to present powers or prospects. One is almost inclined to think that the savings in medicolegal cases, by such a system of examinations, would defray the expenses of making them. Some time ago a railway company, after several years of legal proceedings, was forced to pay a man \$10,000 damages for intracranial hemorrhage said to have been caused by a fall from a car. When the man died there was found in his brain a bullet which had been received 25 years previously in the Franco-Prussian war, and this had produced all the non-feigned symptoms for which the railway had to pay.

7. *The factor of heredity* closes the circle, with the possibility of making more accurate the knowledge of the transmission of the individual endowment to the child. Successive generations are but the completion and extension of a single personality. The family is the realization of the incomplete individual.

Leaving out of consideration the questions of the onerousness of the task proposed, and the apparent impossibility of carrying out so many observations, one may ask as to the feasibility of keeping the records of such a series. The answer to this query points to the most remarkable plasticity and adaptability of the modern plan of record-making by the card-system, with its ever variable and extensible use of loose leaflets or cards of different colors, numbers, ear-marks, sizes, etc. Photography, the kromscop, the phonograph, the instruments of the physiologic and psychophysiologic laboratories, and those of every specialist in medicine, make it easily possible to condense the chronicles of all tests and examinations in an inexpensive and effective way. The post-mortem records, and the preservation of the brains, and, perhaps, of the skulls of the subjects, would supplement the work.

As has been intimated, we already have the beginnings, the sporadic attempts, and detached parts of such a system of examinations. The Bertillon criminal records of the police bureaus, the anthropometric data of military examinations, the results of athletic and gymnasium tests, those of psychophysiologic laboratories, the medical examinations of school children, and those especially of life-insurance companies, etc.—all these indicate the thought, labor and expense which civilization is giving to the problem. But the most important of all contributions might be the case-books, hospital records, and patients' histories of physicians. Hardly a tithe of the precious material, however, is utilized. The waste of biologic data—wasted because not systematized and unified—in the lost records of physicians is appalling. The most valuable books in the world are the oldest city directories, scientific statistic records, etc., and more valuable still would in future years be the present-day case-books of scientific physicians, if they were well kept and illuminated by a statistical and scientific judgment. We now dump them into the pulp-mill.

Is it a foolish dream, is it an unrealizable ideal, that all these things might be preserved, and rendered of use to science and humanity by some institution carried on by the government, by a university, or by a union of scientific and medical men, whereby the records of individual lives might be made so frequently, so continuously, and so scientifically that we should at least gather the inductive data for a genuine science of anthropology, pathology, and ethical biology? If governments could be prevailed upon to devote to this work one-tenth the money now squandered in war; if legislators could be prevailed upon to give to it a small proportion of their stealings and political plunderings; if a fraction of the money poured into the pockets of the ward and city bosses could be got; if a small percentage of that spent on comic opera could be shunted this way! If these are idle dreamings is it not perfectly possible that in future ages some wise legislator of some civilized government may convince his fellows that not only is this the duty of the national administration, but that the very beginnings of the system are already in operation in the national census-taking. In this the mechanism is really inaugurated, and needs but the inclusion of the

civil service examination, the soldiers' entrance tests, and the governmental pensioners' medical examinations, to bring it a long way toward perfection. With the plan once determined upon, and the brain once found to gather the haphazard and discrete parts to an organic unity, but little additional expense would be incurred over that now spent in the separate systems. Indeed, the scheme itself is only an extended and a perfected bureau of vital statistics. Once such co-operation were started, the city and state with their criminologic statistics, the insurance companies with their accurate vital and pathologic records, and especially the medical profession with its systematized records of individual and social morbidity, and many other agencies, would be drawn into co-operation, and the bases of a truly inductive and physiologic science of civilization would begin to be laid.

While we wait for that millennial palace of Science we physicians need not be idle—nay, we may be at work in the quarries. Our first duty is to reorganize, systematize, and make scientific our case-books and recordings of patients' histories. Let us study this great and neglected art so that these most precious fruits of our life-work shall not end in the pulp-mill. The lack of literary workmanship in making and keeping our records of disease is altogether deplorable. What is left to science of the life-work of a million physicians whose business has been with the most precious biologic facts of the world? Can we not perfect some bridge whereby the results of our life-labors can be carried over the stream of death and become the property of general biologic and pathologic science?

Surely then, our second duty is to make our science prescient, by means of the repeated examination at stated intervals of those patients whom we can convince of the necessity and wisdom of such a proceeding. It is a shame of medicine that in the one department of our science which we are most foolishly inclined to look down on with too much superciliousness, its practitioners have outrun us. The dentists have long recognized the need of periodic examinations of the special organ, regardless of symptoms, and they have at last driven the knowledge into the minds of their patients. Thousands of patients have their teeth periodically examined for beginning needs and diseases or to prevent them. If this be wise as regards the teeth, how infinitely wiser it would be as regards the kidneys, the eyes, the heart, arteries, etc., and the person as a whole. It is the shame of medicine and the basis of quackery, this symptom-treating and symptom-killing. What a horrible fact—this of the vogue of the pain-deadeners! Millions of dollars are capitalized in the business, and half or three-fourths of the work of our lives is devoted to the mere stopping or deadening of symptoms. But, as we all know, true medicine is to stop the cause of symptoms, to prevent the symptoms from ever arising. For many years, in my specialty, I have been begging that biennial ocular examinations should be made, regardless of "no trouble," regardless of "perfect satisfaction." Absence of symptoms is no evidence whatever of absence of disease. No eye should ever be left over two years without re-examination. No spectacles can remain correct two years, because no eye ever preserves the same refraction, balance, and powers, for that period of time.

And what good also is the enucleated eyeball, or any piece of dead tissue, in the hands of the pathologist?

Certainly only to prevent other living eyes and organs from becoming as these dead ones have. True pathology is surely knowledge of disease in the making. The pathologist's final problem is to prevent pathologic specimens from ever coming into his hands. Quâ pathologist he must commit scientific suicide. Most of our fashionable pathology is the paleontology, not the biology, of disease; but was it not said of old, that it is better to be a living dog than a dead lion? How is disease in the making ever to be discovered except by examinations, continuous observation, of the living supposably-well organism?

Is it not even true of living disease that one-half the patients seen by the doctor are seen far too late? For paresis, locomotor ataxia, etc., and for many psychic diseases we do nothing, because we recognize their existence so late that nothing can be done. Had they been seen earlier injury could have been prevented. Surely in more than 25 per cent. of my patients many years or whole lifetimes of suffering and disease could have been obviated. It is doubtless as true in general medicine. All good medicine inevitably tends to become preventive medicine; all good physicians labor to stop disease before it arrives. The whole ingenuity of the trained diagnostician is now expended on the problem of the earlier symptom. He is the greatest discoverer who finds the presymptom, or the symptom of the symptom; the greatest therapist is he who cures before the disease exists, he who starves the bacillus to death, he who stops the evil habit, thus preventing the malfunction that becomes organic disease. The best cat is the one that kills the rat that eats the malt that lies in the house that Jack built. It is a truism that gout exists in the patient's system long before it causes a twinge of pain; the kidneys are ruined before the slightest subjective system is manifest; there may be heart changes indicating the existence of nephritis, which a single uranalysis may not detect; arteriosclerosis may be present prior to subjective symptoms, and the objective examination would detect it; there may be unsuspected diabetes without symptoms until examination of the urine reveals it—even with our crude prescience early uranalysis of the apparently well would often reveal the hidden evil at work sapping and mining toward the vital centers. Every oculist has often discovered albuminuria before the general physician suspected it. There are a hundred known intimations and auras of oncoming disease, but there are a thousand undiscovered ones, presymptoms, advance scouts and forerunners, to be learned when the slight and unconscious departures from normality are studied by examinations of the supposably well. Pathogenesis, not therapeutics, is the ultimate study of all medicine. And all pathogenesis is by no means running bugs to their holes: the greater number of life-wasting diseases are not bacterial in origin; and even the growth of the bacterial diseases depends on the soil in which they are sown.

I picture to myself a new field of work opening out before the poor plundered general practitioner. It must often seem to him that as a general he has been stripped of both army and enemy. One by one the specialists have robbed him until he has left hardly a soldier or a patient. The surgeon first took almost half of his army, and now threatens to relieve him of Colonels Appendicitis and Typhoid, and heaven knows of how

many more officers which he formerly considered his very own. Then the aurist, the oculist, and the rhinologist deprived him of his special senses, and the laryngologist rendered him aphonic. If the obstetrician and gynecologist left him one or two of all his women folk, the rest-cure man and the neurologist soon alienated the affections of these hysterics—and they lived unhappily ever after. The pediatricist stole his babies and the psychiatrist his mind; and, lastly, the gastrologist will not allow him to have all to himself, even a simple stomachache.

The truth seems to be that of all the specialists the generalist has been squeezed into the narrowest specialty, and the surgeon is grasping avidly at his one or two remaining comforts. Even the diseases of the lungs, stomach and kidneys are now claimed and we may soon expect to see such advertisements in the religious and daily newspapers as: "A new operation for neurasthenia; craniotomy for unselfishness; preventive inoculations in case of threatened breach of promise; vaccinations for antivivisectionists; damaged heart-valves surgically repaired while you wait; kidneys transplanted immediately following the next electrocution; complete maturation of the artificially fertilized ovum in our new twenty-first century incubator."

The family physician's function seems to be fast becoming that of adviser-in-general and referrer-to-others; the "last straw" is that ethics will not permit these others to divide their fees with him. Nothing in fact is left to him except to have permanent anorexia and to move to a climate in which house and clothing are not necessary—Porto Rico and the Philippines, for example—providentially supplied, without doubt, for this and similar tariff purposes.

But seriously, have we not gone too far with our specialism, and are we not thereby in danger of losing the co-ordinating sense and oversight of the organism as a whole? The specialist can not be dispensed with. By his aid and through his accuracy medicine must progress; but neither should the generalist be squeezed aside. He is even more necessary. It is his duty to teach his under-officers, the specialists, their proper places, and by his sane and large grasp of all the facts supplied by these subalterns, by his co-ordination of the work of each and of all with his own overlook of organism and life as a whole, he brings cosmos out of chaos, and organic unity out of hundred-eyed and selfish diversity. The specialist is fatally inclined to treat the disease; to the generalist must be left the far more important treatment of the patient.

It may seem hard and impertinent to say to an audience of generalists that the generalists have been robbed because of their own fault and negligence. The so-called stealings of the specialists are in reality helpful and if rightly understood they leave the generalist his proper work. Life, it has been said, is made up of little things; and yet life itself is not a little thing. So it is with health, fulness of years, and utilization of powers; they all depend, medically and physiologically, upon little things, and yet compositely, they are "the greatest thing in the world." In the vogue of the specialist, the generalist is more than ever needed. If the aristocrats have usurped power, there is the chance and demand for a powerful king. The specialists are, or may be made, the assistants of the general physician, who needs their help and all the data they can supply, and whose supreme function it is to fuse the whole to a higher unity and to establish the secret relations in reality existing in all.

There is no specialist who is not willing and glad to make full and systematic reports to the general physician of all his findings. It is his duty to the patient and it is the specialist's self-interest to do it well. He is not so stupid as to offend the referrer of patients. In this function the generalist has the whip-hand—and he should use it, at times.

And thus it happens that the desirable system of personal biologic tests sketched need not await the action of government, the university department, the city or state institute, the union of anthropologic societies, or the anthropometric and pathologic institution founded by private endowment. Let us earnestly pray and work for any or all these things; but in the meantime much may be done by medical men and societies to prepare for the larger and more perfect outworking of the scheme—nay much may be done toward the realization of its more distinctively medical features.

Based upon the fact actually felt by every physician, that a series of systematized periodic examinations of patients apparently well would often reveal beginning diseases, prevent future illnesses, and increase the vital values of life, every one can prevail upon certain patients, students, or members of his family, to undergo the necessary tests. The more intellectual and well-to-do citizens will soon realize the self-evident value of such work, and not only submit to it for themselves and children, but will be willing to pay an annual fee for the service. Specialists will be willing to contribute their results. The examinations need be only of the more fundamental and simple factors at first until the good-will, machinery, funds, and recognition of the significance and usefulness of the work grow.

In several ways these examinations themselves are the means of a striking self-education of the physician:

1. In systematizing and perfecting a method of record-keeping there is a subjectively psychologic as well as an objectively scientific result of inestimable good. It is a sort of liberal education. To adapt and perfect the card-system to this useful end; to summarize the results of all diagnostic methods; to formulate prognoses; to classify and epitomize so that the whole shall look to the personal advantage, as well as toward the progress of preventive medicine; and finally, to dovetail the combined result into general biologic science and to clarify the laws of heredity; all of this is labor worthy of the wisest selfishness and the best intellectuality.

2. In rendering accurate and mathematical all the known and recognized methods of medical testings, there is much to be learned. It is in catching sight of the forerunning indication of disease, the symptom of the symptom, the functional beginnings of organic abnormalism, that a large deal of progress lies. Who, e. g., as yet, measures the blow or stimulus in taking the patellar tendon and other reflexes, with machine-shop accuracy, also the resultant excursion or reaction, chronicling same in his notes, with absolute or approximate precision?

3. In the excursions into the border land, but still closely related, domains of cerebrolgy, craniology, psychophysics, criminology, sociology, public hygiene, and all the rest—in learning to make these tests, and chronicle the results required in these studies, one enlarges the range of his subjects, broadens his personal and scientific outlook—in a word annexes with justifiable imperialism and expansion, the adjacent territories of his special science. Each gives his light, and, as in all beneficence, by giving, each increases his own as well as the general illumination. The stars go out but the day dawns.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo, N. Y.—This most interesting paper of Dr. Gould is one which I should like to think over a while before discussing it. Its importance is manifest, and its applications are many. Without attempting to go into the subject at length, I desire to mention this suggestion, which was made to me years ago by another, viz: that it would be possible to establish archives of individuals and family histories which might be placed on file, as documents are now kept at the office of the county clerk. While this may be impracticable, if it could be accomplished it would be a good thing, and would enable us to solve many of the questions relating to heredity.

LARYNGOLOGY AND ITS RELATIONS TO GENERAL MEDICINE.*

J. SOLIS-COHEN, M.D.

PHILADELPHIA.

Laryngology is more intimate in its relations to general medicine than is fully realized by the average practitioner, or by the exclusive specialist.

Except by the initiated few, the laryngoscope was regarded in the earlier days of laryngology as little more than a physiological toy; but the lessons learned and the triumphs earned by those few, and by their pupils, their successors and their admirers, have slowly become sufficiently appreciated to render its more or less systematic study necessary in well-appointed schools of medicine. Indeed, in a number of medical schools, in the United States at least, laryngology, with its collateral subjects, is the students' favorite among the elective branches. Nearly every school has one professorial instructor with his staff of assistants; some schools have two, and at least one has three. This demand for laryngological instruction must soon culminate in its acknowledgment as an essential feature in medical tuition, requiring satisfactory examinations inefficiency as prerequisites to medical degrees. Teachers of the branch should uphold its dignity and aim for this complete recognition. Nothing less can be assigned to this important region where cross the two essential avenues of life, the pathways to respiration and nutrition.

THE LARYNGOLOGIST SHOULD HAVE A KNOWLEDGE OF GENERAL MEDICINE.

What has been the cause for this great desire for instruction in diseases of the upper air-passages and accessory structures? Partly, perhaps, a wish to participate in the reputed pecuniary rewards of those who have been devoting themselves to laryngological and kindred practice. Largely, more probably, in the gradual comprehension by preceptors and practitioners generally, of the manifold relations of this branch with nearly every other branch of medical practice, and the light and more light which it is steadily casting upon obscure points in the broad domain of general medicine. This leads them to recommend the study of the throat and nose to their medical students, as an essential branch of their professional education. For this reason, it is in all probability a great error for a recent graduate to devote himself to exclusive practice in a special line before he has some considerable experience in general practice. A general practice, with special attention meanwhile to any desired branch, will render the practitioner the better and more thorough specialist in the long run. There are specialists and specialists. There are specialists in the branch under consideration who rarely, if ever, condescend to

feel a patient's pulse or in any other way make themselves acquainted with the condition of his general health. Mechanicians rather than physicians, they will snare or cut away or otherwise remove an obstructing turbescence of a turbinate body, when a smart saline laxative would have purged the tissues of their excess of liquid, or when even a run upstairs from the bottom of the house to the top would have sent blood enough to the patient's heels to lessen the supply to his head and thus restore nasal respiration for the time being. Then again, ignorance of the relations of the nasal structures and accessories to the structures of the ear, to the structures of the eye, and alas! to the structures of the brain, occasionally leads to the sacrifice of an organ or of a life to injudicious instrumental operation, and occasionally even to injudicious instrumental explanatory investigation. So, too, ignorance of possible sequence to operative interference engenders neglect in attention after operation; and again organ or life becomes a sacrifice to hemorrhage, to autoseptic infection, or to some unexpected complication. From these errors the specialist who remains or has been a general practitioner is far more free. He is in the habit of, actually or mentally, interrogating more or less the entire system of his patients, and of providing for exceptional contingencies; his errors are more likely to be errors of judgment than errors of ignorance; in the other case, the errors are errors of ignorance as well as errors of judgment. Often, too, the ignorant specialist is so unaware of his deficiency that he vaunts as great personal triumphs the eventual subsidence by exhaustion of tumultuous complications, really brought about by his own injudicious interference.

RELATION OF LARYNGOLOGY TO OTOTOLOGY.

In briefly enumerating some of the more prominent relations of laryngology to other medical departments and to general medical practice, the diseases of the ear produced by extension and convection occur first in consideration; and so closely has the connection been demonstrated that prevalent opinion coincides to-day with that expressed by the writer of this address a generation ago: that diseases of the ear could not be properly cared for without familiarity with rhinopharyngology, and that treatment of diseases of the ear should be practiced in connection with laryngology rather than with ophthalmology, as was then the almost universal custom. These relations are so familiar to the members of this Section that they need not be further alluded to.

RELATIONS BETWEEN RHINOLOGY AND OPHTHALMOLOGY.

The relations between rhinology and ophthalmology are not so close; but there are numbers of positive relations. Beginning with conjunctivitis, many an intractable case can be cured by treating the preliminary nasal catarrh which has extended along the nasal duct. Then there are the diseases of the lachrymal apparatus, sometimes due to direct pressure from hypertrophied, abnormal or distorted turbinate or septum; or from polyp or morbid growth; or from mere atrophic rhinitis without any stricture of the canal whatever. Then there are the distortions of the orbit produced by abscess and neoplasms in antrum and nasal structures. Furthermore there are remoter relations with retinal and other defects, with which most of us are far less familiar, and which have been reported chiefly as contributions to ophthalmologic literature.

RELATION OF LARYNGOLOGY TO GENERAL MEDICINE.

Passing to general medicine, where in its study will

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