limited to small and scattered patches (*lobular atelectasis*). These varieties are found in both the congenital and the acquired forms of the disease, but in the former the lesion usually involves larger tracts of tissue, the half, or even the whole, of one lobe; it is most frequently observed in the posterior and inferior portions of the lungs, in the tongue-shaped projections, and in the apices; while in acquired atelectasis the patches are oftener limited to isolated lobules or groups of lobules, and are more widely disseminated through the parenchyma of both lungs.

The collapsed portions are depressed below the general surface of the lung, feel tough and dense, like soft leather, and are of a dark blue or steel color. They are airless, do not crepitate upon pressure, and sink readily when thrown into water. When they are incised, the section is smooth, non-granular, and, if scraped, exudes a small quantity of bloody serum. After death, if the lesion is recent, the atelectatic portions can be readily inflated through the bronchus, and instantly assume the color and qualities of normal lung; but after some time has elapsed, they undergo changes which destroy their dilatability, and eventually end in the total disappearance of the vesicular structure. The pleura is normal in uncomplicated cases.

When a considerable tract of lung is disabled, important changes ensue in the unaffected tissues and also in the organs of circulation. Pulmonary emphysema is a common sequel. The impediment to the movement of the blood through the lungs results in stasis in the pulmonary artery and the entire venous system, and leads to hemorrhagic infarctions and œdema of the unaffected lung tissue. The same condition also tends to prevent, in congenital cases, the closure of the fetal channels of circulation, especially the foramen ovale.

Symptoms and Course.—The symptoms of atelectasis are chiefly those of "inefficient breathing and incomplete decarbonization of the blood." They exhibit varying degrees of severity in proportion to the rapidity of development and the amount of lung tissue involved. When the collapse is limited to scattered lobules, the symptoms are by no means marked or distinctive. But, on the other hand, if it be so extensive as suddenly to arrest the function of a large part of both lungs, death may take place almost instantly. This occasionally occurs in whooping-cough or capillary bronchitis, affecting feeble, young children.

The symptoms of congenital atelectasis are usually present from birth. In a large majority of instances the infant is born more or less deeply asphyxiated, respiration is established with difficulty and is notably inefficient, but not always, for occasionally the child, although less vigorous than usual, exhibits no serious lung symptoms for some days or weeks after birth.

The literature of the subject furnishes numerous examples of children who have lived for several weeks with a considerable portion of the lung—even an entire lobe—atelectatic, and so altered in structure as to be incapable of inflation after death.

A noted case is reported by Dr. Ryan (London *Lancet*, vol. i., 1868.) A child, aged five weeks and in good condition, died suddenly. At the coroner's inquest, both lungs were found shrunken, inelastic, non-crepitant on pressure, and presenting in every particular the usual appearances of fetal lung. They sank in water, and when they were cut into many pieces no portion of them floated. The microscope showed an absence of cellular structure. Holt comments on the frequency with which the discovery is made that a child, using less than one-half of its lung tissue, has lived for months without showing marked signs of cyanosis.

The breathing is fast and shallow. The child lies quietly without attempting muscular movements, and his whole demeanor indicates lack of vigor. Most of the time is passed in sleep. The cry is not loud and strong, but is a piteous moan or mere whimper, and at times almost inaudible. The child nurses feebly or not at all. The surface, especially the face and finger tips, become cyanotic and the extremities cold. The temperature is normal or subnormal, and the pulse feeble and rapid. The fontanelle is depressed.

In the unfavorable cases, these symptoms become more pronounced, and muscular twitchings foreshadow the coma or convulsions which so often immediately precede the fatal termination. It is not at all uncommon for still-born children who have been resuscitated with difficulty, perhaps by the prolonged use of artificial respiration, to die suddenly after a feeble existence of a few hours or, at most, a day or two. In many of these cases, even when the breathing has been apparently thoroughly established and the cries fairly strong, the post-mortem examinations have shown that only very limited portions of the lungs had been inflated. The autopsy usually reveals a patulous foramen ovale and sometimes thromboses of the cerebral sinuses.

Acquired atelectasis is always a secondary affection, and the symptomatology is largely influenced by the antecedent disease. As previously stated, it almost invariably occurs as a complication of primary bronchitis, or of one of those specific diseases of which bronchial catarrh is an essential element. When collapse of a considerable area of lung occurs in the course of a pulmonary catarrh, the symptoms at once assume a graver physiognomy. The breathing is more hurried, very shallow, and altered in rhythm; the respirations sometimes number from 70 to 80 in the minute. The child grows more restless, the lips become cyanosed, the extremities cold, and the whole appearance indicates profound depression. The temperature falls below normal. The nares dilate widely with each inspiration. The suprasternal depression, and the deep sulcus around the base of the chest which forms with every inspiration, attest the physical difficulty of getting sufficient air into the lungs. When these symptoms are present, unless the obstruction in the bronchial tubes is promptly removed, permitting the free access of air to the closed vesicles, the child sinks into a state of stupor, and dies asphyxiated or in convulsions. Such severe symptoms are, however, exceptional. In most cases, the collapse involves only scattered lobules, and is indicated by symptoms similar to those just enumerated, but less violent.

The physical signs of atelectasis vary with the extent of the lesion. If several contiguous lobules, or the greater part of a lobe is affected, so as to cause consolidation of a considerable area, the physical signs are pronounced; but when, as happens in a fair proportion of the cases, the collapsed patches are disseminated through both lungs and vary in size from a pea to a filbert, each consisting of one or more lobules separated by a network of normal cells, the physical signs are necessarily negative. However, the very absence of signs in the presence of decided lung symptoms will assist in the diagnosis. For example, if in the progress of a mild bronchitis, without corresponding increase in fever, grave symptoms suddenly arise,—the dyspnœa, lividity, and general distress being greatly aggravated,—and physical interrogation of the chest reveals no solidification of the lungs, the occurrence of lobular collapse offers the only satisfactory explanation of the sudden change.

When present, the physical signs are those of consolidated lung. The sonority of the chest is diminished over the affected spots, but the dulness has a marked tympanitic quality owing to the proximity of normal lung, and especially, as commonly occurs, if emphysematous patches surround the collapsed lobules. The normal breathing sounds are absent, and may be replaced by bronchial respiration and bronchophony. Vocal resonance is increased, and in acquired atelectasis abundant mucous râles are audible over the entire chest. A very important and characteristic feature of atelectasis is the suddenness with which the physical signs are changed. Occasionally, during an examination, dulness and bronchial breathing will be replaced by normal resonance and vesicular murmur; or within a brief period, abnormal sounds may appear and disappear in different portions of the lungs. This can happen in no other pulmonary disease, and depends upon the closing of the bronchi by

plugs of mucus and their speedy removal by forced expiration in coughing, crying, etc.

Diagnosis.—The recognition of congenital atelectasis, if extensive enough to give rise to symptoms, is comparatively easy. But the post-natal form is always associated with other morbid conditions which render the diagnosis difficult and sometimes impossible.

Capillary bronchitis, catarrhal pneumonia, and lobar pneumonia are the only diseases for which collapse is liable to be mistaken. Catarrhal pneumonia is rarely developed except in portions of the lung already collapsed, and hence cannot be differentiated by physical signs alone. Diffuse atelectasis differs from lobar pneumonia in the absence of fever, the percussion note is more tympanitic, bronchial respiration is less marked, and the crepitant râle is absent. The suddenness with which the physical signs are manifested and reach their full development in collapse is an important diagnostic point. If in the course of a bronchial catarrh symptoms of considerable severity suddenly supervene, such as rapid and shallow breathing, duskiness of the face, faint cough and feeble cry, with little or no increase in fever, the nature of the attack can scarcely be doubted. If along with these symptoms the physical evidence of solidified lung is present, the chain of evidence is complete.

The thermometer renders valuable aid in differentiating between the above diseases. Capillary bronchitis is normally attended with only moderate febrile movements, the mercury fluctuating between 101° F. and 103° F. A sudden exacerbation of fever in bronchitis, in which the thermometer registers 104° F. or higher, strongly suggests the onset of catarrhal pneumonia, on the other hand, a sudden fall of the mercury, without corresponding improvement in the symptoms, points strongly to collapse.

Prognosis.—In congenital atelectasis, if restorative measures are adopted early and the lesion is not extensive, the prognosis is good. But if the child be premature or feeble, or if the fetal circulatory openings are unclosed, the outlook is bad in the extreme. The prognosis in acquired atelectasis is always grave; and if the condition occurs in whooping-cough, it is apt to be fatal. Convulsions are of bad omen. Lobular collapse is the initial lesion in many cases of catarrhal pneumonia, of which caseous degeneration and phthisis are not infrequent sequels. Emphysema, more or less extensive, is nearly always left behind, if any considerable tract of lung has been involved in the collapse.

Treatment.—The treatment consists in the adoption of measures and remedies to strengthen the respiratory process, to clear the air passages of all obstructions, and to sustain the strength. Artificial respiration by any of the recognized methods is of great importance in congenital cases. In crying and coughing, deep, full inspirations are instinctively taken, and hence these acts should be frequently provoked. Nothing conduces more strongly to perpetuate atelectasis than to indulge a feeble infant in a vegetative existence. Infants should not be permitted to sleep too long at one time, or to remain any great length of time in the same position. The body heat, often subnormal, should be carefully maintained by swathing the infant in cotton or flannel, and in extreme cases it may be kept for days or weeks in an incubator. In acquired or post-natal atelectasis remedies addressed to the bronchial catarrh, pleurisy, or other associated diseases are indicated and will be discussed in other columns of the Handbook. It is only proper to remark here that those remedies should be chosen which, like the preparations of ammonium, increase the flow of serum and lessen the viscidity of the tough secretion which occludes the bronchioles. Opiates should be sparingly used. If not contraindicated by debility, emetics serve the twofold purpose of expelling viscid phlegm from the bronchial tubes and producing powerful inspirations. Those emetics only are admissible which act promptly and with little depression, as sulphate of copper and ipecac. Alcoholic stimulants are always indicated. Hot immersion baths, made more stimulating by the addition of mustard, and mildly irritating embrocations to the chest are useful. Nutritious diet and tonics, by which the respiratory muscles gain permanent volume and vigor, constitute our chief reliance, as soon as the immediate danger is tided over.

W. J. Conklin.

ATHEROMA. See *Blood-Vessels, Diseases of.*

ATHETOSIS (ἀθετος, without fixed position).—A cerebral affection characterized mainly by continuous, slow, deliberate motion of the fingers and toes, and by inability to retain them in any position in which they may be placed.

This new differentiation being now recognized by eminent pathologists both in English-speaking and continental countries, there is a deluge of reported cases of athetosis, many of which, however, are not strictly in accord with the definition; but the details in regard to the affection are well described, notwithstanding the objections of those who saw in athetosis nothing more than a complex symptom, or a variety of post-hemiplegic chorea.

Symptoms.—The morbid movements of the fingers and toes, symptomatic of athetosis, are involuntary, grotesque, and complex in character, being of a more complicated form than those of simple flexion and extension. The contractions, which do not cease even during sleep, come on slowly with apparent deliberation and with great force. The fingers and toes assume various distorted positions, and carry out movements that would be nearly impossible in the normal state. There is a peculiar distorted position of the thumb and of the index finger, with sprawling abduction of the other fingers, which the hand constantly tends to assume in typical cases, and when once seen can never be mistaken. That which appears to be pathognomonic of athetosis is the localization and the peculiarity of the incessant complex involuntary movements of the smaller and more rapidly acting muscles of the limbs. They seem to prefer the peripheric ends of the extremities, such as the fingers and toes, and rarely the face. A gliding protrusion of the head is occasionally a characteristic of the disease, and in exceptional cases the morbid kinesis has extended to every voluntary muscle of the body. The patient is able to control these movements for a limited time by position and the exercise of an extreme effort of the will; but the disorder is increased by attempts at restraint, by exhaustion, cold, and emotion.

The essential feature of the disease seems to be an incoordination between the flexors and extensors of the muscles of the fingers and toes, in consequence of a lesion in the centre controlling the muscular movements of these members. It has been noted that the phenomena have partly the character of associated movements, for while the fingers moved, the arm was hard and rigid, and during the motion of the toes the muscles of the calf were in a state of tonic contraction. The muscles of the affected extremity are hypertrophied; but it often happens that the hand and foot affected may be atrophied. There is also vaso-motor disturbance in the affected extremity, which may be red, livid, moist, and colder than the corresponding extremity, and pain may also occur in the affected limbs. In some cases, the electric contractility of the muscles is enfeebled or it is increased; in others, it is normal. Relaxation of the ligaments and joints of the affected extremities has also been noted as a characteristic. The ankle clonus is frequently present.

The advent of athetosis is always sudden, and in most cases occurs in young children whose hereditary antecedents are bad, or in those who have suffered from an attack of convulsion and unconsciousness, or, what is more common, hemiplegia, a distinct attack of which in many cases precedes the appearance of the clonic spasm. It is often associated with epilepsy, idiocy, chronic hydrocephalus, and imbecility. Hammond says, however, that of the eight cases occurring in his experience, hemiplegia was not an antecedent condition in four. More recent authority is that athetosis is found in twenty per cent. of all cases of hemiplegia and infantile cerebral palsy. It has

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.