

# MINERAL SUCCEDANEUM FOR STOPPING DECAYED TEETH.

To the Editor of THE LANCET.

SIR :—I have been recently applied to by several friends, members of the medical profession, for information as to the nature of the substance used by dentists for filling cavities in decaying teeth, under the names of "*mineral succedaneum*," or "*marmoratum*," "*mineral cement*," &c. &c.; and finding, on inquiry, that their curiosity on this matter had been stimulated by an advertisement addressed to the profession which has of late appeared in your advertising columns, I offer to your use, should you deem it of sufficient importance, some account of the composition and preparation of this mis-called and much misused material.

It will, I conceive, appear a somewhat startling fact to many, and especially to the writers of the very able papers on salivation, which have lately appeared in your Journal, that a principal ingredient of this *mineral succedaneum* is *quicksilver*. The remainder is a mixture of fine filings of bismuth, tin, and silver, or of bismuth and silver, or of silver only; or, I should say, alloyed silver, inasmuch as the ordinary practice is to file up a coin, a half-crown for instance, for this purpose. Some employ a pure precipitate of silver, which forms by far the most smooth and most durable stopping.

The mode of preparation for use is this :—A sufficient quantity of the filings, or of the powdered silver to fill the cavity under treatment, is thrown into a clean mortar; to this is added a few grains of quicksilver; the composition is then quickly rubbed down with the pestle, until it forms a soft paste—a metallic amalgam, in fact. If left in this state (whether in the mortar, or transferred into the cavity to be filled, matters not) it will in a few minutes become a hard mass, of a dull whitish colour. In this state it will remain for an indefinite period if exposed to the atmosphere only; but, if subjected to the action of the fluids of the mouth, it quickly assumes a bluish-black tint, and greatly discolours the tooth into which it has been introduced. The quantity of quicksilver thus administered to a patient in a stopping of average size, is from three to four grains! The quantity of quicksilver contained in a packet which I recently purchased from an advertiser of "*mineral succedaneum*," and which was stated on the printed envelope to be sufficient to fill one tooth, was ten grains!

The use of this amalgam for filling decaying teeth has long been entirely abandoned by the American dentists, and it is now very little employed by the respectable members of the profession in this country; by some

few not at all. There are some cases, however, in which its employment, *though very differently prepared*, may be deemed justifiable, at least until some more eligible substitute may be brought forward. These cases I have detailed at length in my work on the Structure, &c., of the Human Teeth, which I published in March last. The difference in the mode of preparation is as follows :—The pure precipitate of silver is used. The amalgamation with quicksilver being completed, the mass is pressed forcibly through chamois leather, again and again, until it becomes dry and dense, very little quicksilver remaining disengaged. In this state it hardens so rapidly, that it requires very great dexterity to transfer it to the cavity to be filled in sufficient time. If well and carefully done, however, it forms, as I have before said, a smooth and durable stopping. Still there is a small proportion of quicksilver remaining, and in that consists the objection to this amalgam.

I will devote the earliest leisure time I may have to the communication of such ill effects from the use of this material as I have noted down, premising that I have only used it in the dry state, as described above, and that but very sparingly. In the mean time, I should feel especially obliged to any one of your correspondents who would inform me on the following points :—

What is the cause of the hardening of the precipitate of silver, after amalgamation with quicksilver?

What chemical change, if any, has the silver undergone when so hardened?

What additional change is effected by contact of the fluids of the mouth with this material?—I have the honour to be, Sir, your humble servant,

W. H. LINTOTT.

24, Mortimer-street, Sept. 1, 1841.

## ANIMAL LIFE AND HEAT.

To the Editor of THE LANCET.

SIR :—In reply to the queries of your correspondent, Mr. Brooks, in his letter to you of the 20th inst.,—"Is there such a quality as nervous energy?" and if so, "what is it?" I beg leave to submit the following essay for his perusal; and for further information on the subject in elucidation of these views, refer him to the paper I had the honour of reading to the Westminster Medical Society, and published in THE LANCET of the 4th June, 1831.

Life and heat are both derived at birth from the parent, but are maintained afterwards by the air and nutriment received into the system from without (through the medium of the stomach and lungs), by the agency of the chemical affinities existing between their constituent particles, and exercised in the appropriate apparatus afforded