symptoms. The same remedies were employed for a week, and afterwards grain and a half doses of quinine for another. No treatment seems to have been used after he ceased to be under Mr. Brown's care.

When I saw him, he appeared ill and emaciated. He took his food well; had no thirst; slept well. His tongue was natural, his pulse quiet, his skin cool. No jaundice. There was no emphysema of the lungs; the liver projected but little below the ribs. Abdomen was rather distended and tender. The spleen was not enlarged, but there was dulness for some considerable extent in the hypogastric region. He had no stricture. The bowels were relaxed daily, beginning to act at 4 A.M., and continuing till 7 P.M., or later: many liquid motions occurred in that period; they were light coloured, "frothy like barm", passed without pain. The urine was very scanty, and red, and turbid. Some days he was without any motion, and then he felt much better and stronger, but was so weak from the knees downwards, with a sensation of coldness there. He was generally weak and nervous. It appeared clear to me that I was not dealing with a case of ordinary liver disorder requiring calomel and clearing out, nor with ordinary diarrhoea, but probably with a disordered innervation of the intestines and liver. The chronicity of the disorder, its periodicity, and its occasional shifting of seat, pointed clearly to this conclusion. I gave him, therefore, seven grains of quinine, with five drops of liquor opii sedativus, three times a day.

Feb. 16th. No morning paroxysms of diarrhoea; the bowels have only acted three times in the week, generally in the afternoon, except this morning. Motions of rather light colour, not so yeasty. Urine more copious, deposits lithates, otherwise is natural. Feels better in himself. Porter, which used to disagree with him, relaxing his bowels, does not do so now. No dulness in hypogastrium. He improved decidedly and steadily on the same plan of treatment till March 1st, when I discharged him to go to a situation. The bowels were acting regularly; the evacuations of a darker, more natural colour, than previously.

REMARKS. If we accept the Hippocratic apophthegm, "Naturam morborum curationes ostendunt," we can scarce avoid regarding the affection above described as a "neurosis". In the preceding cases, we have had intestinal neuralgia, occasionally attended with temporary diarrhoea, the latter generally showing itself when the neuralgia was declining. In this case, we have the flux alone, without the pain. As the disorder seems to have been contracted in the vicinity of the Thames, there is some increased probability in favour of its malarious origin. I rest my opinion, however, as to this, much more on the persistency and general features of the disease than on the above circumstance.

[To be continued.]

CITY DISPENSARY.

ON REDUPLICATION OF THE SOUNDS OF THE HEART,
PRINCIPALLY OBSERVED IN CASES OF
MALFORMATION OF THE CHEST, ETC.

By JOHN COCKLE, A.M., M.D., F.R.A.S., Member of the Royal College of Physicians; Physician to the Dispensary; etc.

[Concluded from page 421.]

CASE IV. *Abnormal Pulsation of Abdominal Aorta. Hypertrophia (?) Tumour (?) Remarkable Reduplication of the Second Sound at the Apex.* Eliz. Taylor, aged 22 years, tall, rather thin, florid face, dark hair, married five years, has two children. Menstruation regular. She dates her illness three years; but even prior to this period was very liable to severe headaches, which, since her present illness, have nearly or altogether ceased.

About four years ago this summer, when eight months advanced in pregnancy, she was seized, quite suddenly, with confusion of vision, and soon became nearly blind; the

tongue was greatly swollen; the face and entire left side seemed dead, and lost to feeling; the right side retaining its natural sensibility. The intelligence was much affected; she could hear, but not comprehend the import of a question. She gradually recovered under the use of stimulants. Three or four such attacks recurred at short intervals. She had an easy accouchement, recovered rapidly, and suckled her child during eleven months; at the expiration of this period she became weak with frequent attacks of syncope. At this juncture the following symptoms set in, viz., violent pulsation of the abdominal aorta, which has continued more or less to the present date. The epigastrium is exceedingly sore and tender to the touch, so much so, indeed, that now she cannot even bear the pressure of her stays. The pulsation is usually worse when lying down. A small tumour seems to arise suddenly from time to time, just above the umbilicus, and as suddenly disperses; and after these attacks she feels during the day a sensation of choking, beating in the throat, difficult breathing, cold perspirations, and severe palpitation. At times she passes a large quantity of water, at others scarcely any. Stooling will nearly constantly induce palpitation and dyspnoea. Some months ago her case was examined at University College Hospital, and it was thought probable that some tumour over the aorta existed.

She has never had rheumatic fever, but some years ago had six leeches applied to the epigastrium for inflammation within the chest.

Inspection. The chest is quite symmetric, and the spine straight. The left nipple is rather higher than the right. Visible cardiac impulse near the nipple, which corresponds to the upper border of the fifth rib. No cardiac epigastric impulse. No pulsation of superficial arteries, or venous distension. Respiration tranquil.

Palpation. Cardiac impulse moderate. No *frémissement*. Pulse, when recumbent, 86; small, regular in both wrists. The abdominal aorta strongly pulsates a little to the right of the mesial line. During palpation, intestinal *gargouillement* at times over the region of aorta.

Percussion. Dulness appears about the second left costal cartilage downwards to apex. Pulmonary sound normal. Right lung comes down to upper border of fifth rib. Stomachal note upon percussion in *epigastrio* and left hypochondrium.

Auscultation during dorsal decubitus. Between the fifth and sixth left ribs the first cardiac sound is distinct, the second markedly reduplicate, the reduplicate sound being loudest and most distinct. The reduplication is heard upwards as high as the third rib, and downwards as low as the eighth rib, and across to the epigastrium. Both first and second sounds are audible without reduplication at the aortic and pulmonic valves respectively. The very slightest pressure of the stethoscope over the epigastrium develops a loud, hoarse whiff in the aorta, which ceases upon allowing the tube merely to rest with its own weight upon the abdominal wall. Upon resuming the erect posture, the reduplication instantly ceases, and the heart's beat becomes perfectly normal. This peculiarity was several times observed by Dr. Webb (to whose kindness I am indebted for many opportunities of seeing this case) and myself.

Dr. Stokes relates an analogous case in his work upon diseases of the heart.

CASE V. *Cardiac Uneasiness and Palpitation; Chronic Bronchitis; Triple Sound, Second Sound being Doubled.* Elizabeth Branch, aged 49 years, admitted April 20th, 1856. *Previous History.* Had always felt well and strong until about two years and a-half ago, when she was suddenly greatly frightened. Since that time has been subject to uneasiness about her heart. A year ago she caught a severe cold, which increased the palpitation; she now suffered additionally from cough and dyspnoea, and could only rest upon her left side. *Present Symptoms.* Severe pain over the left false ribs, down to the ilium; dyspnoea; cough; cannot lie down at night; when she attempts to do so, an instant feeling of suffocation is induced; feet constantly cold.

Inspection. Face thin, anxious, pallid; lips florid. Slight apex impulse; very faint in epigastrio.

Palpation. Apex *in situ*; impulse moderate; pulse normal.

Percussion. No increase of heart's dulness.

Auscultation. A triple sound is very distinct across the lower sternal region, right and left two inches beyond sternum on each side, and at xiphoid cartilage. The second sound is slightly doubled at both aortic and pulmonary cartilages, but greatly less than at points indicated. This reduplication of the second sound becomes very marked during full inspiration. No bruit whatever accompanies or replaces the heart's sounds. Slight *râle sonore* audible over the greater extent of the lungs.

REMARKS. Reduplication of the first or more particularly of the second sound of the heart, either as a persistent or fugitive phenomenon, is, according to my experience, of no very rare occurrence.

Professor Bouilland was, I believe, among the very first to direct special attention to this abnormal action, and, according to his observations, it was ordinarily associated with probable or demonstrative change of the organ. In the cases reported by him, a triple, occasionally a quadruple sound, was heard. In some of these "the pulse was double, as well as the ventricular systole", as if successive rapid ventricular contractions were required to overcome some obstacle at the arterial ostium. He thus clearly supposes the double sound to be developed in a single chamber. On the other hand, very distinguished observers (Dr. Williams, etc.) have imagined that when systolic reduplication existed, it was the natural result of a want of synchronism between the right and left chambers of the heart. But if this explanation were unconditionally true, doubling of the second sound ought surely to be constantly audible also; this sequence, however, most certainly does not always occur. The first sound may be, as it were, divided, *entrecoupé*, and yet the second sound exist in all its clearness and unity.

There are other possible sources of this divided beat extrinsic to the left ventricle: for example, it is possible that in cases of malformation of the chest, the heart, displaced and pressed upon, might, in its systolic tilting, strike some portion of its surface, otherwise than the apex, against the chest-wall, and thus excite a double first sound. The auricle might also, conceivably, engender a sound immediately preceding the ventricular systole, and thus apparently divide the normal sound. This change, however, in the condition of the ordinary aphonous contraction of the auricle might be recognised by such sound immediately preceding the radial pulse.

With regard to reduplication of the second sound at the base, aortic, and pulmonic cartilages, not only is the phenomenon much more easy to recognise from the sharp clear clack of the semilunar valves, but its actual mechanism is also more intelligible. Any retardation in the delivery of a given quantity of blood from either ventricular cavity might, without necessarily doubling the first sound, sensibly affect the quick recoil of the arterial walls. If this explanation be not accepted, we must concur with Skoda that a want of synchrony in the closure of the semilunar valves of a single outlet must be the cause, although there are physical difficulties even in this mode of interpreting the phenomenon. Greatly more difficult is the explanation of the reduplicate second sound, heard loudest at the apex, as in Case IV; and this arises from the acknowledged difficulty of explaining the second normal ventricular sound. Skoda has asserted—and I think most persons familiar with cardiac auscultation will confirm his statement—that a second sound is occasionally audible at the apex of the heart loud and accented, while the corresponding sound at the base is faint and low. Now, it would be unphilosophical to argue that this second sound at the apex could be that of the semilunar valves, transmitted from the base, without some demonstrable source of reinforcement were admitted, such an assumption being opposed by the fundamental laws of acoustics.

But, while we accept the statement of Professor Skoda as

to the actual existence of a second ventricular sound, his explanation of the rationale of such sound must be considered fairly debateable. He imagines it may be produced by the blood passing from the auricles encountering a free ventricular wall; but this view could only hold good on the theory of Beau, that the diastole of the ventricle is one of vacuity and repose—a free wall then existing; but if, according to the current view, the diastole is one not of repose but of gradual repletion, terminated by a rapid contraction of the auricle, then the conditions present are rather such as, according to Skoda's own teaching, should generate murmur instead of sound; viz., one current in motion encountering another comparatively at rest.

In conclusion, it may be remarked that although the so termed reduplication may not subserve any purpose of exact diagnosis, it may, notwithstanding, when permanent, possess a value, even in the absence of all other physical signs, when the rational symptoms are those of cardiac suffering.

MANCHESTER EYE HOSPITAL.

PARALYSIS OF THE THIRD PAIR OF CEREBRAL NERVES: WITH ILLUSTRATIVE CASES.

By JOHN WINDSOR, Esq., F.R.C.S., Senior Surgeon to the Hospital.

[Read before the Manchester Medical Society, March 19th, 1886.]

[Concluded from page 403.]

PARALYSIS of the third pair occurs occasionally in infancy and childhood. Of this I have seen several instances, although it is more rare than at a later period of life. The following is an example of it.

CASE V. Martha Lathward, aged 8 months, from Bow Street, Adelphi, was brought to the Eye Hospital, March 3rd, 1843. The child is pale looking; it has cut the two central incisors of the lower jaw about four months since, but the corresponding ones of the upper jaw are not yet through, nor will the mother permit the gums to be lanced at present.

The left eye is quite closed by a ptosis of the upper lid, and the movements of the eye itself are very limited, except by the abductor. The right eye is quite open. The ptosis was first noticed about two or three days since.

Two grains of hydrargyrum cum cretâ were prescribed to be taken every eight hours.

March 10th. The infant can now partially, although but slightly, expose the eye. The medicine was continued.

March 24th. She can now raise the upper lid almost as well as in the other eye. The powders were omitted, and infusion of senna was ordered to be taken occasionally.

May 21st. The mother called to say that the child was dead.

The left superior palpebra had recovered its power, but that of the right eye fell for a day or two before it died.

Some convulsive fits had also attacked it for a few days before its death.

CASE VI. John M'Dermott, aged 8 months, became an out-patient of the Manchester Eye Hospital, May 20th, 1852, affected with ptosis of the left superior palpebra. The child sucks well; its bowels regular, and its general health little affected, although the ptosis came on a few days before, simultaneously with a little catarrhal affection, which still continues.

Applicetur hirudo i temporis sinistro.

Sumatur calomelanos gr. i bis die.

Sumatur infusum sennæ pro re natâ.

The affection soon yielded to this treatment.

In cases of paralysis of the third pair, the pupil of the affected eye is generally dilated and irresponsive; but in some cases it is not larger than in the sound eye, and rarely it is more or less responsive to light.

CASE VII. Mary Ball, aged 44 years, from Radcliffe, became an out-patient of the Manchester Eye Hospital,