of the therapeutic value of entero-anastomosis in the treatment of intestinal tuberculosis, sufficiently limited to warrant surgical interference and beyond the reach of successful treatment by more radical measures.

Complete physiologic exclusion.—Practical experience has demonstrated the value of partial physiologic exclusion in the treatment of certain forms of localized intestinal tuberculosis. It would be natural to assume that the therapeutic value of entero-anastomosis would be enhanced if the affected part of the bowel could be completely excluded from the fecal circulation, thus securing for the diseased tissue a condition of absolute rest. At the time the writer made his experiments on physiologic exclusion of parts of the intestinal canal, he had this object in view and made a number of experiments to demonstrate the possibility and practicability of the procedure. The exclusion was made by isolating a section of the intestine and closing its ends by invagination and a few Lembert's sutures. The continuity of the intestinal canal was restored by circular suturing or lateral anastomosis. The results of these experiments proved unsatisfactory, as it was found that the retained intestinal secretions constituted a source of danger. A few years later, Salzer modified the operation by establishing a fistula in connection with the excluded portion. This method of effecting complete physiologic exclusion has been resorted to only in a very few cases in the surgical treatment of intestinal tuberculosis. I will limit myself to a detailed reference to v. Eiselberg's case.

In a case of tuberculosis of the cecum, ascending colon and hepatic flexure, this surgeon ("Zur Casuistik der Resectionen und Entero-anastomosen am Magen und Darmcanal," *Arch. f. Klin. Chirurgie*, B. 54, Heft 3), resorted to complete physiologic exclusion, with temporary benefit. The patient was a man 35 years old, who was in good health until five years ago, when a tubercular affection of the foot developed, followed soon by symptoms of acute pulmonary tuberculosis. Three years ago, the head of the tibia was operated upon by curettage, for tubercular caries. During the healing of the wound the patient suffered from an attack of perityphlitis, from which he recovered, but the disease was followed by periodic pains in the ileo-cecal region, at short intervals. During the last few months the pulmonary symptoms became aggravated and an obstinate diarrhea set in. On admission into the hospital, examination revealed extensive tubercular infiltration of left apex of lung and a cylindric swelling in the region of the cecum; the swelling was somewhat movable and tender on pressure. Operation was commenced, by making an oblique incision directly over the cecum. The cecum was found smaller than normal and not adherent. The infiltration extended from the ileo-cecal valve to the middle of the transverse colon. The affected portion of the bowel was completely excluded and the continuity of the intestinal canal restored by circular suturing, the resected end of the ileum had to be joined with the transverse colon. The mucous membrane, at the points of section, appeared to be healthy. The ends of the excluded portion were fixed in the upper and lower angles of the wound, respectively, and the balance of the abdominal incision was closed in the usual manner. From the excluded portion of the intestine mucus and pus escaped in considerable quantities. The patient improved temporarily. On the seventh day the affected part of the bowel was washed out

carefully, from both ends, with a warm physiologic solution of salt. These irrigations proved the competency of the ileo-cecal valve. The flushings were found useful in diminishing the amount of the inflammatory product. The patient left his bed in three weeks. A few days later the pulmonary symptoms became more marked and when the patient left the hospital, a week later, he was attacked with pulmonary hemorrhage, which recurred several times and from the effects of which he died two months after the operation. Diarrhea reappeared soon after the operation and continued to the end. The persistence with which the diarrhea continued soon after the operation tends to establish the existence of the tubercular lesion of the mucous membrane beyond the limits of the operation.

Complete physiologic exclusion will, in all probability, have a very limited scope in the surgical treatment of intestinal tuberculosis, as the immediate dangers to life are almost equivalent to the risks incident to resection and the advantages over those of partial exclusion are not sufficient to warrant a more general recourse to this procedure. There can be but very little doubt that with an increased knowledge of the etiology and pathology of intestinal tuberculosis surgeons will be induced to resort to operative treatment more frequently in the future, and that with further improvements in the technic of intestinal operations, the surgical treatment will yield more encouraging results.

ORIGINAL ARTICLES.

WHERE THE WEAK-LUNGED OR CONSUMPTIVE AND NEURASTHENIC MAY LIVE AND ENJOY LIFE.

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OBSERVATIONS.

My object in writing this paper is to call attention to conditions, localities and influences that are beneficial to certain classes of sufferers, basing my conclusions upon my own observations and the statistics and observations of others.

It is impossible for all men to be rated by one general rule, nor will one climate suit all conditions. There is a distinctive individuality that does not allow a fixed or arbitrary procedure, men differ in their constitutions, temperaments, likes, dislikes and necessities as they do in their faces and forms. A climate favorable to long life is the one thing sought by man. The question is, where can I go to prolong my chances of life, suffer least and get the most enjoyment out of the time allotted me? Thousands are asking these questions, the consumptive perhaps more than any other, since consumption is the greatest scourge of the human race. Another class is the rheumatic, then comes the ever-present nervous individual with his many troubles, insomnia, etc. It is in the interest of these several classes that I write.

Among civilized people in temperate regions consumption, it is said, carries off one-tenth of the population and, so far as we know, there is no country entirely free from its ravages. In Iceland the disease is rare, while in the West Indies it is of common occurrence. This shows that heat is not a preventive and that cold does not necessarily produce it. That medicines are of but little, if any, use can scarcely be doubted. Cod liver oil and immunized serum are of

little or no value, climate is the one thing most promising.

I do not favor a cold climate for a sick man; a low temperature is especially detrimental to the phthisical or consumptive, notwithstanding there are strong advocates of the North, as the Adirondacks. Many cases are very much braced up for a time in a cold climate; the electro-positive conditions tend to make the depressed and jaded person feel better, but it is absurd to send a person suffering from consumption into a cold climate, as he is of necessity a person with impoverished blood, enfeebled circulation, and to place him where he must be shut up in-doors, week in and week out, and expect any lasting results for good is beyond my comprehension. I will concede many try and are much of the time out in the cold air of northern resorts, as the physician often insists that it is positively necessary to remain out. The out-door air is necessary but more die in the attempt than get any lasting benefit from such ventures. While I do not approve of cold high altitudes and extreme changes, I also do not see a fitness in warm humid climates for the consumptive. I have sent many cases of consumption to Georgia, Florida and South Carolina in years gone by. In a few instances they have been benefited, but more frequently were not.

Aiken, Summerville and Thomasville, all of which have admirable climates in comparison with central or northern New York, for the comfort of the consumptive, but the variations are even there too marked, changes are too abrupt to be what is desired. The pine forests are no doubt beneficial and soothing, by reason of the ozone and sweet resinous odors of pine; this is especially true of bronchial troubles. The middle Southern States are better for the nervous class than for the consumptive. We have traveled over the Southern States at different times; I also visited the Territory of New Mexico with the express view of learning, if possible, of its value as a health resort for the consumptive. My first stop was at Eddy, located in the Pecos Valley at an elevation of about 3,000 feet. Here I found a clear sky and lovely climate and without the extreme changes of Northern regions; here we found many persons in the various stages of consumption (so claimed) that had come for relief, and that were to all appearances enjoying fair health, at least so long as they remained. To sufferers from, or rather those fearing lung troubles, New Mexico offers conditions favorable to the non-development of pulmonary diseases. It is a climate suited to cases before the destructive stage has arrived. Here is found a dry, aseptic air, a light atmospheric pressure, a large amount of sunshine and dry porous soil, and it is never too hot when one is shaded from the sun. The air is fresh and stimulating, the prevailing winds traverse a large expanse of arid regions and is consequently freed from all dampness; hence one can be out of doors a large share of the time, an almost positive necessity for persons with weak lungs. My observations were such that I would recommend the Pecos Valley to those persons who have not yet reached the stage of lung disintegration. My advice is to go there and engage in farm and stock raising, either of which offers large returns to the industriously inclined. Land is cheap and can be had on easy terms. Farming in New Mexico under irrigation is pleasant as well as profitable. I think that for the class named no better climate need be looked for; but once the disease has developed and

there are cavities in the lungs I doubt the propriety of going to New Mexico at the present or for some time to come.

New Mexico has high winds which come up suddenly, as is always true of timberless countries; the soil is dry and loose by reason of little or no rain and consequently there is but little grass or other growth to prevent the winds gathering up the dust and loose earth; hence dust and sand storms are not infrequent, though becoming less frequent and less terrible in character as the lands are brought under cultivation by the help of irrigation. During the time of high wind the air is full of dust, driving all persons in-doors, often for some hours, and even in-doors the air is full of dust particles which prove deleterious to an inflamed and highly sensitive tissue or mucous surface. When one is caught out in these storms, even if free from any lung weakness, the sense of suffocation is dreadful to say nothing of the feeling of bronchial irritation which follows and continues for some hours. Such foreign matter certainly can not act beneficially upon diseased tissues, therefore I do not think New Mexico the country for a fully developed case of consumption. I believe, however, that the time will come when it will be largely the resort for consumptives by reasons of the changes that will be wrought through irrigation and by reason of its nearness to the now populous portions of the States.

Before giving my conclusions relative to Mexico as a resort or home for the consumptive I will endeavor to disabuse the public mind of much that is false relative to Mexico and the Mexican people. It has been well said that "Mexico is a land of romance and wonder and that every noted spot has its legend." An extended description of Mexican life and customs would require too much time and space. I had an ungenerous opinion of this near-by land, having throughout my life heard only unfavorable criticisms. My first impressions were varied; the longer I was with the Mexican people and the more carefully I studied them the more favorably I was impressed toward them and their unique country.

Mexico may well be styled the Rome of America, not strictly on account of her temples and palaces, but on account of her churches and other ecclesiastical buildings, many of which have been alienated from their original purpose. Everywhere, in all the Indian towns, the grand Gothic cathedral rises above all else. In the metropolis the cathedrals are conspicuous, many of them grand, commodious and imposing. Public monuments are on every hand, many are real masterpieces. Upon the grand boulevard extending from the Alameda to Chapultepec, a distance of three miles, are numerous monuments to the memory of Aztec kings, also to King Charles, Columbus and others. There is in Mexico a strong educational interest manifest; excellent facilities in this direction are afforded at the capital by a school of fine arts, professional schools for women as well as men, an academy of fine arts, a conservatory of music, school of mines, school of jurisprudence, military institute, medical and commercial colleges, preparatory school for boys, deaf dumb and blind institutes, national museum, a superb public library with over two hundred thousand volumes. President Diaz has an idea to thoroughness, as is evinced by his prescribing a seven years' course in the national schools, the college of agriculture and college of engineering. The course includes French, English, German, Greek and Latin, geog-

raphy, meteorology, chemistry, botany, geology, architecture, agriculture, surveying, bookkeeping and political economy. The medical course is seven years. Musical culture is a prominent feature in Mexico. One of the noble institutions is the school of arts for women; in this school poor girls have unequalled advantages for learning. The government gives them a comfortable room and two meals a day. Many of the poor are supplied with clothing. Can the United States boast of a nobler benefaction? As regards civility and politeness, they are certainly the most polite people I have ever seen, with universal respect for age, genius and their superiors. Hospitality is a national characteristic; a leading inspiration among them is to make home beautiful; to this end every element of refined taste and culture is brought to bear. Americans may well copy their taste in floral and other home decorations.

The Republic of Mexico is a much misunderstood country; although near us, it has seemed to be a far off land, without merit, beauty or other attraction; its inhabitants a people that are strangers to hospitality, who live within and for themselves, whose prejudices are deeply rooted for reason of a never-to-be-forgotten unpleasantness that cost them many lives and much territory. Such I am happy to say is a misconception. A more liberal, hospitable people are not to be found. Instead of repelling they invite you to come, they ask that Mexico be better known, they seek investigation of their great country, the advantages of climate, etc.

Before giving any specific information relative to Mexico as a health resort it is well to briefly discuss what is, or should be, the accepted conclusions as to effect of climate upon certain diseases. The chief factors that act beneficially or adversely upon the consumptive.

Phthisis is the most important of all diseases for the amelioration of which climate is sought and over which, I think, temperature and humidity are ruling factors for good or evil, and that dryness is beneficial, humidity obnoxious and cold dangerous. Sunlight is a feature to be sought after by all classes of invalids and neurasthenics, but more especially is it a requisite to the consumptive.

There is little or no necessity for our dwelling to any extent upon the value of out-door air and sunshine; everyone acknowledges its benefit, though in the summer they may have a preference for the shade. The effect of light upon man's physical and moral well being is certainly analogous to the fructifying influence of the sun's rays upon the vegetable world, the existence of which depends upon light. Sunlight, clearness, transparency of air are certainly indications of purity. An atmosphere through which one can see a great distance, as in the high altitudes of Mexico, surely implies purity, absence of dust, smoke and moisture. Absence of moisture implies absence of infusoria and low forms of organisms. The changes of atmosphere in high altitudes are largely dependent upon electric conditions. There is an increase of electric tension, a higher potential quality as we gain in altitude; in other words, the dryer the air the more positive are the electric currents that surround us. Positive currents are stimulative, while negative are non-stimulating. It is only in the high, dry altitudes that we get positive electricity, hence the universal expression uttered by every one visiting high altitudes, "how light and buoyant I feel; this climate

seems to just lift me up, I feel that I have a great weight removed from me, etc."

The high-level resorts are being more and more appreciated and there is an increasing tendency to go to high altitudes. Seashore resorts are much less sought than they were ten years ago, unless it may be by those having no special need other than change from home and its environments.

The chief points of importance in climatic conditions are those favorable to non-development, retardation and cure of consumption, which are dryness of air, freedom from micro-organisms, irritants and noxious gases, the largest amount of sunlight practicable, diminished barometric pressure, ozoniferous atmosphere, and chief of all a climate that admits of an outdoor life the largest possible amount of time. I am sure that high altitudes in a southern latitude are the only safe resorts and afford the advantages enumerated.

I believe portions of the Republic of Mexico, the high table lands at an elevation of from 3000 to 7000 feet above the sea level offer more and better advantages than any other country. When all is considered Mexico has climatic conditions suited to almost any possible condition that can exist, since temperature and barometric pressure depend entirely upon elevation, as do also humidity and dryness. In the high altitudes there is a positive freedom from sudden changes of extreme character, by reason of the lofty and continuous mountain ranges that surround the plateau lands of the republic.

In most of the mountain resorts of the world there are one or more serious objections to recommending them as a constant home or even as a temporary resort. In northern climes the extreme low temperature is inconsistent with out-door life a large portion of the time, which is a serious objection. No medical man can conscientiously advise a cold climate for an invalid, much less for the consumptive. Another objection to high altitudes in northern climes is the sudden fall of temperature, a thing that is dangerous to an enfeebled constitution. A low, humid, hot country is equally detrimental or nearly so as that of a cold frigid one.

Portions of Mexico and New Mexico are well adapted to certain classes of nervous cases and to the improvement of pulmonary conditions. Why? By reason of the high altitude that may be attained, the air being aseptic, free from dust, irritation and low forms of organisms or microbes; by reason of the rapid evaporation of morbid secretions in the lungs promoted by the reduced barometric pressure and the dryness of the air at the elevation named, the increased oxidation of the blood and tissue changes are due to increased metabolism, dependent on the sunlight of the high altitudes and lessened air pressure; by the increased quantity of blood circulating in the lungs due to the low air pressure of the high altitudes. In high altitudes there is an increase of blood circulating through the lungs, hence increased metabolism and tissue changes. The increased activity and deep breathing attendant upon a life in high altitudes tend to improve nutrition and glandular secretions. Along with the local and general nutritional effects that are manifest from a sojourn in the high altitudes of Mexico are the delightful and stimulating effects upon the nervous system. Still another noticeable feature and one much to be desired, is the increase of red blood corpuscles and hemoglobin. Such blood

changes are unquestionably due to increased amount of oxygen inspired. Anemic conditions rapidly disappear in the sunlight of Mexico's high altitudes; rapid and remarkable improvement in the local and general conditions are coincident with the blood changes in the consumptive who is transported from the sea level to altitudes of three or more thousand feet, as has been demonstrated by numerous careful observations in Europe, North and South America.

So far as we know the only successful means of combating tuberculosis is by improving the resisting powers of the system. Out-door life in a mild, dry climate where the general health can be kept at the highest possible standard offers certainly the best possible advantages and the longest immunity. The high lands of Mexico certainly offer all that can be desired in point of climate, being neither hot nor cold, and is as near as possible suited to each and all cases. Whatever rainfall takes place in Mexico is between the months of April and November, just when needed to cool the otherwise long and occasionally dry season, most of the showers occurring during the night hours consequently seldom interferes with out-door exercise, sports or employment. The opportunity for profitable employment is a strong argument in favor of Mexico and New Mexico; lands are cheap in either country and profits large. The accommodations for invalids are meager. The hotels are not, as a rule, what they ought to be and are not generally favorably located for the invalid class, nor are they built with any thought of providing open air exercise or sun baths. The hotels are in the midst of the noise and din of business. That no provision has been made for the invalid class is due to lack of demand; the people of the North that need just such a climate have never had their attention called to Mexico. The day is near at hand when the sanitariums for the people of the more northern sections will be in the Mexicos. The land of the Montezumas needs only to be seen to be appreciated, the enchantment grows with your stay in that balmy land. While there are English-speaking people to be found almost everywhere in the republic and especially in the City of Mexico, your comfort will be largely increased if you have sufficient knowledge of the Spanish language to understand and be understood.

CLASSIFICATION OF THE LESIONS CONSTITUTING THE SO-CALLED CHRONIC NASAL CATARRH.

Read before the Chicago Medical Society, Jan. 5, 1898.

BY H. GRADLE, M.D.

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The term chronic catarrh was formerly used for all chronic affections of the nose manifested by more or less nasal obstruction and secretion. It is still so employed by the public and to some extent by physicians, yet the studies of the last twenty years have resolved this comprehensive name into a number of separate affections. The description of these various types of disease is, however, neither uniform in different text-books on the nose, nor do the types stated by authors conform always with actual observation. Perhaps the main reason for these discrepancies is the frequent multiplicity of lesions, so that quite commonly the symptoms of catarrh depend on several different morbid conditions co-existing in the nose.

My object is to classify the different lesions which

make up this composite picture of catarrh. On the basis of many years' personal observation I wish to describe those types of morbid changes which constitute each a separate disease entity. Although these are often found in combination I shall base my description on cases which present the least number of lesions and hence the purest type of each disease.

The different lesions which simply or in combination make up the clinical picture of chronic catarrh may be grouped as follows: 1, enlargement of cavernous tissue; 2, simple nasal catarrh; 3, nasal suppuration, localized in nasal passages, accessory cavities, or the pharynx; *a*, rhinitis sicca anterior (perforating ulcer); *b*, ozena or atrophic rhinitis; 4, hypertrophic inflammation of mucous membrane and adenoid tissue; 5, septum deformities in the form of deflection, articular expansion or callus formation.

1. *Enlargement of the venous plexus* in the mucous membrane occurs in connection with all (except the atrophic) forms of nasal disease, but may exist in a nose not otherwise diseased at the time. It hence deserves to be described as a separate lesion. Its significance depends less on the permanent increase of vascular tissue than on its periodic dilatation under the influence of various stimuli. These periodic changes of turgescence cause the variable obstruction or even occlusion in nasal diseases. Except in acute inflammations the vascular distension is only one-sided at a time; but alternating. The area where the veins are massed in the form of distinct cavernous tissue is the front region of the inferior turbinal and the posterior ends of all the turbinals. Enlargement of the cavernous tissue is not identical with hypertrophy of the mucous membrane and can be distinguished from it by the compressibility on pressure with the probe and by the contraction under the influence of cocain. It may, however, co-exist with moderate tissue hypertrophy.

The influence of the vaso-constrictor nerves upon the cavernous tissue is sometimes shown by its contraction under the effect of anxiety during an examination. Whether there are also vaso-dilator nerves is not known. Although enlargement of the cavernous bodies is mostly but a concomitant condition in other nasal diseases, yet it is sometimes found where no other lesion can be detected, especially in hay fever. As far as can be learned clinically, it is the result of often repeated attacks of acute inflammation in subjects with unstable nervous systems. Indeed vascular dilatability is the direct expression and, to some extent, a proportionate index of a neuro-pathic condition. In extreme instances sudden engorgement with sneezing and profuse watery flow simulates attacks of true coryza, but its non-inflammatory nature is shown by the short duration of the spell, as well as by the absence of corpuscles in the clear discharge.

2. *True nasal catarrh* is characterized by catarrhal secretion, a thick, viscid, turbid fluid, containing enough cells to make it appear whitish or gray, but not yellow or green and not at all purulent. In cities the discharge is commonly stained by inhaled soot and dust. This discharge flows over the soft palate and drops into the throat or is dislodged by forcible expirations which vibrate the palate. It is not blown out of the nose. Nasal discharge blown into the handkerchief is either purulent or a sudden flow of clear transparent mucus in consequence of acute irritation. Although nasal catarrh, described by the patient as a "dropping in the throat," is the most common form of