

*Iodides, Bromides and Borates* are seldom present in what appear to be appreciable quantities, though their action is stated to be remarkable in treatment of scrofula, rheumatism and syphilitic diseases, also as sedatives.

*Phosphates* are rarely present in estimable quantities, in fact, so far as I am aware, have never been previously discovered in these waters. Their action beyond that of a general tonic, and possibly in cases of rickets, does not appear to be thoroughly understood.

The medical action of *Silica and Silicates* does not appear to be thoroughly understood, but several of the waters, Harrison, Haleyon and St. Leon, are remarkably high Silica. A peculiar mnetuous sensation is produced from bathing in waters high in Silica, and the action of these is most valuable in skin affection.

Many of these waters are popularly referred to as "*Lithia*" waters, and in fact some of the published analyses show large quantities of Lithia. I was not working on sufficiently large volumes of water to enable me to attempt to estimate Lithium, but the flame test of the final residue never revealed more than a "trace."

Out of the forty-three waters examined by the "U. S. Government Analyst, including those called and sold as Lithia waters, one contained a trace, which was advertised as containing 10.3 parts per Mil., whilst curiously enough another contained 17.5, which was not sold as a Lithia water. But generally the Lithia contents are grossly exaggerated.

*Sulphuretted Hydrogen* is usually present in more or less distinctive quantity in hot waters, it is not always present since none of the Arkansas springs contain any at all. Most of the Canadian waters contain some and a good deal of sulphur, which is liberated on exposure to atmosphere and settles out as a precipitate, due possibly to instant oxidation of the same gas.

The curative effects of thermal waters, especially when applied under the modern "Douché Massage" practised at Aix-le-Bains and other European resorts, appear to be due to their Dermal activifying powers, which encourage all kinds of absorptive processes to set up. The pores are dilated and profuse perspiration induced by external and internal application of water, so that the whole system is suffused with water, in which condition impurities are freed by massage and readily carried to the excretory organs, whose functions, being also increased

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(a) The Hot Springs of Arkansas, by Haywood and Weed, U.S.A. Dept. of Agriculture