

were enough to keep the temperature almost normal. In spite of the reduction of temperature under the action of the salicylic acid, the frequency of the pulse was completely unaffected, although it often became stronger and less dicrotic. The severer cases, as well as those attended with delirium, were treated with a combination of cold baths with the acid, and it was found that under these circumstances the effect of the baths was more marked and more persistent than if they had been used independently. The treatment appeared to exert a distinct influence in shortening the duration of the disease; the average length of the febrile period in 164 cases which were treated early, and which ended favourably, being 13.1 days. This may be looked on as a good result, considering the malignant character of the particular epidemic, the total mortality of the 260 cases being 63, or 24.2 per cent. Dr. A. Fisher has reported twenty-three cases of typhoid which were treated with salicylic acid and salicylate of soda in the Dresden Hospital, and, while admitting their antipyretic action, considers that, weight for weight, quinine is six or eight times as powerful as those drugs. Dr. Goltdammer treated fifty-six cases of typhoid fever with the acid, chiefly in the form of salicylate of soda according to Riess's formula. He found that in the first two weeks of the disease the acid was most effective if given in the evening, but that, when the period of morning remissions sets in, it is best given in the morning, and at that time, too, smaller doses of it are required. Of the fifty-six cases seven died; three of them from pneumonia. Dr. Goltdammer did not find, as Riess did, that the duration of the disease was perceptibly shortened by the treatment. Herr A. Nathan has also published a few cases of typhoid fever treated with salicylate of soda, with very favourable results. Contrary to the experience of Riess and Goltdammer, he found that a considerable influence was exerted on the pulse and respirations, both of which diminished in frequency. We have already (*Medical Times and Gazette*, Feb. 5, 1876, p. 144) called attention to the action of salicylic acid in acute rheumatism. Other observers agree with Stricker, that in this disease the effect is almost specific. In fairness it should be stated that Dr. Buss, of Basle, in his original paper—to which we owe our earliest knowledge of the antipyretic action of salicylic acid—distinctly stated (*loc. cit.*, p. 488) that he was inclined to ascribe a specific virtue to the drug in rheumatic fever. Dr. Riess has since made the same observation in fifteen cases which he treated, and in fact four of these only required a single dose, and three others two doses, to produce permanent improvement. The antipyretic effect of the acid exhibits itself in other diseases besides the above mentioned—for instance, in erysipelas, primary pneumonia, and the hectic of phthisis,—though observers

are not entirely agreed as to the relative effect in each disease; but we gather from their statements that the depression of temperature which the drug produces has a somewhat transitional character. With regard to the form of administration, the observers quoted are divided among themselves, some preferring to give the pure acid, and others the salicylate of soda. Buss prefers the pure acid (salicylic acid two grammes, and sugar one gramme suspended in water), and he states that so little does it disturb the digestion that he has himself taken at one dose four grammes half an hour before luncheon without being able to discover that his appetite was in the least affected by it. According to him, patients with fever can take larger quantities than healthy persons, and he frequently gave six grammes at a dose suspended like an emulsion in water. On the other hand, Hiller (*loc. cit.*) is much opposed to the use of the pure acid, at any rate in ague, since doses large enough to reduce the temperature decidedly (five to eight grammes) are not only most unpleasant to take, but are liable to produce vomiting as well as a feeling of burning and tickling in the throat, and possibly to set up ulceration in the stomach and intestines; although there was no reason to suspect the latter events in any of Hiller's own cases. In consequence of the insolubility of the acid in cold water (1 part in 300) it is impossible to use a simple aqueous solution to reduce fever, since several litres would be required to introduce into the system an effective dose, and few patients would consent to be swamped so to speak, with medicine, even if it were of a more agreeable kind than salicylic acid. The salicylate of soda seems, all things considered, to be the best form for administration, and it is probable that since the physiological action of the latter is equally powerful, it will probably be preferred to salicylic acid in future by most medical men. Both the acid and the soda-salicylate agree in producing in full dose a sense of oppression in the head, and ringing in the ears. Buss describes a congestive period as occurring in healthy persons after doses of three or four grammes: in this there is a general feeling of warmth over the whole body, accompanied by general perspiration, and diminished acuteness of sight and hearing. This passes off in about a quarter of an hour, and the ringing in the ears succeeds about two hours later, and may last some hours or even a whole day when the dose has been very large. Copious sweats seem to be an almost constant effect of the remedy (Buss, Riess, Fischer, Goltdammer). Collapse has been noticed in a few cases. Goltdammer especially calls attention to this symptom, and states that in a slight degree it not unfrequently occurs. He mentions a case of acute tuberculosis in which the temperature was reduced to the normal by a five gramme dose, but in which the collapse was so severe that the patient