Zograff communicates a paper on the so-called Labyrinthine apparatus of the Labyrinthine Fishes. Arthur Dendy, in a memoir, sends studies on the comparative anatomy of sponges, including *Ridleya* and *Quassilina*. Lastly, there is a memoir by Klimenberg on the development of *Lopadorhynchus*.

New Inventions.

KROHNE'S MODIFICATION OF THOMAS'S DOUBLE HIP SPLINT FOR THE TREATMENT OF DISEASES AND INJURIES OF THE SPINE.

THE well-known Thomas's double splint for disease of one or both hip joints (Fig. 1) is rendering great service in the treatment of that affection. Mr. Krohne has added

FIG. 1.

to this splint a pelvic band, a support for the shoulders, neck, and head, and two sliding foot-pieces, as shown in Fig. 2. The two upright bars are made after the shape of a

FIG. 2.

healthy, normally formed child when in the recumbent position. They give posterior support to both sides of the spine. The two cross-bars, the pelvic band, and the band reaching to below the axillæ, support the pelvis and body laterally. The lower extremities are kept in position by cross-bars supporting the thigh and lower third of leg. The rest of the splint consists of the support for the shoulders, neck, head, and both feet, so that the entire body is supported, as shown in Fig. 3. The first object in the treatment of spinal

FIG. 3.

caries, weak or injured spine, is to devise means whereby the weight of the head and upper extremities is taken off the spine. This is obtained by placing the child and retaining it during the whole time of treatment in the uninterrupted recumbent position. By the aid of this splint the surgeon is enabled to carry out this treatment, and, the splint being applied next to the skin, the child can perform its natural functions without the removal of the apparatus. The second object is to fix the spine, which is effectually done by placing a wide bandage around the body and the splint; further, to prevent the child from raising its knees and using the legs as levers, and thus jerking the spine, both legs are bandaged to the splint. Both feet and ankles are also supported by a bandage, to protect the feet from the pressure of the bedclothes, and to prevent

them from dropping forward or to either side. The bandages are not shown in the engraving. With slight modifications, the splint can be adapted to cases of disease or injury of the lumbar, dorsal, or cervical part of the spine. Most cases of advanced spinal disease are accompanied with contraction of one or both hip joints. No special notice need be taken of such contractions. The child is placed with its back on the splint, care being taken that the fold of the buttock corresponds with the angle of the splint, and the bandage is then applied. The child is next made to straighten its legs as much as possible. Any existing angle under the knee is filled up with soft padding, and the legs are thus bandaged to the apparatus. The contractions will be gradually corrected by the limb dropping, by its own weight and without pain, to the straight line of the splint, which will be noticed by the bandage getting loose. Some of the padding must then be removed and the leg re-bandaged. This has to be repeated until the limb has dropped to the straight line of the splint. The same straightening process goes on simultaneously in the spine, correcting lordosis or any other abnormal curvature. The pelvis forms the fulcrum, and the body above and the limbs below it are the levers, dropping by their own weight to the line of the splint without the slightest pressure being required. Throughout the whole time of treatment care must be taken not to cause pressure on any part. It is therefore absolutely necessary that the child be placed, after the adjustment of the splint, on a soft and loosely stuffed feather bed, when the bars of the splint sink into the bed, and the feathers rise and support the whole body. Some absorbent cotton-wool should also be placed on and above the heel. When supporting it by a bandage to the sliding foot-pieces, fresh cotton-wool should be employed whenever the bandage is replaced. Attention must also be given to all the cross-bars, which must be bent away from the body if undue pressure be caused by them.

MAJOR AMPUTATIONS TREATED ANTISEPTICALLY.

To the Editors of THE LANCET.

SIRS,—In reply to the questions contained in Mr. Vincent Jackson's letter of July 15th, I have arranged the sixty patients upon whom major amputations were performed in the Royal Infirmary, Newcastle-on-Tyne, during the year 1887, into four classes: 31 were under twenty; 14 between twenty and forty; 10 between forty and sixty; and 5 were over sixty years of age.

About fourteen years ago the antiseptic method of treating amputations was introduced into the Newcastle-on-Tyne Infirmary by Dr. G. T. Beatson (now practising in Glasgow), who came direct from Professor Lister's wards to fill the post of senior house surgeon here. The practice has in no essential particular altered since then. We cleanse the limb with carbolic lotion, operate under the spray, use gauze and cotton-wool dressings, catgut ligatures and sutures, and are careful always to provide for free drainage by means of indiarubber tubing. Our results before 1874 were very unsatisfactory, and I think our present good results are due mainly to the altered method of making and of treating wounds; but other factors have undoubtedly contributed. Among them I am of opinion that the appointment of a pathologist has been very important. The pathological staff is not now brought in contact with the surgical wards. Dissecting students, too, are not allowed to dress patients in the hospital. Opinions, I dare say, will continue to vary as to the relative value of a particular method of treating wounds and such other precautions as I have indicated. I think, however, it must be admitted that the exclusion from surgical wards of every recognised cause of infection so rigidly insisted upon to-day is due more to a belief in the truth of the theory upon which the antiseptic system is based than to any other cause.—I am, Sirs, yours truly,

Newcastle-on-Tyne, July 23rd, 1888.

FREDERICK PAGE.