

tion is its slowness of action. In isolation, and other cases, where a quickly-acting antipyretic is necessary, and when it has a specific action on pathology of a disease, as is claimed in rheumatism, antipyrin is to be preferred. Whenever one can wait an hour for the antipyretic action to begin, I greatly prefer antifebrin, and I know the patient also. I believe its stimulant or tonic effect to be very valuable in weak patients.

THE THERAPEUTICAL VALUE OF BLOODLETTING.

But a few years ago it was customary to bleed too frequently, and almost every morbid condition was thought to demand bloodletting. Practically, we never resort to the measure now, perhaps because we do not consider to their full extent the advantages to be derived from it. From one excess we have fallen into the other. The disciples of the lancet bled according to a system; it was a formula. Their adversaries abstained by convention, not always by conviction; that, too, was a formula. There was error on either side. Therapeutical truth does not lie in a mere formula; it is to be found in facts proved clinically and experimentally, not in mere systems. It is in some such strain as this that M. Eloy calls attention, in a recent number of the "*Gazette hebdomadaire de médecine et de chirurgie*," to an important essay presented to the Belgian Academy by M. Fredericq, of Liège. The essay is a compendious summary of our knowledge of the physiological action of bloodletting, and embraces an attempt to establish definitely all the indications and contra-indications of this powerful therapeutical agent. Incomplete as it is, and as all such efforts must ever be, it nevertheless abounds in proofs that we ought to throw aside the prejudice occasioned by the abuse of bloodletting in the past, and once more avail ourselves of a measure capable of rendering such valuable aid. What there is still to condemn, in spite of the efforts made at times to re-establish it, is the bleeding in hæmorrhagic proportions resorted to by those enthusiasts who have been styled ironically "the great bleeders of past times."

As was said by Marshall Hall and some of his contemporaries, bleeding modifies more or less lastingly the respiration, the temperature, and the circulation, and affects the nutritive changes still more profoundly. The relaxation of the respiratory movements that occurs on opening a vein has been accounted for in many different ways. A hæmorrhage, provided it is not excessive, does not notably diminish the quantity of blood in either the general or the pulmonary circulation, the withdrawal of from half a pint to a pint, causing on an average the loss of from one two-hundred-and-fortieth to one one-hundred-and-twentieth of the weight of the body. It does, however, change the functional relation between the lungs and the heart, as has been proved by the elaborate researches of Embrodt and more recently those of Fredericq. The last-named ob-

server has shown that a fall of pressure amounting to the relation of 1 to 2, or even 1 to 3, takes place after a loss of blood hardly equivalent to one one-hundredth of the weight of the animal; and Arloing and Vinay have not only confirmed this, but have proved in addition the permanence of the effect, as shown by the persistence of this lowered tension after the closure of the vessel.

As regards the influence of bloodletting on the temperature, putting aside the incontestable fact that great hæmorrhages produce a very considerable lessening of the heat of the body, we have Heidenhain's demonstration that the fall and rise of the thermometric column are synchronous with the corresponding changes in the mercury of the hæmodynamometer. A plausible deduction from this would be that bloodletting is justifiable in sthenic inflammations attended with hyperpyrexia, but a little reflection will show that it is not a deduction fully borne out. What we have most to fear from fever is its pernicious effect on nutrition, but bleeding also deprives the body of its tissue-forming elements; hence the ultimate results of both are the same. As has been said by Lorain, the fall of temperature following hæmorrhage is only temporary; it is a mere peripheral cooling. A remedy truly worthy to be called antipyretic, however, should be capable of affecting the heat-producing function, not merely axillary, vaginal, rectal, or buccal temperature—since the danger of the hyperpyrexia does not lie so much in the high temperature *per se* as in the nutritive changes of which it is merely the outward expression.

Bleeding modifies respiration. Is it indicated in pulmonary affections? Depletive bleeding should, according to the theory of those who employ it, diminish the initial hyperæmia of inflammation of the lungs by enabling the pulmonary to profit by a lessening of the general circulation—a bald hope, in the face of the fact, experimentally proved, that bleeding, within therapeutic limits, does not sensibly lessen the quantity of the blood. On this assumption, nevertheless, rests M. Bucquoy's recommendation to bleed in the initial stage of pericarditis, accompanied by grave phenomena—always, however, on the condition of its early employment in sufficient abundance, the fact being at the same time borne in mind of the danger incurred by the inherent feebleness of the cardiac muscle in this disease. On the same ground, too, M. Peter advises bleeding in cerebral congestion in robust and vigorous individuals, and M. Bouveret insists on the good results to be obtained by bleeding in capillary bronchitis and in emphysema. If we take this view, we can readily appreciate the value of bloodletting in the treatment of cardiac affections; indeed, the results obtained with it by some modern clinicians, such as Bucquoy, Jaccoud, Peter, Henri Huchard, and others, have at times resembled resurrections. In cardiac affections accompanied by extreme feebleness of the heart's action, bloodletting enables us to relieve the organ of a surcharge of blood exceeding its motive power. It is thus,