exactly happened you do not know. It may be that the exudation upon the valves has been removed, or it may be that it has become, through lapse of time, so contracted, hard and smooth, as to be no longer capable of producing a murmur, or of influencing adversely the cardiac action. But, anyhow, the murmur is gone, and nothing remains to tell the story of former disease.

But these recoveries from valvular inflammations are not confined to the young; they happen sometimes in the old; and I shall now furnish you with a few illustrations of both.

CASE VII.—Twelve years ago I saw, with Dr. Murray, in Portland Place, a young lady, about 17, who was suffering from a severe attack of rheumatic fever. A few days after I first saw her, she had an attack of endocarditis, accompanied by increased swelling in the joints. The attack was severe, and the constitutional disturbance prolonged. Eventually, however, the patient regained her health, although for two or three years longer she continued to have loud systolic mitral and aortic murmurs. Examined a year ago the patient was found to be in good health, and every trace of the cardiac murmurs had disappeared.

CASE VIII.—Some years ago I was summoned, by Dr. Reid, of Highbury, to give my opinion about the case of a boy, who was suffering from severe mitral incompetency. Dr. Reid had become anxious about the case, and was discussing with me what should be the future of the patient and upon what lines he should live.¹ We agreed upon these points; but when I gave the opinion that the murmur was likely to disappear, my colleague was disposed to dissent. Nevertheless, in a year or two the murmur did entirely disappear; and I owe to Dr. Reid's frankness and kindness the opportunity of being able to acquaint you with the fact.

CASE IX.—In 1860 I attended Dr. G. during an attack of rheumatic fever, complicated by severe endocardial inflammation. After four months' illness, the patient recovered; but for some years—I know not exactly how many—he had loud systolic aortic and mitral murmur. In 1871, he was carefully examined by Dr. Herbert Davies, who, discovering no evidence of the existence of heart-disease, certified the life for ordinary insurance.

CASE X.—Twelve years ago the late Dr. Anstie summoned me to see a connection of his, and to consider with him whether she was in a fit state to undergo an operation for hæmorrhoids. Mr. Curling met us in consultation. The lady was about forty-two years of age, married, very nervous, and the subject of recurring rheumatic attacks. It was supposed that in one of these attacks the endocardium had become affected. At any rate, there was a distinct regurgitant aortic murmur, and the first sound within the mitral area was exceedingly rough. Five years afterwards, no murmur was to be heard, and the valvular sounds were clear and well pronounced.

CASE XI.—Eleven years ago I saw, with Dr. Oppenheim, a gentleman, aged 74, suffering from gouty endo-pericarditis. The physical signs were well marked, and there was considerable local and constitutional distress. He recovered in two months; but there remained, with some habitual distress of breathing, systolic, aortic, and mitral murmurs. After three years, neither Dr. Oppenheim nor I could discover any material change in the sounds of the heart, both murmurs having entirely disappeared.

I could cite many other cases to illustrate the disappearance of murmurs originating in rheumatic inflammation of the valves; but as this point in our present discussion is a subsidiary one, I shall content myself with the cases already related or adverted to, and proceed to consider some of the practical applications of the facts which I have in various ways brought before your notice.

[To be concluded in our next issue.]

PERSISTENT VOMITING AS A CAUSE OF EAR- TROUBLES.

By CHARLES ATKIN, F.R.C.S.,

Lecturer on Anatomy, Sheffield School of Medicine.

As far as I am aware, vomiting is not usually included in the list of causes occasioning catarrh of the middle ear. It is well known that aural affections frequently complicate general wasting diseases, especially in their final stages. The pharyngeal muscles waste along with the rest of the body, and the sufferer's last days are aggravated by distressing tinnitus and vocal reverberation. This last symptom is most annoying. Whenever any movement occurs in the throat, nose, or mouth, the sound is conveyed to the tympanum up the unduly patent Eustachian tube, causing an unnatural ringing and roaring noise in the ears.

¹ The case was read in full at the Brighton meeting.

Wasting of the "constrictor sacculi pharyngis" and undue patency are sufficient, in many cases, to account for the symptoms complained of, but a further cause appears to have been lost sight of—that is, impaction of minute particles of regurgitated food or mucus in the tubes during the act of vomiting.

In the simple act of vomiting the contents of the stomach are not infrequently ejected through the nostrils, and the tubal orifice may easily become plugged. Should the act be repeated constantly, as often happens in renal and cerebral affections, the plug of mucus may be driven still further up till it becomes lodged at the narrowest part—at the junction of the cartilaginous portion with the bony part of the tube.

With the exception of Von Trötsch's classical case, in which a grain of barley was discovered *post mortem* impacted in the pharyngeal orifice of the Eustachian tube, I know of no others where foreign bodies have been supposed to have gained entrance into the auditory apparatus through the pharynx.

The following case is interesting, as the patient accurately described his symptoms from the outset. During a violent fit of vomiting, in which some of the contents of the stomach poured out of the nostrils, he felt as if his right ear suddenly became plugged. He endeavoured to ease the dull tickling sensation by inserting his little finger in the external meatus, but with no result. When I saw him next morning he was slightly deaf, and complained of his voice reverberating in his ear, and of a continuous throbbing, which he said felt "like a pulse in the ear." The drum was unaffected. Though instructed how to perform Valsalva's method, he derived no benefit, and could not force any air into the right ear, though he felt it in the left distinctly. Swallowing, yawning, coughing, sneezing, sometimes seemed to ease him for a minute or two, but the worry soon returned. Some days after the left ear went in exactly the same way, and I found that he could not hear the watch at half the proper distance. At this time the right drum appeared to bulge slightly below and behind, and the sense of having a drop of fluid in the ear seemed to depend on the position the head was held in. Whether any fluid ever gained entrance into the cavity of the tympanum, or whether it was simply retained secretion, is impossible to say. As the patient was rapidly dying from an abdominal sarcoma, it was not considered justifiable to resort to any operative procedures for the restoration of the patency of the tube. The symptoms, therefore, persisted, the tubes remaining blocked to the last. Without any leading questions, the patient distinctly attributed the numb feeling in his ears to the vomiting. Deafness was not complained of, and no doubt he might have heard the watch had it not been for the subjective aural sensations which drowned all faint sounds.

A man with locomotor ataxy, after an unusually severe series of "gastric crises," noticed that he was deaf. Roaring noises in the ears were complained of, with stiffness behind the lower jaw. The throat was not inflamed, and Politzerisation failed to move the drums, which were apparently healthy. Examination with the fork showed that the fault lay in the conducting apparatus. When seen a few weeks later, both drums were perforated, the man expressing himself easier since the ears began to run. Since then the tubes have been kept open, and the perforations have healed. In this case the blocking of the tubes was not due to inflammatory congestion as far as could be made out. A subacute inflammation did take place, but owing to the patient's irregular attendance, its course was not accurately watched. It may fairly be urged that his neurotic condition may have influenced the ear-affection, for neuralgic pains and tinglings in the face and head were constantly complained of.

The suddenness of the onset in both cases, and the absence of the usual cause of increased flow of blood to the middle ear, or of any irritation of the tensor tympani muscle, make it probable that the persistent vomiting had something to do with the causation of the distressing tinnitus and partial deafness.

CASE OF POISONING BY DUBOISIN.

By CHARLES M. CHADWICK, M.A., M.B.Oxon., M.R.C.P.,
Honorary Physician, Leeds Public Dispensary.

As cases of poisoning by duboisin are somewhat rare, the following may be of interest.

On July 13th, at 11 A.M., H. J. H., aged 75, consulted Mr. T. Pridgin Teale with reference to his eyes. H. J. H. is suffering from slow-forming senile cataract, and on several occasions atrophine has been used for purposes of examination. On this occasion, however, two discs, each containing 1-200th of a grain of sulphate of duboisin, were placed in the eyes. Very shortly afterwards, patient complained

of slight giddiness, became very fidgety, and was advised to remain sitting. In about twenty minutes, the pupils being fairly but not fully dilated, the necessary examination took place, H. J. H. standing during the proceeding. A few minutes later, he experienced a decided feeling of weakness and loss of control over the legs, great dryness of mouth, with exceedingly bitter taste. Fancying, however, the fresh air would do him good, he refused to remain, and elected to walk home. He had not gone far before it was evident that persons in the street regarded him as decidedly "under the influence of liquor"; his speech became husky and indistinct; he walked, talked and behaved like one slightly intoxicated. Later, when at home, the symptoms progressed; complete inability to stand without assistance, or to recognize the position of objects, partly due, no doubt, to paralysis of accommodation, but also due to visual hallucination. For example, the patient would suddenly sit on the ground, imagining a chair was ready to receive him; drop a glass in mid-air instead of placing it on the table; and grasp in the air above his head for his watch which had been taken from him. With difficulty he was got to bed, constant attendance being necessary to keep him quiet; there was incessant movement, with carphology, a suspicious way of glancing beneath the bed-clothes and behind the back. A few moments, when left to himself, sufficed for the whole room to be upset; towels, brushes and shoes were placed in the bed, and boots on the dressing-table; this entertainment ended by a somewhat severe fall on the floor, whence he was unable to raise himself without assistance.

This incessant activity was accompanied by a flow of words, sentences strung together without any apparent connection, a return of memory to things which happened years ago; throughout, an air of fun and humour, the symptoms those of childishness rather than any attempt at violence.

The pulse was slow; the patient, entirely ignorant of what was the matter with him, imagined it was quite dark, whereas it was a bright summer afternoon. Four hours after the commencement, a small injection of morphine was given, and the patient became quieter, dosing apparently for a few seconds at a time. Three hours later he obtained an hour's quiet sleep, and, after some light nourishment, three hours' sleep, after which his mind appeared quite clear again. He was entirely unconscious of all that had passed; a feeling of weight in the head and general upset lasted for several days. The urine, before and after, was normal. The thoughts which such a case as this gives rise to are shortly these: It is known that children bear belladonna better than adults. Do advancing years gradually increase the susceptibility? Eight cases reported by Mr. Nettleship in 1879 would appear to indicate this. Secondly, was the poison absorbed entirely by the conjunctival mucous membrane? The bitter taste in the mouth might possibly be due to a referred sensation. Thirdly, does this susceptibility in old age point to an unpronounced pathological condition, which is liable to result, after a time, in that condition of atrophy and degeneration which is popularly known as "softening of the brain"? And, fourthly, does belladonna poisoning, which resembles so closely acute alcoholism and post-epileptic delirium in most of its symptoms, ever give rise to those outbursts of violence—so frequently destructive to life, and so invariably succeeded by entire ignorance of a deed, perhaps of the ghastliest description—which render the medico-legal aspect of many so-called criminal cases so profoundly interesting?

A CASE OF RHINOLITH.

By AUGUSTUS F. CLAY, M.R.C.S.,
Casualty Surgeon, Queen's Hospital, Birmingham.

NASAL calculi are so extremely rare that, so far as I can ascertain, only forty-six cases have been published since this condition was first described in the year 1502. The following case is worthy of record, especially when the size of the stone and its probable lengthy formation are taken into consideration.

Robert F., aged 47, married, has had an unusually healthy life, and has never suffered from rheumatism or gout. His mother informs me that when he was two years of age he was thrown from a wheelbarrow on to his face, and for many years subsequently he had an unpleasant discharge from his nose. As long as the patient himself can remember, his breath was offensive to others, and this was especially so when he caught cold. He has never had any difficulty in breathing. During the past two years he has complained of almost incessant frontal headache, and there has been a perceptible deviation of his nose towards the left side. When being examined, there was marked tenderness, but no local pain otherwise, and none

in his ears. No discomfort had been noticed from epiphora. There was considerable bulging of the right cheek and nostril, and the septum nasi was obviously deflected to the left. From a casual glance, the patient's appearance suggested that a tumour growing from the antrum had extended inwards. From the anterior nares a brown substance could be seen in the inferior meatus; and this, when examined with a probe, was found to be rough and hard. The left side was free to the passage of air; but the right was completely blocked, the mucous membrane being very much tumefied.

The patient was placed under chloroform, and an attempt was made to pass a small pair of curved polypus-forceps around the foreign body; but, until a few irregular projections had been broken off, and the stone pushed a little backwards, no firm hold could be maintained. Having at length got a secure grasp, by a steady traction, with slight rotatory movement, the bulk of the body was brought away, and the few remaining particles were then removed with Lister's drainage-forceps. Hæmorrhage was inconsiderable, and no necrosis could be detected. The nostril was syringed out three times daily with corrosive sublimate solution (1 in 1,000), and in a week's time the swelling of the mucous membrane had almost completely subsided. The discharge ceased; but the septum remained unaltered, although the removal of the external bulging of the nostril considerably improved the patient's general appearance.

The stone, as the accompanying woodcut shows, was shaped some-

what like an isosceles triangle, the surface being particularly irregular. The length of the stone was one inch and a half; the base a little less. The weight, when dried, was 110 grains. On cutting into its base, the stone had every appearance of having originated around a cherry-stone, although only half its shell remained, and that was much altered in its physical characters.

The history of the fall from the wheelbarrow is interesting, inasmuch as it was the cause of attention being drawn to the discharge from the nose, which, in my mind, was evidently due to the introduction of the cherry-stone some time prior to the accident.

NOTE ON THE CULTIVATION OF BACILLUS ANTHRACIS.

By HENRY TOMKINS, M.D., B.Sc. SAN. SCI. DIP.,
Medical Officer of Health, Leicester.

In the month of July last an outbreak of splenic fever, in a village a few miles from the borough of Leicester, afforded me an opportunity of making some cultivations of the bacillus anthracis. In addition to the loss of a number of cattle, several men—butchers, labourers, and others, having the handling of the carcasses—became infected, and one man lost his life therefrom.

By the kindness of Dr. A. Moore, officer of health for the county, I was enabled to obtain some of the fluid from the pustules of a patient suffering from the disease. At the time this was taken, the man was beginning to convalesce, and had passed the acute stage. A drop of this fluid examined and stained showed bacilli present in scanty numbers, mixed with a number of ordinary micrococci. Cultivations were made both in a tube and on plates. In the first series the bacillus anthracis was present in fair number, but the micrococcus was still more abundant. In the second series of cultivations made from the first, the bacilli were much diminished in number, whilst the micrococci were proportionately increased. And in the third series of cultivations the bacillus anthracis had quite disappeared, the whole growth apparently being taken up by the micrococcus. From this it would seem that the bacillus anthracis, when cultivated, may under certain conditions be killed or choked off, as it were, by another micro-organism, the one in this case probably being the ordinary micrococcus met with in suppuration.

The origin of this local outbreak has not with certainty been ascer-