cile the production and existence of sound with the negation and overthrow of the valvular play?

This query will be best met after reference to the other closely connected cardiac phenomena. Let us see what has been effected by observing the kind and order of the heart's movements, and inquire if they correspond with prevalent views. Dr. Robinson asserted, as the result of his observation, in a very favourable case of denuded heart, "that the dilatation of the heart was its *first* movement, being, moreover, an active motion, and not a passive recoil from previous contraction, and that a distinct though minute interval existed between the act of diastole and systole, which latter was properly the second in the order of the heart's movements." (*American Journal of Medical Science*.)

Dr. Corrigan, many years ago, (*Medical Gazette*, vol. vi, p. 207), considered that the auricular (slow) contraction was synchronous with the first sound and with the heart's impulse, produced by a jet of blood from the auricles into the ventricles, and coincident with the swelling of its sides, projected forward.

[A very interesting case of deficient sternum, in which the heart's play was very apparent, has been lately exhibited at the Harveian Society, in which the writer conceived he could trace such an order in the occurrence or succession of the cardiac movements, as would be compatible with and confirm the views here put forth. He has also another case under treatment at the Royal Infirmary for Diseases of the Chest, in which formidable aortic and mitral disease exist, attended with violent action of the heart, and visible distension of the carotids. In this case he conceives he has been able to make out a distinct, though almost inappreciable, interval between the cardiac impulse and radial pulse.—February, 1856.]

Professor Skoda has made some observations on the movements of the heart, in a case of absent sternum, which have a close bearing upon the statements just made.

An infant was born without a sternum; the thoracic cavity presented in front a cleft of a form and size corresponding; this chink was merely closed by a very thin and shallow membrane. Some days after birth, the Professor made the following observations:

At each *inspiration*, this membranous envelope was drawn towards the spinal column, and afterwards the anterior extremities of the ribs were bent slightly inwards; on the contrary, at each *expiration*, this membrane was pushed in front like a bladder. Sixty or more inspirations were counted in a minute. On applying the hand, it was distinctly perceived that the heart was placed vertically; and when the finger was carried sufficiently deep in the direction of the vertebral column, one perceived at each *systole* the shock of the heart directly above the insertion of the diaphragm and at each *diastole*, as high as the second or third rib. On applying two fingers in this space, so as that one finger, placed superiorly, perceived the systolic contraction, whilst the other finger, put underneath, felt the diastolic shock, it was found that the heart, during its systole, glided about one inch downwards. In fact, the outline of the heart was seen, upon this membranous envelope moderately stretched between the fingers, both during the systole and diastole; and after this it might be concluded that the heart's shock, between the two points indicated, was *not* the result of an enlargement or diminution of this organ, but arose simply from its displacement. If the envelope was not touched, it was observed, that during expiration, precisely at the systole, the heart's outlines were marked by an elevation from above downwards upon the membrane pushed forwards; during the diastole, on the contrary, a sinking from below upwards was remarked. During inspiration the heart's shape was delineated equally at these two periods upon the membranous covering pushed towards the vertebral column. The heart beat from 120 to 130 times a minute; and was moved from above downwards exactly upon the middle of the cleft when the infant lay upon its back: on the contrary, if the baby leant to either side, then the heart deviated slightly in its movements from the median line away towards that

side upon which the infant reclined. The imperfections in this case arose from the incompleteness of the opening, and from the heart being covered, thus preventing close inspection or normal examination. (1850.)

Skoda's case throws much doubt on the existence of any such order in the parietal movements of the heart as that usually received; and, at all events, does not negative Dr. Robinson's assertion, which, moreover, receives strength, and falls in with Dr. Corrigan's former opinion, that the first sound coincides with the *auricular contraction*, and corresponding *ventricular dilatation* (the first of the heart's movements); also with his explanation of the mode of production of the impulse, as well as with the order given according to his views, before referred to;—that the auricles contract first, the ventricles second, and that the long silence then succeeds. The interval said to exist between the impulse and pulse may be thus accounted for; the latter coinciding with the ventricular contraction, closely followed by, if not continuous with, the second sound.

Dr. Herbert Davies considers the following to be the order of succession and duration occurring in the heart's movements and sounds:—First sound, short silence; second sound, long silence, which is commenced and terminated in the interval of time between two successive pulses, in a period equal to one-seventieth of a minute (taking the pulsations at 70 per minute). The second sound must appear to succeed *immediately* upon the first, the intervening time being a fractional period of time almost inappreciable. A beat or rhythm results (according to Barth and Roger) in a threefold manner; the time occupied in the first sound being a little less than one-third, in the short silence and second sound being in each one-sixth, and in the long silence very little over one-third. The relative duration of the heart's systole and diastole is estimated by Volkmann at 96:100. This discrepancy is not surprising, considering the minute fractions of time involved in the inquiry.

Now, if we assume, with Dr. Robinson and others, that dilatation constitutes the first of the heart's rhythmical movements, the first sound, which then becomes synchronous with the diastole, may be referred, in its mode of production, to the sonorous vibration of the dilating ventricles, conjointly with the rush of blood into them from the auricles. It is in accordance with the relation existing between the physical forces that sound should result from a certain amount of resistance being offered to the injected blood, consequent upon arrest or retardation of motion. The almost simultaneous ventricular contraction (coinciding with the pulsation in the arteries) limits this source of sound; the second sound resulting from an extra-ventricular (valvular?) cause—possibly from the onward current of blood into the aorta.

PLACENTA PRÆVIA.

By JOHN AUDLAND, Esq., Tintern.

SOME cases of placenta prævia having been lately reported in the JOURNAL, I forward one which occurred in my practice; and which, I think, is sufficiently interesting for publication.

I was called to Mrs. J., aged 45 years, a woman living about three miles from this place, between 7 and 8 A.M., July 17th, 1854. She was pregnant with her eighth child, and expected her confinement in about a fortnight. She told me that for the two previous days she had felt a weight and bearing down sensation in the lower part of the bowels; and that about five o'clock this morning, whilst she was making water, a large quantity of clotted blood came away, and she became faint. When I arrived, she had recovered from the faintness; the pulse was full, and the hæmorrhage had ceased. On examination, I found the os uteri, which was very high and reached with difficulty, dilated to about the size of a shilling; but I could not, for a certainty, make out the presentation. I waited for some time, but as there were no pains or hæmorrhage, and I had some urgent cases

to visit, I left: having explained to the attendants what I considered to be the nature of the case, ordered a mixture with acid. sulph. d., etc., to be taken regularly, and napkins soaked in vinegar and water to be applied if necessary; and having given strict charges that the woman should be kept perfectly quiet, and that I should be sent for the moment any discharge or pains occurred.

About 11 o'clock, a messenger came to say that the flooding had returned, and that the woman was dying. When I arrived, I found her almost deluged with blood. She was extremely low, her countenance pallid, and the pulse at the wrist a mere flutter. A few and slight pains, I was told, had accompanied the discharge, and the woman had fainted away once or twice. I administered brandy freely; and as soon as she had rallied a little I proceeded to deliver. The vagina was full of clotted blood, and the os uteri, over the centre of which the placenta was implanted, was dilated to the size of half a crown. I easily dilated the os uteri, insinuated my hand between the placenta and the neck of the uterus, ruptured the membranes, got hold of the feet without any difficulty, and in a few minutes delivered the child, which was, of course, dead. I then reintroduced my hand, brought away the placenta and a quantity of clots, and firmly bandaged the abdomen. The woman was extremely weak, and it was only by frequent and copious draughts of brandy during, and subsequent to, the delivery, that she rallied. Between four and five o'clock, I considered it safe to leave her. She continued during the night to take a mixture with the sesquicarbonate of ammonia every hour. The following day, she was as well as could be expected; and although she remained weak for some time, yet by care, nutritious diet, and the administration of iron, etc., she properly recovered, and was able to get out in about a month.

When I first saw her, as the hæmorrhage had ceased, the pulse was good, and all immediate danger appeared to be over; and as, moreover, the woman supposed she was a fortnight from her confinement, and as there were no pains, and the os uteri was so little dilated, I did not think it proper to interfere. When called to her again, the necessity for interference was urgent; and had not the woman been promptly delivered she must have speedily sank.

In these cases it has been recommended by some, to remove the placenta first. Now, I do not presume to say that the removal of the placenta may not be good practice in certain cases, but in this case, I am certain, that the removal of the placenta first would have been more difficult, than to turn the child: and even supposing it had been removed, and the hæmorrhage had ceased, the woman might have sank before the child had been delivered.

This is the only case of complete placenta prævia I have had in upwards of 900 cases. A partial presentation of the placenta, which I once before had in a primipara, required instrumental assistance, not on account of hæmorrhage—which ceased after the rupture of the membranes—but on account of the impediment it caused to the passage of the head.

Reviews and Notices.

A NARRATIVE OF THE SIEGE OF KARS. By HUMPHRY SANDWICH, M.D., Chief of the Medical Staff. pp. 348. London: John Murray. 1856.

It is singular that the first account of one of the most important sieges of the war has been given to the public by a member of our own profession. Dr. SANDWICH, whose appointment in 1854, under the now renowned General Williams, as head of the medical staff, gave him an admirable opportunity of witnessing a defence which will take its place among the most celebrated sieges in history, has given us in this volume a graphic account of the manner in which the Turks can fight under European leaders, notwithstanding the neglect of their own and allied govern-

ments. If English officers, medical as well as military, have been cramped in their exertions and defamed in the eyes of their countrymen through the imbecility of the Horse Guards, they have shown, on every occasion on which they have adventurously sought the enemy without the plan of operations of the Royal Army, that they are capable of covering themselves with renown. Silistria and Kars will keep bright the British laurel, however much it may have been dimmed by the bungling of the heads of departments in the Crimea; and with the names of Nasmyth, Butler, Williams, Lake, and Teesdale, that of Dr. Sandwich must go down to posterity, as having done his duty with the pluck, intelligence, and endurance of an Englishman. Of our author, indeed, we hear but little in the volume before us, but his good deeds have been blazoned forth by the enemy rather than by himself. He alone, of all the superior officers who surrendered to the cries of a starving city rather than to the arms of a defeated army, was liberated by the chivalrous Mouravieff, *on account of his eminently humane services to the Russian wounded*. He brings home no star upon his breast, but this bright action will shine through his future life more brilliantly than the brightest decoration.

The major portion of the volume before us is dedicated to a history of the government, peoples, and country, of that portion of Asia Minor which has formed the centre of the late operations. It cannot be said that Dr. Sandwich's estimate of Turkish rule is a flattering one. Oppression and disease have reduced the fairest provinces in the world to a state of beggary, and his pictures of the sanitary condition of both Erzeroum and Kars will no doubt make the hair of Mr. Simon stand on end.

The author accounts for the absence of scientific observations in his volume by the fact that his papers were all lost in the snow storm he experienced on the Allah Akbar Mountains. These will be the less missed by the public on account of the exciting nature of his diary, kept whilst either under the Russian fire or amid the outcries of a city and garrison perishing from starvation.

Our extracts from this interesting volume will necessarily be confined to matter which more immediately pertains to our own science. Enough of this, however, can be gleaned to give a fair idea of the nature of the volume. If the reader wishes to know the manner in which Christians are treated by their Mussulman conquerors in this part of the world, notwithstanding the order of the Sultan that all his subjects shall be treated alike, let us quote the following unique permit of burial, given by the Cadi of Marden to a Christian who applied for it in the behalf of a defunct Ghiaour.

"We certify to the priest of the church of Mary, that the impure, putrid, stinking carcase of Saideh, damned this day, may be concealed underground.

"Sealed, EL SAID MEHEMED FAIZI.

"A. H. 1271. Rejib. 11. (March-29th, A.D. 1855.)"

Dr. Sandwich testifies to the good qualities of Turkish surgeons in a manner which does credit to his love of justice.

"And here let me testify to the unremitting self-devotion of the noble little band of ill-paid and ill-treated Turkish surgeons. I do not mean to say that their education equalled that of their brethren of the West, but their love for their profession, and their industrious attention to the wounded soldiers, both Turkish and Russian, in the midst of our crowded hospitals, and in the face of frightful difficulties (such as those only can know who have gone through a siege in an Asiatic town), have never been surpassed. These gentlemen at once adopted any improved modes of treatment pointed out to them; and to their ready acquiescence in the hygienic means which I have before mentioned, I ascribe our escape from any visitation of hospital gangrene, or epidemic of typhus. And yet these men were never rewarded by promotion or decoration, while every other grade of officer received some mark of the gratitude of government. Their usefulness was unquestionable, and the dangers and hardships they passed through far exceeded those endured by the military officers.

"It is an undoubted fact that the medical men of Turkey,