also been observed in drunkards and occasionally in tabes and general paresis. Adults of irregular habits, between thirty and thirty-five years of age, are the occasional subjects of the affection. Two cases are reported to have occurred at the ages of forty-eight and fifty-seven respectively; and two others in consequence of sudden fright in girls of seven, both of whom had histories of hemicrania confined to the left side; and in another case the mother was exposed in pregnancy to violent psychical excitement. A case is reported to have followed infantile encephalitis. Another followed diphtheria, another a burn, and another a gunshot wound. It is not known that sex is an etiological factor, nor does the affection appear to be confined more to one side than to the other. In thirty-five cases it was confined to the right side in nineteen, and to the left in sixteen. When athetosis is confined to one side of the body it is designated as *unilateral* or *hemiathetosis*, and is symptomatic of disease of the cerebral centre.

Double or *bilateral* athetosis, which usually dates from infancy, is generally idiopathic and unaccompanied by hemiplegia; it occurs in cases in which there is probable atrophy of the brain. In fact, there seems to be a close relation between cerebral atrophy and this affection, the reason for which is not clear. A case is reported in which the spasms occurred in the right hand and the left foot. The muscles of the face and neck appear to be affected to a greater extent in this form than in the unilateral; there are no sensory disturbances; the reflexes are increased; the mental condition is variable; it may or may not be associated with idiocy, and the disorder is not necessarily post-hemiplegic.

Diagnosis.—Athetosis being a combination of symptoms somewhat resembling paralysis agitans, care should be taken not to confound it with that affection. A likeness to athetosis is also found in senile trembling, in the tremor characteristic of mercurial poisoning, and in that of disseminated sclerosis of the nerve centres. Other analogous conditions are the spastic contractions common after hemiplegia in children, and the movements that take place in chorea. Athetosis may be distinguished from all these by the peculiarity of the movements, which are slow, systematic, uniform, and apparently determinate. They have not the quick, jerky, unexpected character presented by other forms of clonic spasm, but are slower and of a gliding, quasi-rhythmical character that may be compared to the peristaltic action of some involuntary muscles, or to the movements in muscles affected by a peculiar form of cramp. The anomalous position of the hand, which is an exaggeration of that assumed by a baseball catcher, is an excellent diagnostic sign; slowness of speech and impairment of the intellect are also diagnostic aids. Electric excitability is increased in chorea; in athetosis it is normal.

Pathology.—Though the pathological anatomy of the affection may not be stated in such clear terms as its clinical phenomena, yet the cases seem to warrant the act of making a distinct pathological entity of athetosis and the placing of it in the category of brain diseases. The pathological characteristics appear to be degenerative changes in the corpus striatum and the optic thalamus. In one recorded case the disease was thought to be caused by an embolus blocking the middle cerebral artery; and the post-mortem examination showed the disease to be limited to the optic thalamus, the corpus striatum, and the parts just external, thus justifying Dr. Hammond's original surmise as to the probable seat of the affection, before he had as yet had an opportunity to ascertain by necropsy the nature of the lesion that causes the symptoms. The true nature of this class of cases, however, awaits further pathological evidence. Later observers think that the clinical manifestations of athetosis are owing to functional disturbances or obliquity in the motor centres rather than to any recognizable structural change.

Treatment.—So far but few cases of athetosis have recovered. Slight cases may do so approximately. Sedatives and nerve tonics and the application of galvanism are recommended. The chloride of barium, arsenic, ergot, and cannabis indica have all been given with indifferent results. On the one hand, it is reported that marked improvement follows the application of the constant current; on the other, that both galvanization and faradization lead to no results. It would probably be well for the patient to exercise the fingers by a graduated system of lifting in conjunction with vigorous efforts of the will.

Irving C. Rosse.

For more detailed and systematic information, with copious bibliographical references, the reader may consult Seeligmüller: "Ueber Athetose," Schmidt's Jahrbücher, Leipzig, 1881; Michailovski, Dimitri; Ivani: "Etude clinique sur l'athetose double," Paris, 1892; also current numbers of Giornale di Neuropatologia, Napoli.

ATLANTIC CITY.—New Jersey. This, a much-frequented resort for invalids, is situated on the coast of New Jersey, fifty-seven miles southeast from Philadelphia. It is connected with the latter city by three lines of railroad, one of these being a branch of the Philadelphia and Reading Railroad and the other two forming a part of the Pennsylvania Railroad system, by means of which it is placed in direct connection with New York and New England, as well as with the West and South. One of the lines of the latter company now crosses the Delaware River above Philadelphia by a bridge, so that the former inconvenience of ferriage, in going to Atlantic City from western and southern points, may be avoided.

Atlantic City is in latitude 39° 22', and could at one time be properly described as situated at a point on the upper part of Absecom Beach, an island ten miles long and averaging about half a mile wide; but with its suburbs of Chelsea, Ventnor, South Atlantic City, and Longport (the first two of which have become practically continuations of the main resort), it now really includes the entire island, though there are still considerable gaps of unoccupied beach in its lower part. A trolley line extends from one end of the island to the other, thus closely connecting the various suburbs with Atlantic City proper.

Absecom Beach has a very dry, porous, sandy soil and is separated by a narrow arm of the sea from the mainland of South Jersey. Almost this entire region, which includes Lakewood, Hammonton, Vineland, and other towns of greater or less importance, has become famed for the salubrity of its climate, the sandy barrens covered in places with pine forests having a dryer air than is usually found at the same proximity to the sea. The fact that the winds from the west, northwest, and north must pass for many miles over this sandy region has doubtless something to do with the peculiar quality of the air observed by most visitors to Atlantic City, especially its dryness when the wind is from the landward.

The writer, who practised for twenty years in Atlantic City, deems it right to record here as the result of his own observation the fact that the air there is nearly always tonic and invigorating from whatever quarter the wind may blow, but that directly on the beach or ocean front it is comparatively moist when there is a sea breeze, as must be the case, of course, at all seaside localities. As to asthma, there is no uniformity in the influence of the climate. Many cases of it are aggravated there decidedly, but nearly an equal number of those seen by the writer experienced benefit. It would be unwise for any asthmatic patient to arrange for a long stay at Atlantic City until after testing the climate by sojourning there a night or two. While some were glad to escape after passing a single night of distress, others, who always suffered severely elsewhere, sojourned for considerable periods there, and in some instances an entire winter, without an attack.

With regard to patients affected with pulmonary phthisis, the more populous parts of the town are not so well suited to them as the newer suburbs below. During his residence there the writer was accustomed frequently to see cases of early phthisis progress favorably in Atlantic City, but those in the second and third stages did not often do well unless in a very stationary condition,

when the stimulating character of the air sometimes seemed to effect improvement even in them.

In rheumatism and neuralgia, as with asthma, the effects were various. Some cases were aggravated, especially when the sufferers while at the shore followed their accustomed self-indulgent habits of eating and drinking with little or no exercise. Others who had learned to live hygienically and did not indulge too far the enormous appetite which the sea air usually produces, often gained decidedly in health. In insomnia there was in most cases a marked improvement, and many who had required hypnotics at home slept well in Atlantic City without them, especially when such drugs were stopped at once upon their arrival. But patients with bad livers, stomachs, or bowels who could not be made to follow proper dietetic rules, and those especially who were under a stimulating regimen as to both medicines and diet, found that they were no better able to dispense with appropriate treatment there than in any other place, while suffering from an excessive proportion of hydrochloric acid in their gastric juice. But, for the most part, the victims of neurasthenia responded in an astonishing way to the tonic and restorative influence of the climate, and all the more so, usually, when they had in addition to the air sea-water baths in just the right doses, though in summer invalids who attempted to bathe in the surf without medical advice nearly always overdid it sooner or later, and thus often lost more than they gained.

Disinterested testimony as to what a certain climate has done for various classes of invalids ought to be more useful than the meteorological statistics from which we often endeavor vainly to gain some definite idea concerning its desirability and efficacy as a curative agent; and a large mass of such testimony is available with regard to the effects of the climate of Atlantic City; but lack of space prevents its use here. In articles like this, however, it is necessary to furnish at least a few statistics, and accordingly we reproduce below some facts and figures coming from the Weather Bureau and the office of the United States Coast and Geodetic Survey.

These official sources of information were freely drawn upon by the writer in preparing a paper some years ago on the climate of Atlantic City.* In describing then the course of the Gulf Stream, he said:

"This really includes numerous parallel or slightly diverging currents of very warm water with overflow currents of a somewhat lower temperature. One of these overflow currents approaches within sixty-five miles of Atlantic City, while it is one hundred and ten miles from Sandy Hook. The principal current is farther away, being one hundred and thirty-five miles from Atlantic City, one hundred and eighty-five miles from Sandy Hook, and about the same distance from Long Branch and Montauk Point.

"But the exceptional mildness of this climate may be attributed to the peculiar course of the Gulf Stream in this vicinity as much as to its proximity. The innermost current, according to the map received from the Coast Survey Office, has a direction opposite Atlantic City of east-northeast, but turns more and more to the eastward till in latitude 40°—that of Philadelphia—it bears nearly due east. The main current turns more abruptly, and a little north of latitude 38°, some distance to the southward of Atlantic City, has a course directly eastward. Our south, southeast, and east winds, then, must all pass for three hundred to five hundred miles at least over more or less heated water which has come directly from the Gulf of Mexico. Our only ocean breezes not affected in this way are those from the northeast."

While the coast of New Jersey has a general trend from northeast to southwest, the beach in front of Atlantic City makes a sharp turn to the westward, so that it faces almost directly southward. South as well as east winds and even south-southwest winds are, therefore, sea breezes there and blow off the Gulf Stream. This southern exposure enjoyed by the town is, climatically, a decided advantage which is possessed by no other part of the New Jersey coast except its southernmost extremity at Cape May. In the article on Atlantic City, which appeared in the first edition of this work, occur the subjoined paragraphs, written by Dr. Huntingdon Richards, a distinguished authority on climatology:

"In the absence of shelter from the winds, it is consoling to reflect that their force and frequency at Atlantic City are less, in all probability, than at any other well-known place of resort lying upon the New Jersey coast. In a table showing the average yearly movement of the atmosphere for the five years, 1880 to 1884, inclusive, the following figures stand opposite the four stations, Atlantic City, Barnegat, Cape May, and Sandy Hook: Atlantic City, 82.630; Barnegat, 122.988; Cape May, 130.055; Sandy Hook, 118.450. The figures of this table (quoted from "Atlantic City as a Winter Resort," by B. A. Blundon, Sergeant, Signal Service, U. S. A.) reveal the fact that, during the five years above mentioned, the average amount of wind blowing at Atlantic City was 31 per cent. less than at Sandy Hook, 33 per cent. less than at Barnegat, and 37 per cent. less than at Cape May. Concerning the relative frequency of winds blowing from the different points of the compass at Atlantic City, a table giving the result of observations made during the three years intervening between July, 1876, and July, 1879, shows that 9 per cent. of such winds were from the north, 11.7 per cent. were from the northeast, 15.3 per cent. were from the northwest, 16.1 per cent. were from the west, 8.3 per cent. were from the east, 6.3 per cent. were from the southeast, 15.9 per cent. were from the southwest, and 17.4 per cent. were from the south.

"During the warmer part of the year Atlantic City, and all other places lying upon the New Jersey coast, are visited daily (with but rare exceptions) by a delightful sea breeze, which begins to blow at about eleven or twelve o'clock in the day, and lasts until nightfall. . . .

"A particularly striking feature in the climate of Atlantic City is the comparatively small amount of the annual rainfall. A table on page 11 of the pamphlet entitled, 'Atlantic City as a Winter Resort,' shows that the rainfall is less in amount at Atlantic City than at any other point on the Atlantic coast of the United States, with the single exception of Portland, Me.; and that it is fully twenty per cent. less than at the neighboring station of Barnegat—a singular fact, and one very difficult of explanation."

It should be mentioned that while, like Brighton, England, Atlantic City is an all-the-year-resort, and a considerable amount of business is done by many of the hotels and boarding-houses even in the dullest months, yet the season—that is, the rush of visitors—may be said to begin in February and the crowds dwindle rapidly in September. The autumn months, when the place is the least frequented, are really the most desirable of all for invalids, the sea breezes being then deliciously balmy.

While a resident in Atlantic City, the writer made careful and regular observations of the weather during the winter of 1879–80. These showed that in December, 1879, there were twenty-six days during which the thermometer did not fall below 32° F.—the freezing point; also that there were only two days in the same month when the thermometer did not indicate at noon a temperature above 40° F.; and that there were ten days upon which it was not below 50° F. at the same hour. During the January following (1880) there were twenty-four days during which the mercury never fell below the freezing point at any hour, and only two days during which it went below 30° F. It was only once in the same month lower than 40° F. at noon, and only three times lower than 45° F. at the same hour. On nineteen of the thirty-one days the thermometer stood at 50° F. or above at midday.

* Winter Health Resorts. "The Climate of Atlantic City and Its Effects on Pulmonary Diseases," Philadelphia Medical Times, December 18, 1880.

CLIMATE OF ATLANTIC CITY, N. J., LATITUDE 39° 22′; LONGITUDE 74° 25′. CONDENSED FROM A CLIMATIC CHART OF TEN YEARS, IN THE PREVIOUS EDITION OF THIS HANDBOOK, AND FROM UNITED STATES WEATHER BUREAU OBSERVATIONS FROM 1891 TO 1898, EXCEPTING THE YEARS 1895 AND 1896.

Data.	February.	March.	April.	May.	June.	July.	August.	September.	October.	Average for nine months.
Temperature—Average or normal	34.2°	39.0°	46.9°	57.2°	66.7°	71.6°	72.3°	69.3°	56.7°	56.9°
Average daily range	14.8	14.1	13.7	12.7	14.0	13.6	12.2	12.6	12.9	
Mean of warmest	42.4	45.5	53.5	63.9	74.5	79.9	77.4	74.8	64.3	
Mean of coldest	27.6	31.4	39.8	51.2	60.5	66.3	65.2	62.2	51.4	
Highest or maximum	65.3	67.5	75.8	84.1	91.8	93.5	89.5	89.7	81.2	
Lowest or minimum	2.7	13.6	23.6	37.3	47.0	54.4	55.3	45.0	31.6	Total precipitation for nine months.
Humidity—Average relative	79.5%	79.5%	78.1%	81.1%	82.6%	83.6%	82.8%	80.7%	79%	30.12
Precipitation—Average in inches	3.06	3.96	3.59	2.35	2.22	2.99	5.23	3.82	2.80	S.
Wind—Prevailing direction	N. W.	N. W.	N. W.	S.	S.	S.	S.	S.	W.	10.
Average hourly velocity in miles	10.8	12.0	11.7	10.1	8.7	7.7	9.0	10.4	9.6	Total for nine months.
Weather—Average number clear days	6.6	9.5	12.3	10.8	12.3	10.5	13.5	13.0	11.8	100 3
Average number fair days	7.5	9.0	10.6	9.6	12.8	13.6	11.0	10.3	9.3	93.7
Average number clear and fair days	14.1	18.5	22.9	20.4	25.1	24.1	24.5	23.3	21.1	194.0

From the records from which these climatic statistics have been compiled, it is learned further that in 1891, during the nine months of the season from February 1 to November 1, the mercury fell to 32° F. only twice in February and three times in March, and that it did not rise above 90° F. except once, which was in July, when it reached 91° F. In 1892, during the same period, it fell below 32° F. four times in February and three times in March. It rose above 90° F. once only, which was in July.

In 1893 it was below 32° on seven days (which included the nights as well) during the period of nine months—five times in February and twice in March. It exceeded 90° F. once only in that year, reaching 93° F. on one day in July. In 1894 it was below 32° F. on six days and nights in February only, and did not rise above 90° F. even once during that year.

Meteorologically speaking, one of the important advantages of Atlantic City as a winter and spring resort is the small amount of snow there in comparison with other localities in the same latitude and with most places in the Northern and Middle States. This is much more striking than even the figures of the Weather Bureau would lead one to infer, for the reason that in consequence of both the porous sandy soil and the effects of the strong sea air, most of the snow that does fall there is melted almost immediately or within a day or two. It is, as a rule, only in the very exceptionally severe winters that sleighing may be enjoyed for a week or two, and even then usually early in the winter before the season has fully opened. A handsome ocean promenade forty feet wide, elevated twelve feet above the beach on steel supports, and known as the board walk, skirts the front of the town and its nearby suburbs for five miles, and on this snow is never allowed to lie, even when it lingers longer than usual elsewhere, so that the throngs of invalids on foot or in wheeled chairs may always be able to enjoy an outing under comfortable and cheerful conditions. During the busy season these throngs of health-seekers pass continually to and fro with the ever-attractive breakers rolling in on the one side (at some points even under their feet), the sun shining down in full force from above as well as reflected from the water so as to have double power, and the continuous buildings on the landward side affording an efficient shelter from the winter winds which blow from the north or west when cold enough to be annoying. This board walk, extending for miles along the edge of the water, is the chief attraction of Atlantic City in all seasons of the year, but in winter it is of marked advantage to invalids in enabling them to spend most of their time in the open air and sun, except in the worst weather. When it actually storms, invalids may sit in the comfortable sun parlors or glass-enclosed porches connected with a large proportion of the nine hundred hotels and boarding-houses which Atlantic City now possesses, and a part of which are open all the year. The board walk and omnipresent sun parlor are two almost unique features of this popular resort.

There is an abundant supply of pure water drawn mainly from springs and creeks on the mainland, but also in part from a number of deep artesian wells. Underground sewers, deeply placed according to a novel system, convey the sewage to a central point on the meadow back of the town, where it is pumped to a sufficient elevation to admit of its flowing by gravity to the waters of the bay so far away from the hotels and residences, as well as from the bathing grounds, that it never causes the slightest offence or inconvenience.

The population of Atlantic City is now about 30,000, and it may be interesting to add that besides the nine hundred houses that entertain guests, including a number of first-class hotels with all the modern conveniences, there are in the town twenty-six churches, a casino, a number of good theatres, and numerous minor places of amusement (the number of such in the height of the summer season having been estimated as high as two hundred), three daily papers and five weeklies. Sixty-five physicians of all kinds, including some unusally able men, look after the needs of the sick and ailing, while twenty-eight drug stores see to it that no one suffers for lack of medicines. There are also a fully equipped hospital and several well-managed hot-and-cold sea-water bathing establishments. The Atlantic City Country Club with golf links affords recreation for guests in the spring and summer, and there are also abundant facilities for rowing, sailing, and fishing in the waters all around.

A fine level driveway near the beach from Atlantic City to Longport at the lower end of the island is much appreciated by coaching parties as well as by bicyclists. In short, very few if any health resorts even in Europe offer a larger total of advantages or a greater variety of ways in which invalids may agreeably pass the time while wooing back their lost health.

Boardman Reed.

ATOTONILCO.—Municipality of Chiconcuautla, Puebla, Mexico. This spring is located near the town of Tlaltenango. According to an examination made by Zuñiga the water has a sulphurous odor, is slightly unctuous to the touch, limpid in appearance, and contains the carbonates of lime and magnesia, sulphurous acid, and carbonic acid and sulphureted hydrogen gases. It is recommended in rheumatism, neuralgia, and diseases of the skin.

N. J. Ponce de Léon.

ATOTONILCO DE SAN ANDRES.—Municipality of San Andres, Zacatecas, Mexico. The waters of these springs are lukewarm and contain sodium sulphate and other ingredients. They are recommended for syphilis and skin diseases, but no bathing facilities have been provided.

N. J. Ponce de Léon.

ATRESIA.—(Imperforation, closure, or absence of a natural opening or passage.) There may exist an atresia of any one of the external orifices or internal passages of the body: Atresia pupillæ, A. palpebrarum, A. oris, A. auris, A. tracheæ, A. œsophagi, A. bronchii, A. intestini, A. recti, A. ani, A. vaginæ, A. urethræ, A. vesicæ, A. uteri. The imperforation may be the result of disturbances of development in fetal life, or it may arise secondarily to local inflammatory processes either before or after birth, or may be produced by mechanical obstruction, pressure, etc. According to the etiology we may therefore distinguish two classes of atresia, the congenital and the acquired.

Atresia Pupillæ.—Congenital closure of the pupil of the eye not infrequently occurs, and is usually the result of a persistence of the pupillary membrane which in fetal life covers the lens and as a rule disappears in the last month of pregnancy. Various forms of this malformation occur: the pupil may be entirely covered by a thick grayish membrane containing blood-vessels, or by a network of fine threads in which vessels run, or irregular brown or grayish patches may appear in the pupil. Acquired atresia of the pupil is of rather frequent occurrence in adult life as the result of inflammations of the iris and choroid, but it may take place at any time, even before birth. In chronic iritis the pupil may be partially or completely closed by vascular connective tissue.

A. Palpebrarum.—Total imperforation of the eyelids is not of frequent occurrence. The congenital form is usually associated with grave defects of development which do not permit of extra-uterine life. The edges of the lids may be firmly adherent to each other and to the eyeball (symblepharon). The condition may be caused by a failure of separation of the conjunctivæ, intra-uterine inflammations of the eye, or it may be caused by amniotic adhesions. The latter cause is probably the most frequent. One or both eyes may be affected. Remains of the amniotic adhesions may be found in the shape of tags, bands, or firm membranes covering the lids and adherent to them. Acquired atresia of the eyelids (symblepharon, ankyloblepharon) occurs after severe ulcerations, diphtheritic conjunctivitis, burns caused by lime, hot metal, and explosives. In cases in which there is complete occlusion the edges of the lids are firmly united to each other and to the eyeball.

A. Narium.—Complete atresia of the nostrils is rare and is usually found in association with cyclopia. In this type of monster the nostrils are represented by one or two fleshy imperforate tags which are usually placed in the forehead above the solitary eye. The atresia of one nostril through a congenital obliquity of the septum is not infrequent, and is of great practical importance because of the habit of mouth-breathing and the chronic catarrhs of nose and pharynx which are associated with it. Acquired stenoses of one or both nostrils are also not rare. The closure may be caused by new growths, polypi, injuries, chronic catarrhal conditions, etc. This condition is likewise of great practical importance.

A. Oris.—Complete absence of the mouth is a very rare occurrence, and is always associated with marked defective development of the head and face. It is most frequently the result of amniotic adhesions, or of an abnormal tightness of the cephalic cap of the amnion. Partial atresia (microstomia) is of more frequent occurrence, but is rarely found in a viable fœtus. Congenital closure of the fauces is likewise of rare occurrence.

A. Auris.—Complete failure of development of the external auditory meatus occurs very rarely. The lumen of the meatus may be filled with compact bone or cartilage, or it may be closed by a firm membrane of connective tissue in which small islands of bone or cartilage may be present. With this malformation there is almost always associated a defective development or entire absence of the external ear, and imperfect development of the tympanum and internal ear. The site of the ear may be indicated only by a slight indentation. In other cases a cartilaginous canal may be present which is closed at a slight depth by bone or membrane. Partial atresias, hour-glass or symmetrical narrowing of the external canal, are of rather frequent occurrence. In these cases the external ear may be normally developed or show greater or less malformation.

Acquired atresia of the external canal is not rare. Inflammations may cause thickenings of the wall of the meatus, and stenosis or constriction may result from the formation of connective tissue. Very frequently there is a polypoid growth of granulation tissue into the canal, and through the adhesion of the granulating surfaces complete atresia of the canal may result; or bands, bridges, and septa of connective tissue may be formed. A subperiosteal formation of new bone may lead to osseous atresia; in other cases exostoses may block the canal. Detached osteomata sometimes develop in the granulation tissue formed in inflammatory processes. Further, cholesteatomata are rather frequently found blocking up the external canal. In these cases all parts of the ear may be perfectly developed and the tympanum intact. It is therefore probable that these formations owe their origin to a desquamative inflammation of the lining of the canal. In very rare instances they may develop from epidermoidal cells which during the period of embryonic life have found their way into the meatus. Plugs of cerumen, foreign bodies, tumors, parasitic growths, etc., may also lead to an acquired atresia of the auditory canal.

A. Tracheæ, Bronchii, etc.—Atresia of the larynx through the formation of connective-tissue membranes or through the adhesion of the walls is of very rare occurrence, and has been observed only in cases showing marked malformations of the face. There may be complete absence of the trachea, the bronchi being given off directly from the larynx. In other cases the trachea may be represented by a fibrous cord-like structure, or its walls may be united by the formation of connective tissue. Similar formations of connective tissue may block the main bronchi, the trachea ending in a blind tube. Partial narrowing of the respiratory passages is not uncommon. The acquired forms of stenosis of the trachea and bronchi are for the greater part produced by conditions external to these structures, new growths in the neighboring lymph glands, aneurisms, etc. Obstruction of the passages themselves may be produced by inflammatory conditions, foreign bodies, etc. New growths within them are of rare occurrence.

A. Œsophagi.—Atresia of the œsophagus throughout its entire length is very rare. Congenital imperforation of this organ is most frequently found in the lower two-thirds, the upper third being open and ending in a blind tube, while the lower closed portion is represented by a thin cord-like structure. Associated with the congenital atresia there is almost always an abnormal communication with the trachea either at the lower end of the upper portion or at the upper end of the lower portion, which may be continued as an open canal from the point of communication. In other cases the middle portion of the œsophagus may be obliterated, so that the upper and lower portions are separated from each other by an imperforate cord of connective tissue. In these cases no connection with the trachea may exist. As a rule this form occurs late in fetal life and is most probably due to inflammatory processes. Acquired stenoses of the œsophagus are of relatively frequent occurrence and are of great clinical importance. They may be caused by pressure of tumors in the cervical or mediastinal lymph glands and thyroid, by mediastinal tumors, aneurisms, etc. The lumen may be obturated by polypoid growths of the mucosa, carcinoma, thrush, foreign bodies, etc. Strictures are produced by contractions of scars resulting from the effects of alkalies, acids, carcinomatous and syphilitic ulcerations, etc.

Complete occlusion of the stomach is very rare. Occasionally the organ is very small, resembling a portion of the intestine. Congenital occlusion of the pylorus is very rare, while acquired stenosis at this point is relatively frequent. In almost every case the latter is due to the obstruction or constriction of the orifice by new