found to run past them into the ventricle; one of the valves had been torn for about one-third of an inch of its extent from its attachment to the aorta, and thus formed a triangular flap, hanging loosely into the mouth of the artery, and which must have flapped to and fro according as the current of blood passed to or from the ventricle, thus giving rise to the regurgitation which destroyed the balance of the circulation. All the cavities of the heart, both right and left, were hypertrophied and dilated; the right cavities were filled with venous blood. The lungs were greatly congested; some apoplectic spots had formed on the upper lobes; the lungs were not very crepitant, and collapsed imperfectly; there was much mucus in the bronchi.

The abdomen contained a good deal of fluid. The liver was large and much congested.

CASE 4.—He would briefly add one case more to contrast with that just related. Ann Eaton, aged 30, a servant, was admitted into St. Clement's ward on the 14th of January. This woman stated that she had had several attacks of what she calls inflammation in her chest, attended with palpitation of the heart. Her present symptoms set in a fortnight before her admission; they are dyspnoea, brought on by any exertion, palpitation, short cough without expectoration. She has a narrow, rounded, and prominent chest; the region of the heart is preternaturally dull; the heart's impulse is strong, and there is a loud systolic bellows-sound indistinct at the apex of the heart, but very distinct at the base and along the course of the arteries; the second sound is natural; the pulse is thrilling but strong. Rest and digitalis relieved this woman's symptoms, but did not remove the bellows-sound, nor the disposition to dyspnoea and palpitation which exertion always induced. He was led to examine this woman carefully for aneurism, from her having stated that she occasionally lost her voice, and also in consequence of the short cough and shooting pains in her chest, of which she frequently complained. There were no satisfactory signs, however, to indicate the existence of an aneurism. The symptoms seemed sufficiently to denote obstructive disease of the aorta. The second sound was natural, therefore the semilunar valves performed their office. The bellows-sound was heard along the course of the aorta and the vessels arising from it; it diminished in intensity from the situation of the aortic orifice to the apex of the heart. The seat of the sound was, therefore, at the aortic orifice or immediately beyond it, and it probably arose from some slight obstructive alteration of the valves, thickening, for instance, not sufficient to impair their action, although enough to cause sound.

This was one of the most common forms of cardiac disease which came under observation; it had its origin frequently in an attack of acute rheumatism. So long as the obstruction was not sufficient to react materially upon the heart, and derange the balance of the circulation through it, the patient experienced very little inconvenience; and the lecturer knew persons who had distinct systolic bellows-sounds connected with obstructive aortic disease, whose appearance was indicative of perfect health, and who did enjoy excellent health. He prognosticated favourably of such cases as that of Eaton which he had just described. Quiet, the avoidance of mental and bodily excitement, and sedative remedies, were very effectual in these cases in mitigating the symptoms and prolonging life. But when the aortic disease was such as in Taylor's case, of the regurgitative kind, the interference of art would, ere long, be rendered nugatory, by the total derangement of the mechanical protection which the heart experienced from its valves.

FORMIDABLE ANEURISMAL STATE OF THE LEG, CURED BY COMPRESSION.

By SAMUEL YOUNG, Esq., Surgeon.

DEC. 18, 1829. Rebecca Thomas applied for a curious vascular affection of the left leg; from an aneurismal spot, a pendulous body issues at the outer part of the limb, three inches below the knee. The patient is full habited, and of a florid, sanguineous temperament; age, thirty years. First noticed the disease ten years since, in consequence of receiving a slight blow on the part; from the immediate pain produced was then first led to examine the part, and there found a dark, purplish crimson spot, about the size of the top of a woman's thimble. The spot at first was flat on the surface, and its covering like a very thin vellum, but soon rose up to the height of half an inch, hot and pulpy to the feel. On this occasion, after the pain, which continued for some ten minutes or more, went off, the tumour which had so risen returned to the level of the skin. For six years it remained without any apparent growth or pain, except at the latter part of this time, when it remained much longer above the surface than in the first-mentioned instance, after accidentally receiving even the slightest touch.

On the Thursday before Christmas-day (1836), whilst stooping to draw off a person's boot, she felt something very warm trickling down the leg, and on looking, perceived blood on the ground and her clothes drenched. The part was bandaged up with

flour, and the patient went to bed, when the bleeding ceased; next day she applied to a medical man, the part was swollen full two inches above the surface, and was more than an inch and a quarter in diameter at the top.

In the course of three or four days the tumour subsided; but from the bottom the present pendulous substance was produced, which is now fully the size of a large fig, and largely supplied with blood-vessels. At the time, however, of the subsiding of the tumour, this appendix was only the size of the first joint of a moderate forefinger; the very dark colour of the tumour then subsided.

The fig-like appendage grew rapidly the first twelve months to nearly its present size; even in a fortnight after the subsiding of the tumour, as here described, upon the appendage being roughly handled at a surgical examination, a physician and surgeon being present, the blood was thrown upwards with great force on and over the patient's shoulder, and continued bleeding largely from the lower edge till bound up with plaster straps and lint compress.

Next day, when the applications were removed by the medical attendants, on being again handled, the fig-like appendage not only swelled up, but the aneurismal skin also rose full three inches above the surface. The patient describes the feeling at the time as if the whole were forcibly being dragged out by a pair of pincers.

At the same moment, from the under and lower edge of the appendage (which the patient herself calls the *tongue*), an immense hæmorrhage commenced, filling a large wash-hand basin half full. The bleeding was of that character and to that amount, as to induce the physician who was present to exclaim, "By ——— the woman will bleed to death." The patient was rendered so weak in consequence, that an hour after it was bound up she was unable to walk without assistance.

About this time it was that one of the many surgeons who attended upon the case proposed removing the parts by the knife, describing a large area on the leg around and considerably beyond the disease with his finger; this was objected to, and evidently most wisely, by the two professional gentlemen just alluded to; they preferred the removal of the limb, rather than hazard so uncertain an operation, and urged its adoption at once,—the fear being at the time that the patient might sink if a second bleeding took place during the night. Other long-established practitioners also, in after consultations, agreed in the necessity of the removal of the limb for the ultimate object of saving the patient's life.

For a month after this profuse bleeding, upon every removal of the applications, it bled slightly from the under edge of the appendix; but in a few days after the great

hæmorrhage, the aneurismal spot itself again subsided to the level of the skin.

Some twenty months since, after kneeling, the knee and leg swelled, and turned black in spots as if pinched. The following morning some active bleeding came on, wetting through the linen and roller, but nothing to be compared to the former, since which no bleeding of any consequence has occurred; but the leg has gradually increased to its present state, spotted all over with purplish cutaneous veins, with immense enlargement, and particularly about the outer as well as the inner ankle, and spreading to the foot, which it so involved as to leave but little trace of natural shape.

In way of remark, it may be observed that the disease in question is in its nature somewhat anomalous; though decidedly of that description which John Bell was the first so accurately to describe under the head of "aneurism by anastomosis," in some respects it has the feature of fungus hæmatodes, but nothing whatever, in the most distant degree, of the *mere* varicose vein.

In so enlarged and distorted a state of the limb, relative situation of parts is in a great measure disturbed, if not wholly lost; but still the situation of the aneurismal spot, one would say, is just within the inner edge of the peronæus muscle, and the outer edge of the tibia; that is, just over and about the tibial artery and vein: a most suspicious circumstance, for, from the *erectile* nature of the aneurismal substance, as proved by the history of the case, there can be no doubt but that a highly vascular and spongy tissue of considerable extent must form its basement. In such a neighbourhood, to what extent, and how formidably supplied by blood-vessels, is the question. Great uncertainty and risk would, therefore, necessarily attend the dissecting out, or, rather, *the attempt* to dissect out, such a disease; and the surgeon, as well as the patient and others, must be all prepared for the possible, if not probable, immediate amputation of the limb to save life in case of failure.

Treatment.—Dec. 19. The fig-like appendage was left as a gauge to show how far the vascularity of the aneurismal spot and its basement was affected under pressure; otherwise, had it been deemed prudent, a ligature might have been applied to its pendulous neck.

The general restoration of the limb to health was, however, the first object; for this purpose the foot, heel, ankle, and leg, were accurately rolled, at least as well as the great irregularities and enlargements of the parts admitted; active purgatives and calomel in alterative doses were prescribed.

25. Rolling has been followed up; at times interrupted by occasional swellings of the foot, &c., at night. However, gradual increase of pressure has still been persevered in, and the limb to-day presents a re-

markedly-improved state, both as to size as well as the diseased and discoloured appearance of the skin and its veins. The pain she used to suffer has almost subsided, especially from the aneurismal spot down to the inner ankle, where the enlargement was deeply discoloured; all this is now nearly removed, and the enormous bulk outwardly above and over the ankle and foot is also strikingly reduced. Very active pressure employed; the purgative plan continued; health improved.

After the second application of compression, the aneurismal spot and appendix were placed under the pressure of plaster straps; to these, additions have been made, and over them a firm, graduated linen compress has been included in the application of the rollers.

Jan. 3, 1840. Very active pressure has been kept up from time to time since last report; no pain or swelling have occurred. To-day, upon the removal of all the rollers, the limb appeared considerably smaller than the other leg; above the ankle, where it was so enormously enlarged, a full inch less by measurement than the other leg, the integument loose and flaccid.

Specific pressure employed over the aneurismal spot and fig-like appendix by graduated compress paper and plaster straps; the former strap applications not being removed, and the whole limb placed under very active pressure, but more especially over the immediate disease by the further employment of linen compress and the firmest rolling, the pressure being gradually carried up to the uttermost drawing the hand and arm could use, assisted also by the knee. In this process of the treatment, pins were used as fixed points to confine the specific pressure to the part, and prevent ligature on the limb.

12. None of the plaster straps have been removed, so that the immediate state, either of the aneurismal spot or appendix, has not been ascertained. No pain or inconvenience of the part has been experienced; but evidently a diminished circulation to a great extent has been effected, from the different sensation felt by the patient herself, as well as the total disappearance of large vessels beneath the integument, which formerly were seen passing along the upper and outer part of the leg to the thigh, some inches above the aneurismal spot.

19. To-day, on attempting to remove the plaster straps, the fig-like process was unfortunately dragged, which caused considerable irritation to the aneurismal spot, and which, from a perfectly quiescent and reduced state, rose frightfully up on the instant, giving a dreadful sensation of tearing and bursting of the whole limb.

This circumstance, which gives a tolerable reproof to those who would, in their simplicity, treat such a case as a *nothing*, pre-

cluded anything like further inspection, and the parts were immediately placed under the control of the compression: this was cautiously and gradually increased over the aneurism to a maximum height, and in the course of less than a minute all the dreadful sensation and pain subsided.

Feb. 23. So much amendment in the case, that reapplications are now only made once a-week. No inconvenience experienced in the limb; the cuticular veins have altogether disappeared: and the patient observed, "that it was a long time since she enjoyed such health as she now feels." Active pressure kept up.

March 1. Walked into town five miles to have the applications made; and more than a fortnight since the patient walked ten without the slightest inconvenience. Before the treatment, could not walk half a mile without being ready to drop from pain. Upon the removal of the pressure immediately over the aneurism, the parts have now none of that filling, bursting sensation, which formerly always attended upon every such removal; this sensation has entirely subsided the last three weeks. Active pressure continued.

April 12. To-day all the straps were removed, and particularly the two between which the neck, as well as part of the process, were included; part of the surface had been slightly abraded, and from it a small discharge had issued, staining the rollers immediately in contact. On removal of the two straps from above and below the neck of the process, the two blood-vessels passing through it into the body of the process soon began to fill and swell up the part, which before appeared quite flattened, thin, and apparently bloodless; the small abraded surface became covered with minute scarlet points, and blood, quite of an arterial character, soon began to drop freely and fast from it, but not attended with any jet. During all this, the aneurismal spot itself remained flat—indeed, concave in its surface. Before the reapplication of the compression which was immediately made over the part, some two ounces of blood fell upon the carpet; after the application of the compress there was no stain of blood after the first coil or two of the roller.

May 10. The fig-like process, from the discharge and foetor, would appear to be in a sloughing state; but all the applications immediately in contact were not removed from their adhesive state, and also, in consequence of the removal of a part, some oozing of blood took place; the remainder, therefore, were left, as there was no object for their removal, but, on the contrary, such would only encourage a return of circulation through the part by the absence of pressure.

23. The discharge on Saturday last was extremely foetid, and the compresses in con-

sequence over the aneurismal spot were all removed, and in a part, also, over the fig-like process. To-day, the compresses had slipped down, leaving the aneurismal spot free from all pressure; but no filling of the part as formerly was at all perceptible; and, on the removal of all the compresses, the once fig-like process (or tongue) which had caused so much anxiety to the patient for years, on account of its frightful swellings and bleedings, was now found among the black, foetid discharge quite disengaged; a mere dark, putrid mass, about the thickness of half-a-crown; a small pedicle of the elongated neck only remaining at the bottom of the aneurismal spot. The limb was placed under general compression.

30. The applications had slipped down to-day, so as to form a ligature across the aneurismal spot; but no swelling or rising of the under part took place, though the covering was of a dark purplish colour, evidently in consequence of the ligature. On the re-applications being made, more specific compresses and pressure were placed immediately over the aneurismal spot and pedicle. The limb had remained perfectly easy and comfortable during the week, though the last few days the patient had suffered from an old spasmodic stomach complaint, for which remedies were prescribed.

June 4. All the applications removed, and still more active pressure used in the reapplications. The stomach attack less the last few days.

12. The whole of the applications removed, and the remaining pedicle or neck appeared in a sloughing state, giving out the same putrid discharge as the fig-like process did when in a state of slough. Active compression over the aneurismal spot and pedicle continued; and which is effected, including the whole of the leg and foot, by three five-yard rollers; formerly thirty-three yards required to be used. The patient's general health much improved.

July 19. The covering integument of the aneurismal spot and appendage this day presented a perfectly smooth and delicate cuticle, marking the progressive change going on from the last report.

Aug. 9. The cuticle over the spot and appendix rough and scaly. In speaking of the former state of the diseased leg, as compared with its now wonderfully changed condition, the patient described the effect of cold, at times, as well as heat upon the disease; and observed, "that people, even medical gentlemen themselves, who only saw it in its quiet state, could have no idea of its frightful swelling and alarming appearance at times;" and named an instance, "the winter before last, after being long exposed to cold, of the sudden and enormous swelling of the leg itself (holding both her hands out with extended fingers in a cradle-like form, to show the size of the limb, and

which would have taken in the body of a well-grown child of two years), as well as the rising of the aneurismal spot in a frightful mass of several inches—so frightful, that her mother as well as friends were distracted and alarmed, and ran out of the room, thinking it would burst."

Jan. 10, 1841. Since the last minute the parts gradually subsided into a state of health, and the compression diminished to mere rolling, sometimes the patient applying the rollers herself. About six weeks back, the limb was tested by a desperate fall in consequence of her patten catching an iron railing, which threw her violently on the side and bruised her dreadfully. The leg was swollen and discoloured outside, and the veins enlarged; but no appearance of enlargement or pain was felt about the part, which was once the seat of so formidable a disease.

Feb. 21. Since the last report the leg had been seen but once, the patient managing the rollers herself, which are now employed chiefly for the recovery of the integument of the outer ankle, which formerly was so enormously distended, but which has now nearly recovered its natural state; the leg otherwise being in a perfectly healthy condition, the patient observing, "I really think it stronger than the other." To-day's report also affords the gratifying confirmation, that throughout all the late extremely cold and boisterous weather the limb has remained in every respect perfectly easy and unaffected, though the patient has been much exposed and out in all weather. So far, then, as testing the case in almost every possible way, by extremes of heat and cold, and severe straining and bruising as well as strong exercise, it may be said to be entirely a successful one. The patient is in excellent health.

The entire command of the compression treatment over the "aneurism by anastomosis," which has so often proved fatal in children, commonly known by the title "mother's marks," has been also proved, since the one so cured in 1828 and 1829, in the instance of Mr. Kennerley's child, the engraver and artist of London. This was a frightfully formidable case of considerable bulk and height, and situated upon the windpipe. One of the pressure plates used in this case the author has now by him; it measures full two inches across, and nearly as much in diameter; made up with tea lead and plaster straps to the thickness of three-quarters of an inch, and is of the firmest texture, the internal plaster bearing the marginal mark of the aneurism.

Before it came under the treatment of compression, a consultation was held upon the case by Messrs. Lawrence, Vincent, and Stanley, surgeons of St. Bartholomew's Hospital, who declared the fatal nature of the disease, and the little, if any, chance of

saving life even in the attempt at removing it by the knife. Some four years after (1833), the author was met by the uncle of the little patient, who told him she was grown a fine bouncing girl, and with scarcely a visible mark left of the former disease.

Six years ago it was the intention of the author to have given a series of cases to THE LANCET, but severe and protracted illness prevented him from accomplishing this object. For the present, however, he trusts that these minutes will be sufficient to awaken the serious consideration both of the profession and the public. Other cases, formidable in their nature and highly interesting, are now going on successfully under the treatment.

TINNITUS AURIUM.

To the Editor of THE LANCET.

SIR:—Tinnitus aurium, one of the most distressing symptoms to which persons with impaired hearing are liable, is at the same time one of the most difficult to remove. When it is considered that tinnitus is a symptom indicative of various morbid conditions of the parts engaged in the function of hearing, some of which are diametrically opposite the one to the other, as I shall presently show, it will be evident that much attention and discrimination will be requisite to trace it to its real source, and to apply the proper treatment. Tinnitus is dependent in almost every instance on constitutional causes, and can rarely be even alleviated by any measures, which are not directed to improve the general health. It occasionally accompanies a diseased state of the cerumen; this secretion being either in excess, or else greatly deficient. It is also occasionally found as the precursor of apoplexy, in which case the noises are heavy and dull; the other symptoms, which are present, will indicate the nature of the case to the experienced physician.

The following extract from a work on the Preservation of Hearing by M. Schmulz, of Dresden, with a copy of which I was presented by the author when I was in that city, will show the importance of this symptom, and the annoyance which results from its presence:—

“Le bruissement est en général une incommodité aussi pénible qu’opiniâtre, qui trouble, du moins au commencement, la pensée, et absorbe l’attention du malade, vu que celui-ci l’y porte involontairement. Parmi les indispositions, auxquelles nous sommes sujets, il est du nombre de celles, que le temps et l’habitude adoucissent le moins. Les personnes, qui en souffrent, tombent presque toujours dans une profonde tristesse, et le bruissement les tourmente souvent beaucoup plus que la dureté d’oreille, aussi long temps, du moins, que

celle-ci n’a pas atteint un trop haut grade. Du reste, c’est par ce symptôme que commencent la plupart des affections de l’ouïe dont nous allons parler, et c’est très souvent la première marque, à laquelle on reconnaît une maladie commençante de cet organe.”

Tinnitus aurium is generally symptomatic of a disordered and weakened state of the general nervous system, more especially of the ganglionic apparatus, when the auditory nerve suffers in common with other parts of the body; under such circumstances, the disordered appetite, the irregularity of the circulation, as evidenced by the state of the pulse and palpitations of the heart; the impairment of the other sensorial functions, as vision, smell, &c., the secretions being generally imperfectly performed, and the manifest derangement of the whole nervous system, will sufficiently indicate to the cautious observer the proximate cause of the symptom I allude to. The predisposing causes are, intemperance, irregularity of living, profuse discharges, depressing passions, and, in short, whatever will weaken the frame, and greatly diminish or exhaust the nervous power: whatever will improve the general health, impart energy to the nervous system, and tone to the frame, will be of service in removing this variety of tinnitus. With this view, I have prescribed a combination of the arnica montana root combined with valerian and cinchona, administered twice a-day: I commence with three grains of the arnica, and gradually increase the dose to seven. The quantity of valerian and cinchona will, of course, be regulated by the symptoms; an infusion of the arnica with cascarilla and valerian has been occasionally employed, and with equal advantage: under its use, the general health has improved, the appetite has become better and more regular, the patient has acquired strength, and the distressing nervous sensations, including the tinnitus, have gradually disappeared. The arnica is a remedy which has been admitted and expelled, and readmitted and re-expelled the pharmacopœia, chiefly, I believe, because its utility was not sufficiently known. It was formerly called *doronicum Germanicum*. It has been used in fevers, particularly of the intermittent kind, and in gangrene, in which cases it is said to have been as efficacious as cinchona; a remedy of such importance should not be allowed to fall into oblivion. The neglect with which it has been treated, has probably arisen from the fact that its use is not attended in many instances with any sensible operation, although it occasionally causes vomiting, diaphoresis, or diuresis; Haller says, that even gutta serena has yielded to the powers of this medicine; I have occasionally employed the lactate and citrate of iron in these cases, and have reason to be much pleased with the results. These preparations of iron I prefer to those in ordinary