

voted at the Pretoria Congress, where it was unanimously decided that in "clean areas the Koch method only must be used."

It is quite possible to keep bile eight days; its immunising power is then stronger than if it had been mixed with glycerine. When the animals are properly prepared, and if the animals are killed before collapse occurs, green biles predominate (80 per cent.), and 3 or 4 animals will furnish enough to inoculate 100. But if the man in charge of the station is careless the result may be very different.

Dr. Edington has advocated the addition of 33 per cent. of glycerine to the gall, that is, 2 of gall to 1 of glycerine. Dr. Kolle and I have used this mixture in over 30 animals. The immunity conferred is very slight. Inoculated on the tenth day after the use of 15 c.cm. of the mixture with 0.2 c.cm. virulent blood all had the disease and more than half died. In fact we use this method to give only a slight degree of immunity so as to procure salted animals for serum. Even then we have often to use the serum to help the animal over the attack. Dr. Koch did not overlook the possibility that it might be possible to use glycerine; he tried it, but gave it up as useless; and our experiments confirm his opinion.

Dr. Edington claims that the mixture of glycerine and gall enables us to use all samples of bile, thus effecting an economy; but as, after seeing the result of our experiments, he has raised the dose from 15 c.cm., which is equivalent to 10 c.cm. of bile, to 24 c.cm., equal to 16 c.cm. of bile, an increase of 60 per cent., the economy has disappeared. Glycerine kills the modified organisms which gives to the fresh bile its immunising properties, and leaves only a small quantity of antitoxin or some chemical substance which confers a short passive immunity. Whether the use of a small quantity of virulent blood ten days after inoculation will prolong this passive immunity remains to be seen. It appears to do so in the case of the fresh bile.

Dr. Edington claims that his mixture will not convey the rinderpest; that is quite true, but he also implies that the bile does. This is a curious position to hold, because he maintains in opposition to Koch and others that glycerine does not kill the organism.

I will not take up your time now with any questions as to use of either the bile or serum methods. The Congress recently held at Pretoria, where I represented the Colonial Government, came to a unanimous decision, and I will send you the report as soon as it appears.—I am, etc.,

GEORGE TURNER,

Medical Officer of Health for the Colony of the Cape of Good Hope; Chief of the Government Rinderpest Experimental Station, Kimberley.

Colonial Secretary's Office, Local Government and Health Branch, Cape Town, Cape of Good Hope, August 18th.

THE COLLATERAL CIRCULATION AFTER LIGATURE OF THE COMMON CAROTID.

SIR,—In the BRITISH MEDICAL JOURNAL of August 21st Mr. W. Thelwall Thomas publishes an extremely interesting account of the "conditions found in the head and neck two years and a quarter after ligature of all the carotid arteries, jugular veins, etc., of the left side."

In commenting on the case described Mr. Thomas says: "The specimen illustrates how little reliance can be placed on the theoretical collateral circulation so carefully enumerated in textbooks, etc."

Such cases as that which Mr. Thomas has published are of the greatest importance to surgeons as being records of actual fact as opposed to theory. I therefore venture to place another beside it.

Miss M., sent to me by Dr. Cullen, of Alexandria, N.B., suffering from carcinoma of tongue, tonsil, and fauces of right side. On August 27th I ligatured the right common carotid and the left lingual. On September 3rd (seven days later) I removed the tongue, right tonsil, and fauces of right side. During the operation of September 3rd the condition of the vessels of the right side of the neck was found to be as follows: Ligature secure on common carotid 1 inch below bifurcation. Common carotid firmly thrombosed from ligature to bifurcation. External carotid, and the first parts of its superior, thyroid, lingual, facial, occipital, and posterior auricular branches firmly thrombosed. Internal carotid from

base of skull down to bifurcation fluid and pulsating.—I am, etc.,

Glasgow, Sept. 6th.

JAS. H. NICOLL.

DISAPPEARANCE OF A CARDIAC MURMUR.

SIR,—In the BRITISH MEDICAL JOURNAL of August 21st, 1897, Dr. Whitby cites a case of supposed aortic insufficiency, in which a diastolic *bruit* at the base disappeared during an attack of influenza. Dr. Whitby suggests that the case was one of temporary dilatation of the aorta, giving rise to incompetent valves, resulting in regurgitation of blood into the ventricle, with a blowing diastolic *bruit* as mentioned above.

Now, with all due deference to Dr. Whitby's opinion, I should like to point out two features in his case which exclude the possibility of dilatation with aortic regurgitation: these are the condition of the pulse and the character of the second sound as heard at the apex of the heart. Dr. Whitby mentions the rate of the pulse as 65, and its tension as markedly high, but in the condition under consideration the column of blood shot into the aorta by ventricular contractions falls back upon the insufficient valves as on a sieve, with the result that we get a bounding low tension pulse known as Corrigan's pulse, or the pulse of unfilled arteries. Again, Dr. Whitby mentions that the second sound as heard at the apex of the heart is accentuated. This also is indicative of high arterial tension and smart closure of the sigmoid valves, and is, of itself, sufficient to show that the diastolic *bruit* could not arise from incomplete closure of these valves. The possibility of a functional murmur is also excluded by the age of the patient and the rhythm of the *bruit*.

The case is certainly one of considerable interest, and the consideration of the patient's sex and age, with the history of thoracic pain and discomfort, might suggest the possibility of a small sacculated aneurysm of the ascending aorta. The rhythm of the murmur is certainly somewhat against this hypothesis, as we should expect to hear either a systolic or a double murmur, yet, as is well known, aneurysmal murmurs vary much, and although a single diastolic murmur is very rare, yet it should be remembered that it may occur. In explanation of this, I should here offer the suggestion that in small sacculated aneurysms, near the base of the aorta, where the opening into the vessel is oblique towards the heart, the volume of blood shot into the sac would be greater during the recoil of the vessel, and the rebound of blood upon the semilunar valves, than during ventricular systole. The disappearance of the *bruit* is of interest, for were the case one of aneurysm, it would point to one of two things: (1) A modified condition of the current of blood entering the sac, as a result of the fall in blood pressure; (2) an attempt at spontaneous cure induced by rest in the horizontal position, and a tendency towards coagulation in the sac from rise in temperature. The presence of the thoracic pain, and the history of hæmoptysis subsequent to the disappearance of the *bruit*, are in favour of the first condition. The venous hæmorrhage from the lung points to passive congestion, possibly from pressure on the right pulmonary vein. The case, however, is certainly unique; and although not one of aortic regurgitation, yet it cannot be said to have many symptoms characteristic of aneurysm. Its subsequent history will, I have no doubt, be followed with interest.—I am, etc.,

Glasgow, Sept. 1st.

H. HYSLOP THOMSON, M.B., M.C.

SIR,—In reference to the above subject, Dr. Charles D. Musgrove writes to me as follows:

"In the BRITISH MEDICAL JOURNAL of August 21st you have, in the record of a case of disappearing aortic murmur, asked 'if any of the readers of the JOURNAL have observed cases in which what one must consider to be functional valvular failures have been relieved by pyrexia or the recumbent position.' I have under my care at present a woman, aged 32, who, during the last month has completely lost a well-marked aortic murmur under the influence of rest and diminished blood tension. There was no evidence of valvular disease in her case. In another case of mine—a girl of 10—an aortic regurgitant murmur, due to endocarditis, also disappeared. This is of course not so common as the