

WATER AND DISEASE.

BY W. L. WADE, M. D.—SALEM.

It is not necessary in our consideration of this subject, to go into a minute treatise on the ultimate composition of water, but enough to say that it is a simple compound of Oxygen and Hydrogen, and the most perfect solvent in existence. We can gain some idea of the importance of water, by remembering that it forms a large portion of all animal, vegetable and mineral bodies—not less than 85 per cent. of the human body is water, and further, that no vital change whatever can occur without its presence. Deprived of it, all forms of organic life would disappear. The growth of one plant, or animal, is a type of the growth of all. It takes place by the circulation through appropriate vessels of a fluid containing nutritious matters. In the course of its circuit, it deposits its solid substances, the water is then thrown off as waste. This takes place in all organized beings, day after day. The amount of water used by different plants, and animals of course varies widely, changing with size, season and activity.

The average daily amount required for human beings is five pounds. This amounts to nearly a ton annually. This water circulating in the blood comes in contact with every tissue in the body. It enters, and may become a part of the heart, brain or lungs. If the water contain impurities, will they remain in the system? The teaching of all medical experience affirms that nothing is more certain than that disease follows the use of water contaminated by decaying organic matter. Numberless instances are on record where the occupants of entire wards in hospitals, or sections of some city, deriving their water from the same source, have been suddenly prostrated with some form of fever or dysentery. The occurrence seeming very mysterious until some intelligent physician traced the matter to the fountain head, and pointed out the source of contamination, very frequently a water-closet, or cesspool in close proximity to the water supply, and which the most ordinary dictates of cleanliness ought to have removed. Many persons who would scruple to drink from a cup used by others, will, without compunction, drink from wells situated near cesspools, or even worse,

sources of decomposing organic matter.

The purity of the water depends largely on the character of the soil through which it passes. Gravel is doubtless, the worst medium from which to obtain water. The readiness with which it permits the passage of fluids, is such that practically it offers no hindrance to the poisonous matters which are carried downward in various ways. It is astonishing with what rapidity offensive matters will pass through gravel, and reach the water in a well. A Chinaman emptied some suds about ten feet from a well, in this place, three days afterward the water became so offensive that it could not be used for any purpose. How could water remain pure in such a soil?

There is another fact in this connection, which is very important. It is this, clay soils have the power of disinfecting and deodorizing decaying organic matter, if present in only moderate quantity. This power is not possessed by gravel. I have made qualitative analysis of water from several wells here, and believe much of it is unfit for drinking. All the water examined contained Chloride of Sodium, which is regarded as a test of the presence of sewerage. This is further confirmed by the test with Permanganate of Potash. Water is tinted with a solution of the salt and left to stand for one or two days, if it loses color, it contains organic matter.

OVERLAND TO CALIFORNIA IN 1851.

BY S. A. CLARKE.

In the spring of 1851, the news came to Portland that rich mines had been struck in the vicinity of Mount Shasta, in northern California. The accounts were "gilt-edged," and so attractive that many of the old Oregonians, who had got over the gold fever of '49, packed their provision and tools and started for the new gold fields. Myself and others, of Portland, rigged out ox teams and put them in motion. I had come around by way of the Isthmus, and lacked the wild experience and adventure of those who crossed the plains, and this trip overland through these primitive regions was spiced with romance in advance, and undertaken more to round out an adequate career than from the love of lucre, which idea had not then, nor ever since, possessed

me to the extent both prudent and advisable.

The wagons were loaded with all sorts of plunder, and on the tenth day of May we crossed the river and camped at Milwaukie; thence we went slowly marching on towards Oregon City, our beasts bloating on the way from too copious a feed of chopped wheat that came near ending the journey right there. Day after day we pushed on through the valley, crossing the Waldo hills in ignorance of the vicinity of Salem; and after we had reached the prairies of Linn county, our way was through grassy prairies and over swelling plains in Lane county, with very faint traces of civilization here or there. Where they had largest herds they had no milk, and were in blissful ignorance of butter. The average Missourian of that day possessed the country, at intervals, and flour, bacon and coffee, whiskey and tobacco were the chief staples of existence.

For three days in succession, we inquired the way and the distance to the Calapooia mountains with doubtful success. They either did not know or else could not tell the truth, those pioneers that were at that early day camped along the ragged edge of civilization, and it was amusing to learn that it was fifteen miles to the mountains when we shook the whip-lash over Tom and Jerry in the morning and to be informed that it was twenty when we laid down at night; but that was about the way it worked.

Finally, we crossed the Calapooias and were in the yet wilder regions of the Umpqua, regions where the romance of hill and dale, and stream and fountain were displayed in greater contrast than in the lands of the Willamette, where since then have been developed the most favorable sheep walks of our state.

Capt. Scott and the Applegates were the pioneers of the Umpqua and had it all to themselves. The unusual travel had roused up the wilderness with tokens of unaccustomed life, but the valley of the Yoncalla then lay untrammelled by fences, and ignorant of yellow fields of grain. At the other end of the valley, at the mouth of the dreaded canyon, we found Joe Knott waiting for way-farers; and that was the outermost post of Oregon civilization, only