

—when Leonidas with his three hundred Spartans held that famous pass against the army of Xerxes—they are to-day. Their temperature is 149° Fahr. If for twenty-three centuries this heat has been generated by friction, due to the crushing of rocks, surely some great changes should have taken place in the physical geography of the country. One fact which I have not seen noticed with regard to the Hanmer Springs is this: that the gas disengaged by them is an inflammable gas, light carburetted hydrogen or marsh-gas (CH_4) probably. Considering the amount of free sulphuretted hydrogen shown in the analysis I was surprised to find the characteristic odour so slightly perceptible; it is no doubt destroyed to a great extent in the production of this gas. We know that when sulphuretted hydrogen (SH_2) is passed through decaying vegetable matter marsh-gas (CH_4) is generated by some such chemical change as this: $2 \text{SH}_2 + \text{C} = 2 \text{S} + \text{CH}_4$.

The water of the Hanmer Springs may be classed as a muriated alkaline saline, slightly hepatic or sulphurous. Used for bathing purposes only, what physiological effects may we expect from it? Patients who frequent our thermal springs are always anxious to see the analysis of the waters in which they bathe, and are usually under the impression that they absorb into their systems the entire list of salts enumerated. This is an error. The body cannot absorb any salts from an aqueous solution. If the water, or any portion of it, is allowed to dry on the skin a minute quantity of the constituent solids, of course, remains, which the friction of the clothing incorporates with the fatty elements of the integument, and is so absorbed. After a course of sulphur baths the underclothing is redolent of sulphur for some time after leaving the springs, and silver carried in the pockets continues to be blackened, showing that a considerable amount of sulphur has been absorbed in the manner described.

I have the addresses of a number of patients who are reputed to have been cured at Hanmer Plains of a variety of ailments, chiefly rheumatism in its various forms, and skin-disease in its protean manifestations. The question will naturally arise, How were they cured if nothing contained in the water was absorbed into the system? There are three factors concerned in such cures, which, in the order of their importance, stand thus: (1) Pure air, (2) mutual impression, and (3) hot water. The first of these items includes all the beneficial influences of change of climate, change of scene, and change of occupation, which means relaxation and rest. For a numerous class of ailments this curative influence is sufficient. Tardy convalescents from acute diseases, nervous exhaustion, and brain-fag due to business worries or long-continued emotional excitement, are cases for the cure of which the physician may confidently rely on this factor alone. To discuss the curative influence of mental impression would lead us far beyond the intention of this report; we know that it is potent both for good and evil; the business of the physician is to lead it in the right direction. Just as the hypnotist is able by suggestion to direct his patient's attention so forcibly to a diseased organ that its very nutrition is changed, so the individual, accordingly as he regards his case hopefully or despondently, may assist or retard his cure. The direct influence of hot mineral water used for bathing—apart from the effect of temperature—is twofold, according to its chemical character, either exciting and stimulating the cutaneous circulation, as in the case of acid sulphur waters, or exercising a soothing and emollient effect, as in the case of alkaline siliceous waters. The water of Hanmer Springs corresponds with neither category. It is an indifferent thermal water, too poor in chemical constituents to have any very decided character. I regard it as slightly stimulant. It may be useful in chronic rheumatism and atonic gout; in diseases of the skin, such as prurigo, psoriasis and lichen; in neuralgia and paralysis as the sequelæ of severe diseases; in hysteria, and in general weakness and marasmus. To old and prematurely old persons, whose nervous systems require rousing, I believe the baths and climate of Hanmer Plains will be of especial value. In all cases we must not lose sight of the fact that the skin is the most important emunctory of the body, and that, as a means of maintaining its normal functional activity, bathing, well advised and regulated, is the most efficient agent we can employ; and that in skin-diseases especially our cures are brought about not by any absorption of fixed salts contained in the water, but by the prolonged maceration of the cuticle, causing ready removal of the *débris* of dead and diseased cells, and their gradual replacement by cells of a more healthy character, due to the employment of a suitable regimen and the influence of a highly vitalising climatic environment.

During my visit to these springs I inquired carefully what complaints, if any, were made by invalid visitors with regard to the existing arrangements. They were two only: (1) The prolonged waiting for their baths in the uncomfortable closets set apart for that purpose, and (2) the absence of any medical advice as to how to make use of the water. Should the Government think well to carry out Mr. Malfroy's scheme of extension the first objection will be met. With regard to medical advice, if there were a variety of waters at Hanmer suitable both for internal and external use, not only would it be necessary to have minute analyses of the whole, checked from time to time by repeated chemical examination, but years of skilled medical observation would be necessary before a reliable code of rules and regulations could be formulated for their use. How different is the case when we have to deal with one water suitable for bathing only! The patient has no choice; he can scarcely make a mistake; and the water is of such a character that if it does no good it can hardly do harm. Thus, the necessity and scope for medical advice is narrowed down almost to a vanishing-point. It may not be out of place to give a few hints, even if in many cases they may be such as would be suggested by the patients' common-sense. Invalids suffering from skin-disease should, if possible, bathe twice daily, beginning with an immersion of half an hour at a temperature not exceeding 100° Fahr., and gradually increasing the time to three-quarters of an hour. If after a week's experience the baths increase irritation, and there is a general feeling of increased discomfort, with a more inflamed state of the skin, the baths should be discontinued, and another class of waters tried elsewhere. They should, if strength permits, walk back to their hotels rather than drive, in order not only to benefit by the exercise, but to minimise the risk of taking cold. The best season for such patients is the summer and early autumn. They may also bear in mind that medicines which may have done them no appreciable good at home may prove of service in conjunction with the baths and the changed character of their surroundings. This advice applies equally to invalids suffering from the various forms of rheumatism. They