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**SOME RECENT DEVELOPMENTS IN THE PURIFICATION OF
PUBLIC WATER SUPPLIES.**

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(To be read before the General Section, 28th April, 1910.)

In January, 1899, the writer read a paper before this Society on "Sand Filtration of Public Water Supplies," covering methods of construction, cost, operation, and accepted theories of the nature of the process. This involved a more or less extended discussion of two of the three great advances which had taken place in the science of water purification up to that time. The first was the conception of the idea of sand filtration and its practical application, by Simpson in 1892. The discovery by Dr. Koch of the plate culture method of studying bacteria marks the beginning of a period, since when it has been possible to deal with the purification of water in a rational and scientific way. This discovery, which took place in the year 1880, constitutes the second advance in the art. A third advance soon followed in the discovery of the utility of coagulation, or rather its adaption to a useful purpose in the field of water purification; this development is associated with the introduction of mechanical filters, but as this system was then in the evolutionary stage it did not receive more than passing notice in the previous paper.

Since that time such developments as have taken place in either system have been confined chiefly to improvements in materials of construction and in appliances for operation and control. Apart from this, however, a much better idea now prevails of the importance of the characteristics of the water as factors in the selection of the type of system best adapted for its purification. As a result plants of recent date seldom fail to accomplish the purpose contemplated in their construction, and, though the last decade has not been productive of any fundamental changes with respect to either system, such improvements as have taken place may, perhaps, on account of their great practical worth, be of