## DOMESTIC WATER SUPPLIES—NECESSITY FOR FILTRATION.

FORTY years ago when the writer was a boy living in a beautiful high lying country intersected by numerous streams of clear, limpid, sparkling water, he was repeatedly charged by thoughtful parents never to drink the water of any of these streams for fear of swallowing the invisible germs or seeds of some poisonous organism. At that time, but little was said or written about public or individual hygiene, as now understood; although a sort of moveable earth closet was even then familiar to the writer. Well water, even in the vicinity of stables and out houses, was then less feared than the clear water of the running streams. At the present time, views are quite different—reversed. Well water is generally suspected, while the water of running streams is sought after. It is to be greatly feared that altogether too much confidence is now placed in the water of streams, rivers and lakes. Too much faith is placed in the action and power of the natural forces in oxidizing and destroying the organic impurities which find their way into such waters. Repeatedly in this JOURNAL, especially during the last few months, the attention of readers has been drawn to the dangerous nature of almost all lake and river waters, from their liability to contain the specific micro organisms of infectious disease; and also to the fallacy of relying upon the natural powers of purification: it having been shown by the experiments of eminent scientists that many of these organisms will continue to live and multiply in almost any water, although they cannot be detected by any of the known chemical tests and are only revealed by cultivation and the microscope.

Nearly all streams in the settled parts of the country flow through rich valleys occupied by large numbers of people with their flocks and herds. The lands on either side of the streams in most localities are highly cultivated and the use of rich fertilizers and manures is common. Organic matter in abundance from these and from the decay of vegetation are readily washed with every rain into the nearest stream, whence they are carried into larger streams and lakes, from which water supplies are taken. All this, to say nothing of any specific or infected human excrement which may, and repeatedly does, find its way into such waters. As the *Sanitary Era* recently said, "All water is subject to suspicion, and to probability in the long run, of more or less contamination, traceable or inscrutable. Wherever organic matter enters into water—and there is hardly any water free either from vegetable or animal deposits, and none that is certain to be so at all times—here, organized germs of pernicious character are liable to take up their abode and find the special sustenance, whether vegetable or animal, that they require. They may be conveyed by the air, by living or dead animals, by vegetable debris, or by human and household waste, or by a variety of other agencies, from distant and unsuspected sources, by long voyages under ground or over seas. It is therefore never worth while, for practical purposes, to enter into any nice questioning of the antecedents of a water, for the simple reason that at most it is only immediate danger that can be learned with certainty, but safety can never be ascertained or assured. The only safety is in guarding by purifica-