THE CAUSE OF GOITRE.

To the Editors of THE LANCET.

SIRS,—I have read with great interest, in THE LANCET of Nov. 9th last, Dr. Gordon Holmes's remarks on the pathogenesis of sporadic goitre. It is curious that, so far as I have read on this subject in the text-books and in the various articles in the medical papers, I can find no reference to the observations of Dr. J. Saint-Leger on the cause of goitre. In his book—"Études sur les Causes de Crétinisme et du Goitre Endémique," published in Paris in 1867—there are some very interesting and carefully worked-out observations on the origin of these diseases. He passes in review the various supposed causes and brings forward conclusive evidence against them. He traces the close connexion between goitre and cretinism, and maintains that the number of cretins free from goitre has been greatly exaggerated, pointing out that among cretins there is found a form of goitre which shows very little externally, the swelling of the gland developing laterally and under the muscles; he also adds that *all* cretins labour under embarrassed respiration as if from a mechanical obstruction. I may mention that we found among some of the cases of goitre operated on during my period of residence at the Cumberland Infirmary that the disease showed very little externally, but had grown under the muscles, and in two cases the growth was found embracing the trachea, and the greater part was found posteriorly. As to the cause of goitre, Dr. Saint-Leger maintains that it is found in the drinking water, and after an exhaustive research into the geological formation of the goitrous districts he came to the following conclusions.

1. That endemic goitre coincides with metalliferous soils.
2. That the chief goitre-forming element is sulphide of iron or iron pyrites. This is the most abundant and most frequent element, and the only one which is never absent.
3. That next in order of frequency comes copper pyrites (the double sulphide of copper and iron), and then, but less frequently, the sulphides of lead, arsenic, and antimony.

In support of this contention he brings forward most convincing arguments. It is the small dose of the sulphides frequently repeated that causes the disease. In three mice to which for three months he gave in their food small doses of sulphide and sulphate of iron, he produced very marked swelling of the thyroid, and in others to which were administered other supposed goitre-forming substances no such effect was produced. A very striking instance he quotes from Mr. Clelland's observations:—"In the year 1831 two companies of the 30th Regiment of Native Infantry were placed in garrison at Lohoothal, while two other companies were stationed at Petoragur, a station to the north of Lohoothal having precisely the same altitude and mean temperature as the latter. At the end of three years there was not a single case of goitre at Lohoothal, while at Petoragur there were fifty. The water for the supply of the former station came from the metamorphic clay schist, while that for the latter came from metalliferous limestone containing beds of schist with graphite and iron and copper pyrites."

Another convincing proof brought forward by Dr. Saint-Leger was as follows. Knowing the geological formation of certain districts of France he marked on the map the localities in which there ought to be goitre and then visited them. He found no goitre in the districts where he did not expect to find it, but he did not find goitre in all the places he expected, but in these cases he found that the water-supply was either got from a different formation at a distance or from wells sunk in beds of transported alluvium covering the real geological formation. In all the other districts he found the disease. These observations are very interesting and require more working out in this country. I am at present endeavouring to find out their truth as regards Cumberland and Westmorland, and hope to communicate the results of my research at some future date. Goitre is endemic here, and it is well known that in the mountains of the Pennine range—and, indeed, in other hills in these counties—iron, copper, and lead are found in large quantities, and it would be interesting to find out if these metals are found in other goitrous districts in the country. With regard to Dr. Holmes's remarks on predisposing causes of goitre, my experience here bears out the fact that the disease is most prevalent in females and that it develops generally at puberty, though in some cases in early childhood. I have seen several cases of mother and

daughter being affected with the disease. It is interesting to mention, in conclusion, that Paracelsus and other physicians of the sixteenth and seventeenth centuries accused metallic waters of causing the neck to swell, and even mention iron pyrites as a cause of goitre.

I am, Sirs, yours truly,

LOUIS E. STEVENSON, M.B., B.C. Cantab.

Penrith, Nov. 12th, 1895.

" 'RETURN' CASES OF SCARLET FEVER."

To the Editors of THE LANCET.

SIRS,—A record of the following history, which occurred in my practice some two years ago, may be of interest in showing that subsequent cases of scarlet fever occurring in a family cannot always be interpreted as "return" cases.

A boy at school here had scarlet fever, and when free from infection, as I considered, he returned to his home in Ireland. He having one sister at home who was young and very delicate, his parents resolved that he should go somewhere in the country before joining the family, for prudential reasons. Within three days of his leaving my care the sister fell ill with scarlet fever, although there had been no communication with the convalescent. Now, had the convalescent returned to his home I should doubtless have inferred that the sister's illness was a "return" case of scarlet fever, whereas I have little doubt that she contracted her scarlet fever by travelling in a tramcar within four days of falling ill. It was known that there was scarlet fever in the town in which she resided. In my opinion some of these "return" cases of scarlet fever are doubtless freshly contracted cases arising from travelling in public conveyances—railway carriages, cabs, and tramcars—which are the most infectious of all places—certainly they cause me great trouble. Within the last six months I have traced two cases to travelling in railway carriages, one while travelling to a football match, the other to a funeral.

I am, Sirs, your obedient servant,

Rugby, Dec. 6th, 1895.

CLEMENT DUKES.

" 'TUBERCULOUS' *vel* 'TUBERCULAR'?"*To the Editors of THE LANCET.*

SIRS,—Among your annotations in THE LANCET of Dec. 7th there is one under the above heading. The difficulty and perplexity therein mentioned have long been recognised, and I have publicly and privately suggested a very simple and, to my mind, perfectly satisfactory solution—viz., the use of the word "nodule" for the representation of an object otherwise capable of being called a small lump, and the correlative "nodular" or "lumpy." As you say, custom has hallowed and made inviolate the noun "tubercle," and I would suggest that the time has now arrived when tubercle, tuberculous, tubercular, &c., should be gracefully yielded up to the power of a specific bacillus, and only used to connote its activity, past or present. The old order changeth, giving place to the new, and I maintain that what was excusable in an anatomist in years gone by, to apply the term "tubercle" to any small lump, cancerous, sarcomatous, or of unknown origin, is now no longer so since an all-powerful bacillus has seized upon it for its own. If my suggestion be accepted confusion cannot arise, for if the bacillus be not actually searched for we can still say "a nodule was found (? tubercular)." About three-fourths of the literature of consumption would never have obscured our eyesight, physically and mentally, had the simple words nodule and nodular but been used in the place of tubercle and tubercular where doubt was in the mind of the writer as to the presence or absence of the bacillus.

I remain, Sirs, yours truly,

Christopher-street, E.C.

FRED. J. SMITH.

A CASE OF NYSTAGMUS ARISING FROM AN UNUSUAL CAUSE.

To the Editors of THE LANCET.

SIRS,—On reference to text-books I find the causes of nystagmus, or involuntary oscillation of the eyeballs, to be divided into two classes according to the age at which the symptom manifests itself—namely, in early or in adult life. The causes in early life are congenital cataract, corneal ulcer and atrophy of the choroid; whilst in adults, miner's nystagmus and that occurring in locomotor ataxy are the