advantage to Dr. Anstie's argument as it certainly would be agreeable to the reader. In his anxiety to be very distinct in his explanations, he shows occasionally a tendency to recapitulation which would be better avoided. Of the practical utility of such a book as this there cannot be two opinions. There are few thoughtful men who have not wondered, whilst prescribing such materials as brandy or opium, why they should administer a particular dose, or even why they should give it at all. It is but the simplest justice to Dr. Anstie to say, that his readers will feel greatly increased confidence in their management of a class of remedies so fraught with good or evil results according as their mode of action is appreciated or misunderstood.

ARSENIC IN ORNAMENTATION AND IN SURGERY.

To the Editor of THE LANCET.

SIR,—About three years ago the question of the poisonous properties of certain room-papers was extensively discussed in THE LANCET. The evidence adduced conclusively proved that they were poisonous, but so far as I am aware no explanation of the *modus operandi* was ever made. The result was pretty uniformly described as similar to that of lead-poisoning from water that had passed through a certain quality of lead cisterns and piping—affecting only some persons in a family, not all; and that the more minute the quantity of lead dissolved in the water, the more insidious and pernicious was the poison: so it was found that in cases where the arsenical vapour was exhaled in the most inappreciable quantity the effects were most severe. This fact led to the eventual disuse of the fine arsenical greens which formerly adorned our walls.

That arsenic combined with tallow and stearines to harden and whiten candles should, on being burned, give off a considerable quantity of arseniuretted hydrogen gas, producing headache, swooning, dyspnoea, &c., is very obvious; but that a fixed salt, such as arsenite of copper, which is not at all volatile, should without ordinary combustion exhale poisonous properties, is a problem the solution of which I have not been sufficiently fortunate to meet with in print. Therefore, entertaining the opinion that the explanation of the poisonous effects of arsenical paper-hangings was to be found in that species of slow combustion called *eremacausis*—organic decay either of the fluid employed for suspending the colour on the surface of the paper, or of the composition of the paper itself, or of the paste which attaches it to the wall,—I made the *experimentum crucis* nearly three years ago by having the walls of my dining-room coated with what is called “distemper green,” composed of four pounds of arsenite of copper, three pounds of pure hide-parings, and a sufficient quantity of Paris white (sulphate of lime) to produce a fine tint. The sulphuretted hydrogen, carbonic acid, and the condensed vapour of respiration from occasionally twenty persons and from the combustion of gas from six burners, have not caused the emanation of a single traceable particle of arsenical vapour. Not a headache or other poisonous sensation has at any time been perceived by anyone, either guest or member of my family. Some of my friends have so admired the colour of the room that, notwithstanding the terrible association of arsenic in its composition, they have copied it.

I have now related a case in proof that arsenite of copper with select combinations does not emit arsenical vapour, and is not injurious; nor would it be injurious if placed on paper-hangings not composed of fermentable materials, and not incorporated with, nor attached to walls by, substances containing gluten or sulphur, or any animal or vegetable matter in a state of decay. Glue and sour flour—substances generally used as paste—are pre-eminently in a state of decomposition. It is therefore not surprising that the gases so evolved should permeate the paper, and separate the arsenic in the form of sulphuretted and arseniuretted hydrogen, with ammonia: particularly as we know that glue contains particles of blood and other putrescent matter; that flour, of which paste is made, contains gluten, the common ferment of bread; and that straw, which now enters into the composition of paper, also contains gluten. Were this element removed from the paste and paper by chloride of lime, alkalized soda, or any other of the usual

expedients for extracting gluten from the various feculas forming paste and gums, the use of a pure arsenite of copper would not be objectionable; for I am persuaded that all well-marked cases of injury from arsenical paper-hangings have depended on the neglect of these causes, coupled with the fact that most of the arsenite of copper found in commerce contains additional *loosely combined arsenic*.

The chief point in the whole matter consists in having an arsenite of copper free from redundant arsenic. Of course, if arsenic be loosely combined it must act as such when spread upon a wall, subject to every surrounding influence. So successful has been my homely experiment that gentlemen in the neighbourhood of Liverpool have dismantled their newly-papered villas and substituted greens, pinks, &c. in distemper, to their complete satisfaction.

Of far more importance than household decoration, however, is the surgical fact I have discovered, that the arsenite of copper is a valuable *escharotic* and *sedative* in sloughing and malignant ulcers and epithelial cancers. Sulphate of copper has been long known as a popular escharotic; nitrate of copper more recently; each having its respective merits when skilfully selected. And, on reflection, we should expect that arsenite of copper would possess the soothing remedial agency of arsenic along with its well-known preservative power over organic structure; while the copper acts stringently on all that is vital, and detergent on that which is effete. This metallic salt has also the further advantage, that neither ingredient is poisonously absorbed, which cannot be said of either when used separately. Wherever the arsenical paste is applicable this arsenite may be used. It is very superior to arsenious acid, in arresting fetor and not acting poisonously through absorption when fungous and sloughing surfaces have become granulative. The universality of this fact, however, can alone be established in extensive hospital practice. To those possessing large opportunities for testing the value of suggestions for improving this barren field of surgery (malignant ulceration) I commend the use of a paste composed of equal parts of the arsenite of copper and mucilage of acacia, applied by a thick camel-hair brush, or by means of a spatula, on the spongy fungous growths which usually block up the orifice of cancerous infiltration, and in the latter stages of carcinoma. It gives no pain, and its first effect is to completely arrest the fetor, even when it has been intolerable under the partially restraining influence of the best disinfectants. In an hour, or less, a thin brown excretion flows copiously from the disintegrated cells, which in a day or two become so broken down as to leave a free aperture. In forty-eight hours the fetor returns if the dressing be not renewed. To free an application within cavities I have seen temporarily repress the infiltration and induce slight inflammatory reaction; soon, however, restrained by a fomentation or poultice. In epithelial cancer about the face it would be well to further dilute the application. In a case of carcinoma uteri, now under my care, in which the whole inner surface of the os and neck is sloughing, presenting a striated and fimbriated appearance of the muscular tissue through absorption of the areolar, the power of the arsenite of copper has been most significant in relieving the pain and diminishing the nodulated condition of the uterus as far as can be felt. In this case the anodyne effect does not occur within twenty-four hours, but is then most complete, and continues for the same time, when it gradually loses its intensity in the same manner as the disinfectant power declines. After six applications the great pain over the pubes and hips is now considerably abated, even when a new dressing is required. Her countenance is less indicative of malignant disease. She takes walking exercise, and is altogether more cheerful. The result shall be made known.

Such is an outline of the escharotic and anodyne properties of the arsenite of copper in my hands; but how far its repeated application may remedially influence the blood, sufficient time has not yet elapsed to determine. It is, however, satisfactory to know that in a few days the whole mass of a carcinomatous tumour is visibly reduced, and the aperture made wide, with a tendency to healthy granulations; and that the relief from pain is sometimes greater than can be procured from opiates.

I am, Sir, your obedient servant,

Hope-street, Liverpool, July 6th, 1864. JOHN TAYLOR, M.R.C.S.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The thirty-fourth meeting of the British Association for the Advancement of Science will commence at Bath on Wednesday, the 14th of September, under the presidency of Sir Charles Lyell.