the darkness that has always surrounded these questions, although there are nooks in which, as yet, scarcely more than dim twilight prevails. It would be tedious to pursue the steps that have led up to a clearer and more accurate knowledge of this subject: indeed, it would be impossible to do so in so short a paper as this is intended to be, or to go over the untenable ground that has been occupied and abandoned: suffice it to present those deductions and conclusions that seem to offer the most satisfactory explanation of the phenomena of fever.

Dr. Maclagan, in an essay written in 1887, maintains that the source of heat in the body is due entirely to retrograde metamorphosis of tissue, and that heat so produced is a waste product and is eliminated, just as urine and carbonic acid are waste products and are eliminated. In health the equilibrium is maintained between production and elimination of heat and the temperature is stable: in fever this equilibrium is destroyed and the temperature rises. He contends that hyperpyrexia is distinct in its origin from ordinary pyrexia: that while the combustion theory will account for the latter, the former requires the introduction of a nervous element to produce it. He believes that the thermic centre which Wood has shown to be in the upper part of the medulla, and which exerts an inhibitory influence on heat production, may become paralyzed, and that when it does, there being no restraint on the thermogenic mechanism, there is no limit to which the temperature may rise and hyperpyrexia results. It is difficult to accept a theory which accounts for ordinary pyrexia by metabolism alone, and for hyperpyrexia by the introduction of a nervous element whose influence only then comes into operation.

The experiments of Meade Smith and of MacAlister show that "when a muscle is artificially stimulated two processes are set up in it one, as it were, explosive and manifested by change of form and the performance of mechanical work: the other more continuous and manifested by increased development of heat. These two functions seem to be independent of each other, for by repeated stimulation one may become exhausted, while the other is little, if at all, impaired. Heat will cease being generated for a considerable time before stimulation fails to cause a contraction. MacAlister also found that when the temperature of the whole animal is reduced by exposure in a cold medium, the thermogenic function of a muscle so cooled is greatly lessened or completely abolished, while the contractile function is little, if at all, impaired. This fact has an important bearing on the treatment of the febrile state, as will be pointed out hereafter.

It has long been known that the circulatory and respiratory systems are enervated by two kinds of nerve filaments whose functions are of an opposite character, the one being motor and the other inhibitory, and it is admitted that their nervous mechanisms are the ones that control heat loss. It is also known that the uterus undergoes rythmical contractions during the whole term of gestation, and it is claimed by some that it does so at all other times: that the bladder and ureters act in a similar manner in propelling the urine: that the muscles of the scrotum and intestines present similar phenomena, and that the lymph channels are under the control of rythmic nervous influence. Reasoning from analogy we may assume that "all muscular tissue is enervated by motor and inhibitory nerves, the one set catabolic and presiding over disintegrative changes in the muscles which are manifested: first, by thermogenesis, and second, by contraction: the other set anabolic and setting reconstructive changes in the muscles which are manifested by inhibition of motion, on the one hand, and by absorption of energy on the other. If these views be accepted, and if all muscular tissue is supplied by motor and inhibitory nerves which produce rythmical contraction during the whole term of life, it will be easy in the light of MacAlister's experiments on living muscle to account for a large share of the normal body heat generated in the muscular system. He affirms that no less than four-fifths of all normal heat is produced in the muscles, the other fifth being chiefly generated in glandular tissue and in the digestive process, and he further affirms that heat is constantly generated in the muscles independent of their contraction although the latter increases it. The various forms of pyrexia may be explained on the system of thermogenesis, thermolysis and thermotaxis by reference to the predominance of each of these processes. If thermogenesis be in