

more than two miles, has four rows of majestic elm and oak trees which make three avenues down the street. Between the two central rows of trees vehicles are not allowed to pass, this long path or green being reserved for pedestrians. A similar arrangement exists on upper and lower Broad Street, which is likewise 175 feet wide; but the middle portion is asphalted, and is the chief business street of the city.

The other streets are exceptionally wide, well fringed with beautiful shade trees, and nearly all of them are paved by a natural deposit, called "cement gravel," that is found in this section of the country. The formation used for paving purposes consists of clay, red sand, and pebbles varying in size from a split pea to a pigeon's egg. This makes a material for roadway purposes that can scarcely be excelled.

In addition to the river, which gives the city communication by boat with the up-country, Savannah and the intervening country, Augusta has no less than nine important railway lines, so that it is easy of access from any portion of the country; the roads centring in Augusta being the Atlantic Coast Line, Central of Georgia, Charleston and Western Carolina, Georgia, Port Royal, Seaboard Air Line, South Carolina, Southern, and Augusta Southern branch of the Southern Railway.

Augusta has about eighteen miles of electric railway, the cars of which run, upon convenient schedules, in various directions throughout the city. It has a well-conducted system of public schools, under which is included the Tubman High School for girls. The Richmond Academy for boys is an institution that was endowed by the crown of England; it celebrated its centennial more than a decade ago. A Jesuit college will be in operation in Augusta within a year. The Medical Department of the University of Georgia, now in the sixty-eighth year of its honorable and useful career, is also located here, so that visitors sojourning in Augusta for the winter may have ample educational advantages for their children. In addition to these, the city has a public library, a modern theatre building, and churches of all the more prominent denominations.

The Planters and the Commercial are the two hotels possessed by Augusta proper at this writing, but the contract has already been given out for a modern, up-to-date hotel of two hundred rooms, which is to be in operation by the autumn of the present year, and the plans for another are pretty well matured. There are also numerous boarding houses where one may obtain board at moderate rates.

Augusta takes its water supply from the Savannah River. There is no city located above it on the river, and a row of sand hills crosses the Savannah at this point. These hills make shoals in the river, and extend up it for a distance of forty miles, so that such impurities as may exist in the water have ample opportunity to be eliminated before the city is reached. Except for its burden of red clay, the water has been proven by the clinical experience of Augusta's physicians and by chemical analysis to be exceptionally free from impurities. To avoid all possible sources of contamination of its supply, the city has just completed the construction of a new system of water works, whereby its water is taken from the canal three miles above the city. The supply is forced into a reservoir on the hilltop, three hundred feet above the city, where it is filtered, and there delivered to the city water mains. Wells, pumps, and cess-pools have been banished from the city by order of the Board of Health, until now only a few of the former and none of the latter remain within the city limits.

Augusta is honeycombed by an excellent system of sewers which thoroughly and quickly drain the city of sewage and storm water, and it is the writer's opinion that the remarkable healthfulness of the city is in large measure due to these and to its pure water supply. The soil of Augusta is largely made up of sandy loam, under which is a layer of sand and clay; and still deeper is encountered a layer of granite many hundred feet in thickness. The only artesian well in the city conducts

its water through a stratum of granite that is 800 feet thick.

The healthfulness of Augusta is remarkable. The mortality tables of the city show a steady decrease in the death rate from 1880, when the number of deaths per 1,000 inhabitants was 23.36, to 1898, when it was 16 per 1,000. The same decrease appears in certain specific cases; for example, the ratio of deaths to total mortality from typhoid fever in 1880 was 1 in 41.7, while in 1898 it was 1 in 133.6. Augusta is likewise exceptionally free from epidemic diseases. Yellow fever was epidemic in Augusta in 1839 and 1854. In both instances it was brought to the city, and an epidemic followed. Since then sporadic cases have been brought to the city, but in no instance has an epidemic succeeded; and for more than twenty years no case has occurred in the city. The absence of formidable outbreaks of measles, scarlet fever, diphtheria, and other epidemic diseases is doubtless due, in large measure, to the stringent sanitary regulations of the Board of Health,—but, in addition, to the fact that the city is not densely built up, each house, even in the poorer districts, having its little plot of land that separates it from its neighbor.

Augusta has a canal that takes its water from the Savannah River, seven miles above the city. This canal furnishes an enormous water power, making Augusta the greatest cotton-manufacturing centre in the South. The city owns the canal, and derives a handsome revenue from the water rents.

SUMMERVILLE, OR THE SAND HILLS.

The foregoing is largely introductory to the portion of Augusta that is known to and concerns the medical profession at large, inasmuch as the Augusta which has such a well-earned reputation as a health resort—the portion of the city that has almost exclusively attracted the attention of physicians—is Summerville, a suburb of Augusta.

In discussing the advantages and disadvantages of the place, it is not possible entirely to separate them, chiefly for the reason that the United States signal service bureau which furnishes the meteorological data is located down in the city, and not on the hilltop. It is well, therefore, to bear in mind that there is less humidity and some little difference in temperature in the portion of Augusta to which visitors and patients almost invariably go. The reason for this is that the city is 298 feet lower and borders on the river; and it is no uncommon sight to see a mist enveloping the city in the early morning while the hilltop is quite free from it.

In like manner the air in this region is more rarefied and purer than it is in the city, with its heavier atmosphere and denser population. Summerville, or the Sand Hills, on account of its healthfulness, was for many years called "Mount Salubrity." It is located on the crest of a row of sand hills which extend from Chester, S. C., down through Aiken, S. C., and which cross the Savannah River at Augusta, causing shoals in the river at that point, thereby making Augusta the head of navigation for the Savannah River. Summerville is an aristocratic suburb of Augusta, and for more than one hundred years many of the latter's wealthiest citizens have lived in quiet ease in this region. The border of the village touches that of Augusta, and the two are connected by an electric railway that runs, upon a fifteen-minute schedule, between the two places, making Summerville easy of access from any portion of the city. It is located at an elevation of 298 feet above the city, as stated, and from the crest of this sand ridge one can see many miles down over the plateaus on the Georgia side and far into South Carolina as well. It has a town marshal and town council; a new system of water works, electric lights, and a school—the Summerville Academy.

The soil, location, and climate of this village could hardly be excelled for healthfulness. It possesses, in my opinion, every advantage that Aiken does, being on the same ridge of hills, only a few feet lower, and has one advantage that Aiken has not—close proximity to a

city of 63,000 inhabitants, with all the attractions for cultivation, amusement, and shopping that such a city can give. It also has an advantage over many of the resorts farther south, inasmuch as its climate, though colder, is still not too cold for out-of-door life, and its air is not so depressing. The top soil of the region is almost entirely sand, and for this reason the chief vegetation consists of pines, oaks—many of the scrub-oak variety—and such grasses as will grow on a dry, sandy soil.

In all seasons of the year this region is attractive, for the pines are perennially green, and in the springtime the land blossoms like the rose. Wild flowers grow in profusion, and the odor of the yellow jasmine which clammers over the scrub oaks, the honeysuckle, and the wild shrub, mingling with the balsamic odor of the pines, makes the region exceedingly attractive for either temporary or permanent residence.

The sandy nature of the soil makes the hilltop like a great filter; the rain water quickly passes down into the deeper strata, and the altitude of the place causes the water to run off rapidly into the lower-lying plateaus. Under the sand is a soil made up of red sand and clay, and under this is a stratum of granite many hundred feet in thickness, so that it is impossible for water to accumulate in the region. Within a few hours after the heaviest rain it is possible to go out into the open air and walk for miles without getting the feet wet. As an evidence of the depth of this top stratum of sand, it may be mentioned that in the sinking of wells, which were used exclusively for domestic purposes before the advent of the new system of water works, it was found necessary to go down to a depth of from 80 to 150 or 200 feet before striking water. The great depth of this porous soil and the altitude of the place make bad drainage almost an impossibility, and as a matter of fact I have never detected a noisome odor that could be traced to defective sewerage in any portion of Summerville.

Located as it is, on the summit of a sand ridge, away from the noise and bustle of the city, with its beautiful sweep of landscape, taking in hill and valley, and the sinuous outline of the broad Savannah as it courses toward the sea, with perfect drainage, rarefied and invigorating air, Summerville is, as might be expected, valued alike by the resident of the region and the stranger within its gates.

Among the attractions outside of these natural advantages may be mentioned the splendid system of roadways that extend in every direction throughout Richmond County. These roads are constructed by convict labor, and are made of cement gravel, which packs down as level as a floor. The roads do not cut up in wet weather, nor do they ever get excessively dusty; and I have never seen roads to excel them for riding, driving, bicycling, and walking. Some such paving was a necessity, because our sand roads are naturally so heavy that travelling over them is both unpleasant and difficult.

The Bon Air Hotel, accommodating 250 people, is located on the crest of the hill overlooking the city and the highlands in South Carolina. This hotel has been in operation for ten years, and it is the universal verdict of the competent judges who have travelled throughout the South that it is the best-kept hotel this side of New York City. So popular has this hotel grown that it is impossible to obtain accommodations therein after February 1st unless arrangements are made several weeks in advance. The hotel is handsomely furnished throughout, having billiard and pool rooms, bowling alleys, etc. The Bon Air Golf Club has a fine course of 18 holes, and is 2,900 feet long. This furnishes open-air exercise and amusement for the guests of the hotel, and for many of the residents of Summerville and Augusta as well. In Summerville there are several first-class boarding houses, and a number of private families who take a few boarders each season. In these the price of board is, of course, cheaper and the life quieter than at the hotel. Such accommodations suit both those of modest means and those whose means are ample but who dislike hotel life. There are also a number of new and comfortable cottages,

equipped with water from the city works and possessing modern conveniences, that may be had for a reasonable rental.

Game is plentiful around Augusta, and even to the stranger tourist the farmers are generous in allowing access to their hunting preserves. There is an excellent livery service in connection with the Bon Air Hotel, and the proximity of the city, with its large number of livery stables, makes riding and driving over the splendid roads a pleasurable pastime.

Summerville has a population of from 2,000 to 3,000 people. As an evidence of the healthfulness of this village, it may be mentioned that during the four years from 1864 to 1868, only fourteen deaths occurred. "Six of these ranged from 70 to 102 years. Two deaths were from accident, one from pseudo-croup, two from congestive fever contracted elsewhere and neglected, one from pneumonia contracted elsewhere and neglected, one from congestion of the brain, one from ascites, one from tuberculosis contracted elsewhere." Unfortunately, no mortality records of the village of Summerville have ever been kept, but the death rate is very low. During last winter the Government established Camp McKenzie at Monte Sano, a portion of Summerville. There were between 7,000 and 8,000 troops encamped there during the winter and spring months, and it was the general verdict of the medical officers that this was the healthiest camp in the country. The War Office has not published the statistics of mortality and sickness at the camps as yet, but when it does, I am satisfied that the figures will verify this.

The United States has for many years maintained an arsenal on the summit of the hilltop, and during the years 1849 to 1869 meteorological observations were taken at sunrise, 9 A.M., 3 P.M., and 9 P.M. The observations extending over this period of twenty years are as follows:

Mean average temperature for January, 46.7° F.; February, 50.7° F.; March, 58.8° F.; April, 65.1° F.; May, 72.2° F.; June, 80.9° F.; August, 79.7° F.; September, 72.8° F.; October, 63.5° F.; summer, 79.9° F.; autumn, 63.4° F.; winter, 47.9° F.

The mean annual rainfall for the same period was: spring, 37.17 inches; summer, 14.14 inches; autumn, 6.95 inches; winter, 5.92 inches. Mean number of fair days per year 238; cloudy days, 70; rainy days, 57; snow about two days to every three years.

Prevailing winds: spring, northwest and southeast; summer, south and southwest; autumn, north, northwest, and southwest; winter, south, southwest, west, north-west, and north.

Unfortunately, no record of the humidity of the atmosphere was taken, and it cannot be obtained now—the humidity in the annexed table being for Augusta, located 298 feet below and contiguous to the river. But considering the proximity of Summerville to Aiken (only 16 miles), and the similarity of soil and elevation, I do not believe that the humidity of the former differs from that of the latter to any appreciable extent.

In a pamphlet by Dr. C. J. Kenworthy, on the "Climate of Florida," the fact is noted that Augusta, Ga., has a mean temperature, for the months of November, December, January, February, and March, of 51.4° F., while that of Cannes is 50.8° F. Again the interesting fact is shown that Augusta has a mean relative humidity for these months 2.5 degrees less than that of Cannes or Mentone, and one-tenth of a degree more than that of Jacksonville, Fla.

The accompanying table of the U. S. weather bureau located at Augusta, covering a period of twenty-nine years, was furnished through the kindness of the signal service officer at the point, Sergeant Fisher. By consulting the table it will be seen that the average number of clear days and partly clear days for the twenty-nine years was: for December, 21; January, 20; February, 18; March, 23, and April, 23. With such an average extending over so great a number of years, it is easy to see that one can spend much time in comfort out of doors when it would be impossible to do so in the more rigorous northern climates.

CLIMATE OF AUGUSTA, GEORGIA, LATITUDE, 32° 28' N.; LONGITUDE, 81° 54' W.

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
Temperature:												
Average or normal for 29 years.....	47	50	56	64	73	79	81	79	75	64	54	48
Average daily range for 20 years.....	18.1°	19.4°	21.4°	22.°	21.9°	19.9°	19°	18.3°	18.5°	20.8°	20.7°	19.5°
Mean of warmest for 29 years.....	56	58	62	69	77	83	85	84	79	71	60	57
Mean of coldest for 29 years.....	39	38	50	59	69	74	78	76	70	58	48	38
Highest or maximum for 29 years.....	80	84	89	93	100	103	105	105	101	94	85	78
Lowest or minimum for 29 years.....	6	3	22	29	41	46	57	58	41	29	23	7
Average date of last killing frost for 29 years.....	March 18th.											
Average date of first killing frost for 29 years.....	November 8th.											
Humidity:												
Average relative for 5 years.....	74	71	70	66	66	70	76	80	74	74	78	76
Average absolute for 5 years.....	2.457	2.550	3.414	3.936	5.555	7.441	7.980	8.240	6.563	4.372	3.539	2.366
Precipitation:												
Average in inches for 29 years.....	4.35	4.30	4.97	3.48	3.28	4.50	5.52	5.27	3.80	2.42	3.08	3.36
Wind:												
Prevailing direction for 29 years.....	W.	W.	W.	W.	S.E.	S.	S.E.	N.E.	N.E.	N.E.	N.E.	W.
Average velocity in miles per hour.....	4.5	7.0	7.0	6.5	5.8	5.4	5.1	5.0	5.2	6.2	5.5	6.0
Weather:												
Average number clear and fair days for 5 years.....	20	18	22	23	25	23	23	23	23	25	22	21
Largest number clear days for 5 years.....	19	23	22	25	28	29	26	27	27	27	25	24
Smallest number clear days for 5 years.....	16	14	12	22	22	23	19	18	21	21	19	19
Average number cloudy days for 5 years.....	11	10	9	7	6	7	8	8	7	6	8	10
Largest number cloudy days for 5 years.....	15	14	19	8	9	7	12	13	9	10	11	12
Smallest number cloudy days for 5 years.....	12	5	9	5	3	1	5	5	3	4	5	7
Average number rainy days for 29 years.....	11	10	10	8	8	11	12	13	7	7	8	9
Smallest number rainy days for 5 years.....	7	2	9	7	3	6	8	10	5	2	5	6
Largest number rainy days for 5 years.....	13	14	15	11	13	15	13	19	8	8	13	11

The temperature, in the winter months, not infrequently drops below the freezing point and thin ice is formed, but the changes are not usually abrupt and the cold does not continue long. Only once, in thirty-five years' experience, have I known the mercury to register as low as 5° above zero. The climate of Augusta may be summarized as moderately dry, mild, and equable.

Dr. Richards, in an article in the first edition of this work, calls attention to the fact that the census for 1880 shows the percentage of deaths from consumption to be, for Georgia, 11.14 per 10,000 inhabitants; and the eleventh census shows a similarly small death rate for this disease. Rheumatic and asthmatic cases almost invariably do well here. Its lower altitude makes this region superior to Denver for cardiac cases and tuberculous cases complicated by heart lesions; and it is superior to Florida in that the climate is less debilitating.

When I began the practice of medicine here, I was struck with the comparative rarity of renal diseases, and a riper experience confirms my first observation. This may be explained, in my opinion, by the freestone drinking water, the simplicity of living, and the equable temperature. Be the explanation what it may, it is a fact that renal diseases are comparatively infrequent, and that cases of this class are benefited when brought here, unless the disease has already so far advanced that relief is impossible.

Thomas D. Coleman.

AURICLE, ANATOMY AND PHYSIOLOGY OF.—The auricle or pinna forms with the auditory canal or meatus the external ear. It is placed on the side of the head about midway between the external angle of the eye and the occipital protuberance; the upper border is about on a level with the eyebrow; the lower edge of the lobe is about on a level with the tip of the nose. Its vertical line is parallel to the ramus of the jaw and forms an angle of about 100 or 105 degrees with the horizontal plane of the head. Those ears in which this angle exceeds 112 degrees are called slanting ears. In height the auricle measures from 55 to 60 mm., and in width from 25 to 35 mm. The height of the auricle is generally found to be equal to the length of the nose. The true length of the auricle varies in man from 22 to 49 mm., the average being 35.9 mm.; in woman it varies from 24 to 41 mm., the average being 33.7 mm. The true width* of the auricle varies in man from 33 to 58 mm., the average being 44.4 mm., while in woman it varies from 30 to

*The terms "true length" and "true width" are explained further on.

61 mm., the average being 40 mm. The anterior third of the auricle is firmly attached to the root of the zygoma and to the squamous and mastoid surfaces of the temporal bone by means of ligamentous, muscular, and cutaneous tissues. The posterior two-thirds is free and is placed so as to form with the lateral surface of the head the cephalo-auricular angle which, opening backward, measures on an average from 30 to 40 degrees, and may vary between 0 and 90 degrees; the angle decreasing in size as it passes upward and forward.

The framework of the auricle consists of convoluted folds of yellow reticulated cartilage, from 1 to 2 mm. in thickness, and is covered by its perichondrium. It supports the glandular, vascular, muscular, and cutaneous tissues of the auricle. The cartilage does not enter into the construction of the lobule and is deficient between the tragus and the spina helix.

The auricle may be considered to be an expansion of the external auditory canal, which it surrounds, and especially so above and behind. It is oval in form, with the longest axis vertical and its broadest extremity above. It has two surfaces—an external and an internal—and a circumferential border. The external surface looks obliquely outward, forward, and slightly downward. It is so folded upon itself that it presents a number of elevations and depressions, which give it a most irregular and characteristic appearance. The outer surface is as a whole concave, while the inner is convex, and the depressions and elevations of one surface correspond in a general way to the elevations and depressions of the other.

The border of the auricle—that is, the upper third of the anterior portion, all of the superior portion, and the upper two-thirds of the posterior portion—is rolled in upon itself and forms the most prominent elevation or crest on the external surface of the organ. It is called the *helix* (Fig. 432, 1, 2, 3). It begins in a thin root, the *crus helix* (Fig. 432, 1), in the cavity of the concha, and passes obliquely upward and forward, and then in a semicircle upward, backward, and downward, to terminate in a free extremity, the *processus helix caudatus* (Fig. 433, 2), at the *sulcus helicobulbaris* (Fig. 432, 15). The *crura helix* divides the concha into two parts—the upper and smaller, the *cymba conchae* (Fig. 432, 19), and the lower and larger, the *cavitas conchae* (Fig. 432, 20), which is continuous with the external auditory canal. By the incurving of the helix a groove is formed beneath it—the *fossa of the helix*. This groove is well marked in its ascending portion, and gradually becomes shallow as

it passes backward, and downward. A small spine, the *spina helix* (Fig. 433, 1), is given off from the ascending portion of the helix. It serves to give a firm attachment to the *atrahens auriculum* muscle. This spine, as well as the *processus caudatus helix*, is only to be seen when the cartilage is denuded of its coverings. At the junction of the horizontal portion of the helix with the descending portion we have a tubercle known as the *Darwinian Point* or *Tubercle* (Fig. 432, c), which possesses much morphological importance, as will be shown below. It corresponds to the ear tip of animals.

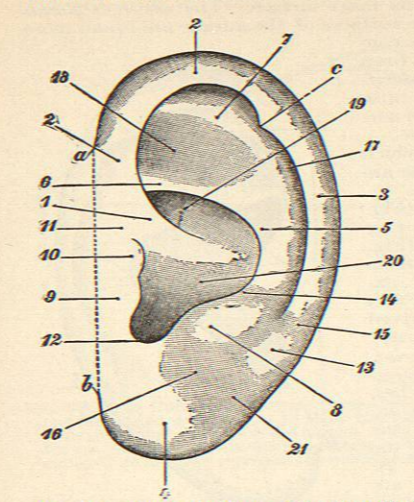


FIG. 432.—Auricle of a Man. (After Schwalbe.) *ab*, Base of the auricle; *abc*, triangle of the auricle; *c*, Darwinian point or tubercle; 1, crus helix; 2, 2, ascending (anterior upper) portion of the helix; 3, descending (posterior) portion of the helix; 4, lobule; 5, main portion of the antihelix; 6, crus inferior antihelix; 7, crus superior antihelix; 8, antitragus; 9, tragus; 10, tuberculum supratragicum; 11, sulcus auris anterior (incisura trago-helicina); 12, incisura intertragica; 13, tuberculum retrolabiale of His; 14, sulcus auris posterior (incisura antihelicalis); 15, sulcus helicobulbaris; 14+15, sulcus obliquus of His; 16, sulcus supralabularis; 17, fossa navicularis or scaphoidea; 18, fossa triangularis; 19, cymba conchae; 20, cavitas conchae; 21, sulcus retrolabularis.

backward in front of the descending portion of the helix. The depression which is formed between the two crests is known as the *fossa navicularis* or *fossa scaphoidea* (Fig. 432, 17). The depression between the *crura furcata* is called the *fossa intercruralis* or *triangularis* (Fig. 432, 18). The antihelix is separated, by the *sulcus auris posterior* (incisura antihelicalis, Fig. 432, 14), from a rounded eminence—the *antitragus* (Fig. 432, 8),—and in front of this eminence, and separated from it by that portion of the cavity of the concha which is called the *incisura intertragica* (Fig. 432, 12), is a lid-like covering to the auditory canal—the *tragus* (Fig. 432, 9). It is separated from the root of the helix by the *sulcus auris anterior* or *incisura trago-helicina* (Fig. 432, 11).

The most dependent part of the auricle, which is devoid of cartilage and is made up principally of connective and adipose tissues, is called the *lobule (lobulus auricularis)* (Fig. 432, 4). On the inner surface the elevations, as they correspond to the depressions on the outer surface, have received similar names, and are known consequently as the *eminentia fossa scaphoidea* or *triangularis* (Fig. 433, 7); the *eminentia fossa navicularis* (Fig. 433, 11); and the *eminentia conchae* (Fig. 433, 8). From the posterior inferior

border of the latter eminence arises a crest, the *ponticulus* (Fig. 433, 10), which passes obliquely downward and forward to the *incisura terminalis* (Fig. 433, 13); and to this crest is attached the *retrahens auriculum* muscle.

In a like manner the following names have been given to the depressions on the inner aspect of the auricle: the *fossa antihelicalis*, (Fig. 433, 5); the *sulcus antihelicalis transversus* (Fig. 433, 6); the *sulcus cruris helix* (Fig. 433, 9); and the *fissura antitrago-helicina* (Fig. 433, 13).

To aid in holding the cartilaginous folds in place and in uniting the auricle to the head, two sets of ligaments are provided—the intrinsic and the extrinsic.

The *intrinsic ligaments* are four in number: two are on the inner surface of the auricle and unite the *eminentia conchae* with the *eminentia triangularis*, and also with the *eminentia fossa navicularis*. The other two are on the outer surface. One unites the antitragus with the *processus caudatus helix* and the antihelix, and so fills in the *sulcus auris posterior*. The fourth extends from the tragus to the helix, and gives off a fasciculus which is inserted in the *incisura intertragica*.

The *extrinsic ligaments* are: the anterior, divided into a superior and an inferior fasciculus, which extend from the root of the zygoma to the tragus and to the spina helix; the posterior, which extends from the mastoid process to the posterior surface of the concha; and, finally, a fasciculus which extends into the external auditory canal. It in great measure fills up the *incisura intertragica*.

The *extrinsic ligaments* are: the anterior, divided into a superior and an inferior fasciculus, which extend from the root of the zygoma to the tragus and to the spina helix; the posterior, which extends from the mastoid process to the posterior surface of the concha; and, finally, a fasciculus which extends into the external auditory canal.

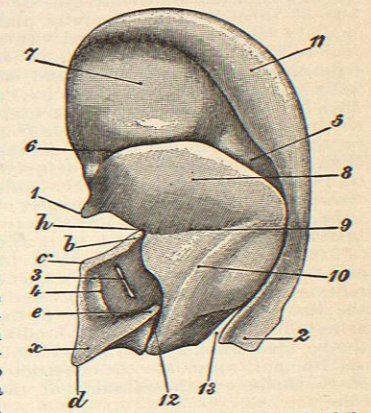
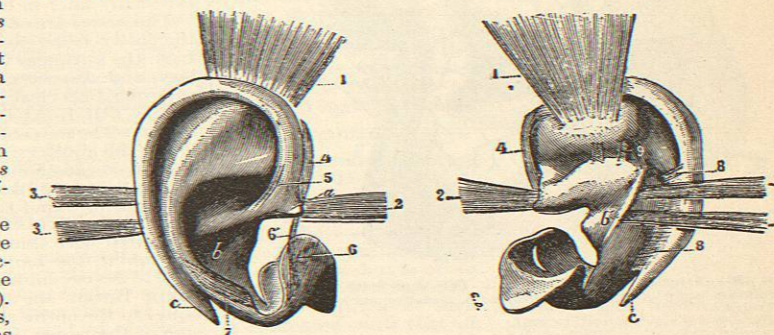


FIG. 433.—Cartilaginous Framework of the Human Auricle (Inner Surface). (After Schwalbe.) *bc*, Upper border of the cartilaginous furrow for the blood-vessels; *cd*, anterior medial border; *de*, posterior medial border; *a*, process triangularis; *h*, angle of the anterior margin of the concha; 1, spina helix; 2, processus helix caudatus; 3, lateral bipartite Santorinian incisura; 4, medial Santorinian incisura; 5, fossa antihelicalis; 6, sulcus antihelicalis transversus; 7, eminentia fossae triangularis; 8, eminentia conchae; 9, sulcus cruris helix; 10, ponticulus; 11, eminentia fossae navicularis; 12, incisura terminalis; 13, fissura antitrago-helicina.



FIGS. 434 AND 435.—1, The *atrolens auriculum* or *musculus auricularis superior*; 2, the *atrahens auriculum* or *musculus auricularis anterior*; 3, 3, the *retrahens auriculum*, or *musculus auricularis posterior*; 4, the *helix major*; 5, the *helix minor*; 6, the *tragus*, with 6', its accessory fasciculus; 7, the *antitragus*; 8, the *transversus auricularis*; 9, the *obliquus auricularis*; *a*, spina helix; *b*, concha, with *b'* its posterior thickening or *ponticulus*; *c*, spina caudatus helix. (After Testut.)