

*Galea*) whose gastric juice contains sulphuric acid. This free gastric acid is distinctly antiseptic.

We have now disposed in a certain fashion of our modes of defence against foes from without; but it is unfortunately as true in a physical as it is in a moral sense that a man's foes are those of his own household. We are liable to chemical assaults from within, whether from poisons secreted by the bacteria inhabiting our internal organs or from poisons arising from the imperfect digestion of our food. Food may have poison in it at the time it is taken, the so-called ptomaines; but poisons may be developed in it in consequence of its not undergoing its digestion in a perfectly healthy fashion. All such digestive poisons are dealt with by the liver. The liver is a very large gland placed in such a position that all the blood coming from the organs of food-absorption must pass through it on the way to the heart.

The liver deals as best it can with the poison reaching it from the intestine; in some cases, retaining it for a time, it eliminates it in an altered form; in other cases it renders it innocuous and permits it to reach the circulation whence it is removed by the kidneys. This power of the liver is known as its *de-toxicating* power. In this way is explained the well-known condition of being poisoned when the liver is "out of order." When the liver is not doing its *de-toxicating* work sufficiently well, not trapping poisons, these pass on into the bloodstream and affect the whole body; the headache and the malaise being the result in consciousness of this general chemical poisoning. Deranged digestion, then, is responsible for the production of the poisons of auto-intoxication which the liver should seize and render harmless.

The chemical defences of some people are so feeble that they are always on the verge of just not protecting them from the poisons of their own intestines, so that such persons are hardly ever free from headache. Other people suffer from periodical outbursts of poisoning associated with one-sided headache (megrim or migraine). Some of the sufferers from this distressing condition have been amongst the most distinguished in science and literature, for Haller, Emil du Bois Reymond, George Eliot and Sir James Simpson were all victims of it.