John Hunter's original views shown to be in the main correct, scarcely comes within the scope of this article.

1. The temperature of superficial regions is raised, it may be several degrees above the normal, by the onset of inflammatory hyperæmia.

2. The temperature of internal organs when inflamed may be raised above the normal, but undergoes no material increase beyond that of other unaffected internal organs tested at the same time.

3. The rise above the normal, which is often present, is an indication of the febrile state accompanying the inflammation, and not of locally increased heat production.

4. The increased temperature of superficial areas when inflamed is due, not to the production of heat in the part, but to the increased quantity of blood passing through it. When the congestion is so great that stasis ensues there may be actual decrease in the temperature of the part.

5. The maintenance of high external temperature may exert a favourable effect upon the duration and progress of specific inflammation. Thus Filehne has recently shown that the course of experimental erysipelas in rabbits is more rapid and more benign when they are kept at a high temperature than at a low. We possess no clear evidence that this is due to the unfavourable effect of the heightened temperature on the growth of the microbes. Pasteur's well-known experiments upon the production of anthrax in fowls (ordinarily insusceptible to this disease) by lowering their temperature can be explained on other grounds. We have abundant evidence that heightened temperature promotes vascular dilation: the experiment of Filehne may therefore supply a further demonstration of the favourable effects of dilation of the vessels and hyperæmia in the inflammatory process.

6. Low external temperature, or the application of cold to the surface, contracts the vessels : hence, upon the lines of what has already been said, it would appear that

- (a) It is calculated to diminish the amount of exudation.
- (b) It is calculated in consequence to diminish the pain associated with inflammation.
- (c) It has no directly good effect upon inflammation due to the presence and growth of pathogenetic micro-organisms, but may have the reverse effect of preventing the fullest reaction on the part of the organism.
- (d) Where the irritant does not itself grow and multiply, or present cumulative action, there the application of cold may not only be of no harm, but of positive advantage, by lessening the inflammatory reaction and preventing this, where extensive, from being itself a cause of further injury to surrounding tissues.

The increase of systemic heat will be considered in the article on Fever.