Science Notes.

The annual report of the London County Council's medical officer of health for the year 1893, shows that the improved sanitary condition of London has had its effect in prolonging life. It is said that the "expectation of life" of a male of five years is now 50·77 years, whereas twenty years ago it was only 47·49. These figures show an addition to the expectation of life of 3·28 years, and in females of five years the improvement is still more marked, being 3·55 years. A comparison of these statistics with similar ones compiled with reference to Manchester and Glasgow, shows that the inhabitants of London are more favourably situated in regard to expectation of life than are the inhabitants of those cities.

The death rate in London compares favourably with that of other large towns, both at home and abroad. Paris, Rome, New York, Vienna and St. Petersburg follow London in the order named. The only large English town showing a lower infant mortality than London is Bristol.

Cholera is no longer dreaded in England as it has been in the past, and as it still is abroad. There has been no epidemic here since 1866. There can be no doubt that this is chiefly due to improvements in the water supply, especially when one learns that the mortality from typhoid fever has also diminished. Cholera and typhoid fever are pre-eminently water-borne diseases.

Hygiene is a complex science, including as it does the study of anatomy, of physiology, of bacteriology, of chemistry and of physics. Although instruction is given in some or all of these subjects at a great many institutions, we do not remember any in which hygiene is made a specific subject, in which there is what is academically termed "a chair" of hygiene. In the coming session at Bedford College, a separate and scientific course of instruction in hygiene is promised under the direction of Dr. Louis Parkes. This will be a great boon to women who wish to become teachers of hygiene or sanitary inspectors.

As our readers are aware there has been an alarming increase in the mortality due to diphtheria in London. So far there appears to be no explanation of the fact that the death rate due to diphtheria is, in London, more than double that of any large English town. It is six times as great as that of Liverpool, ten times as great as that of Nottingham. No doubt, as has been suggested, the Education Act has had its bad as well as its good results, and the massing together of children in large numbers has probably done much to spread diphtheria. But why London suffers so much more than other towns still remains a mystery.

Dr. Lauder Brunton, in the pages of the *Lancet*, gives some considerations on the chloroform question suggested by the reports of the Hyderabad and the *Lancet* commissions. One of his conclusions is that during full anæsthesia death is more likely to be due to carelessness on the part of the anæsthetist than to any other cause. In the Hyderabad Commission there were some striking examples of this. The animals operated on died more frequently in the afternoon than in the morning, when everyone was presumably more alert. Deaths were more frequent when the usual anæsthetist was absent and his place taken by someone less experienced. On two or three occasions when death occurred under the usual anæsthetist, it was because the operation was novel and interesting so that he forgot to watch the respiration of the animal in watching the operator.

Geographical position is also a factor to be taken into account in dealing with anæsthetics. Dr. Lauder Brunton remarks that in hot climates chloroform appears to be more used than in cold climates, where ether takes its place. He suggests that the reason of this is to be found in the different diets used in different climates. Edinburgh is to some extent an exception, being a northern and hence meat-eating place where chloroform is generally employed. It is a fact, however, that deaths under chloroform have been more frequent in Edinburgh of late years than they were formerly, and Dr. Lauder Brunton is of opinion that this may be accounted for by the greater consumption of meat since the introduction of foreign supplies.

Notes on Art.

THE MATERIALS USED BY ARTISTS. No. 1

A stroll in the parish of Wonersh, near Guildford, over one of our Surrey commons, in all the beauty of its early spring dress, brought me to a spot where a cluster of chipped flints lay. They had evidently been abandoned by some early prehistoric ancestor, and were of such varied kinds as to suggest that they had either formed his stock in trade, or his store of useful implements. Among these were some delicately pointed splinters of flint, too coarse for needles, too slender for knives or lancets. Could the owner have been an artist, and was it possible that he or she was one of the family who stayed at home and scratched patterns on gourds to ornament them for domestic use, or did he even truly engrave with chips of flint the images of beasts which have been found, rendered with wonderful fidelity on flat surfaces of bone? No answer was forthcoming to these reflections, but they suggested that a brief notice of the early appliances which were used by artists might not be without interest.

When, for instance, did the pointed slip of bone or metal which traced letters on soft wax or on soft lead, give place to pencils? The lines which transcribers drew on old manuscripts are still visible; sometimes they were merely traced by some hard sharp body, but they often showed a leaden colour, and these traces, which were followed by the writers who wanted their work to be particularly regular and beautiful, may have been made with lead or with "black lead," that is, with the plumbago or graphite which is still used for pencils. Beckman tells us that Le Moine quotes a document of the year 1387, which is ruled with black lead, and at the same time says

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