

cists have imbibed their taste for investigating science from their medical education, and it is but reasonable to assume that Livingstone, however much he may have possessed as a natural endowment the taste for unravelling the hidden secrets of nature, owed not a little of his ardour and aptitude for treading the path of discovery to his medical education. Nor is his character as a philanthropist less in harmony with the genius of the profession which he studied. The aim of medicine is the relief of suffering and its efforts are ever directed to the alleviation of moral as well as physical distress. The two are frequently indissolubly associated, and the physician who would heal the diseases of the body must also address himself very often to the disorders of the mind and, the disturbing influences of social life. It is natural then that the medical man who takes a wide view of the scope and reason of his calling should carry the philanthropic spirit which guides him in the relief of special diseases to the remedy of those morbid states of society which may be looked upon as the diseases of the body corporate. In his weary journeyings through Central Africa, whether we contemplate him as a geographical explorer, bent on solving the problems in topography, physical geography, and natural history, which lie concealed in the bosom of that great continent or as a philanthropist doing his very best to put down the nefarious trade in slaves and improve the moral and social tone of the rude races which inhabit the interior of Africa, we see in Livingstone but the full development of those instincts of discovery and humanity which, however much they may depend on personal character, early education, and religion, are excited, stimulated, developed and directed by the discipline which the acquisition of the art of healing involves. Few medical men can hope to attain the honor and repute which he has so worthily and fully earned; for few devote themselves so strenuously and unselfishly to the realization of similar aims. Great as may have been his acquisitions and substantial the additions which he has made to science, it is not for these that he has won the homage of the civilized world. It is the man who is honored rather than his work, and if any would aspire to the fame and glory which he has reached there is but one way of attaining them, namely, by imitating him in the lofty aims to which he devoted his life—the cause of science and man—and the unflagging energy and perseverance with which he pursued these until he was able to pursue them no longer.

#### WHAT ARE THE DUTIES OF A HEALTH OFFICER?

This question has recently formed the subject of a lively debate at one of the meetings of the justices of the peace for the town of Calcutta. It appears that the justices have been paying Rs. 1,600 a month as the salary of a health officer, and Rs. 300 in addition to this for the analysis of water and gas. It struck some of them that a saving of the latter item might be effected by requiring the analysis of water and gas of the health officer as one of the ordinary duties of his appointment. Dr. Tonnerre, with a candour which does honor to his honesty if not to his acquirements, frankly confessed that he was unable to execute the work, and further contended that the analysis of water and gas was the business of a specialist, an analytical chemist, and not of a health officer. On the other side it was urged that the health officers of other towns have done the work in question, and that Dr. Tonnerre himself condemns and confiscates articles

of food and drink, whose adulterations and inferior qualities can only be properly determined by chemical analysis. The question has been settled, as far as Calcutta is concerned, by the appointment of a separate analyst of water and gas, but the general issue remains open. Is a knowledge of analytical chemistry one of the qualifications which a health officer should possess? and is the performance of chemical analyses, as far as they bear on health questions, one of the duties which he can reasonably be required to perform? A very superficial knowledge of sanitary matters reveals the close dependence of practical sanitation on chemical analysis. Questions relating to water, food, clothing, habitations, sewerage, noxious trades, &c., &c., turn most intimately on analytical chemical inquiries, and it appears to us that, if a health officer is not qualified to perform, or superintend the performance of, such simple analyses as are necessary for determining the purity of food, water and air, he is wanting in a very important—we had almost written essential—qualification for his post. At any rate we have no hesitation whatever in saying that if he does not understand these matters he is not fit to be a health officer. But, it may be argued, practical sanitation is intimately dependent on a knowledge of engineering, and are you also to demand of a health officer a practical acquaintance with this art as well? To this we would reply, if a health officer knows practical engineering, as far as it bears on health questions, so much the better. At any rate he ought to be in a position to understand all questions of sanitary engineering which arise in connection with the performance of his duties. If we widen the question still further and inquire whether it can be reasonably expected of a sanitarian or health officer that he should be conversant with those special sciences which compose a sanitary code—nosology, pathology, etiology, chemistry, microscopy and engineering—we trench upon a question on which we have written very decidedly in another article. Is it enough for the holder of a sanitary appointment to possess sanitary instincts or intuitions, to be a man of good general capacity and active business habits, to have a lively sense of the advantage of sanitation as a sentiment, to devote himself to general scavenging and the collection of what pretend to be vital statistics; or must he also possess some positive familiarity with the science of health and the collateral sciences which are necessary for the investigation of the conditions on which health depends? We are most emphatically of opinion that, unless a man possesses the latter qualifications, he is not fit to be a sanitary administrator, far less to perform executive sanitary duties. He must be an accomplished doctor to start with, and if he is an accomplished chemist, microscopist and engineer in addition so much the better. But the Government or corporation which he serves may be in a position to engage doctors, chemists, microscopists, and engineers to aid in sanitary work. In that case he ought most assuredly to be able to control their proceedings and appreciate their researches. Common sense, scavenging and vital statistics, combined with sanitary instincts and sentiments, are very well in their way, but health administration requires more than that. It demands the aid of the specialist and the capacity to turn his aid to account. With all respect for the health officer of Calcutta we must declare our conviction that the necessity which he has forced upon the municipality to engage an analyst for the purpose of deciding such simple matters as the quality of water and gas does not redound to his credit.