

WHY DO WELLS AND SPRINGS OVER-FLOW?

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I have taken some interest in the literature of this subject lately, and so far have not found anything which agrees with my ideas on the true cause of the phenomenon in question. The hydrostatic theory will account for most of the artesian wells, because they are nearly always in the vicinity of elevated land. But the theory fails utterly to account for springs situated at the very summit of hills, or water sheds. Clear Lake is almost at the summit of the Cascade mountains, with no possibility of a higher feeder, and yet it has quite a stream flowing from it. Kenesaw mountain, in Georgia, has a beautiful lake on its summit. And the summit of the Vandalia railroad abounds in springs. The mere fact of these bodies of water existing in these high localities, does away with the hydrostatic theory. Subterranean gasses have been supposed to cause the flow of Artesian wells and high springs. Effervescence would of course characterize all such springs. Internal heat undoubtedly causes the geysers, boiling springs, etc. It seems like a very evident proposition that all such springs show an elevated temperature. Then, how account for those which are cold, and flow without giving off gasses? Suppose that, in illustration, we take a child's rubber ball, with a small "air hole" in it; fill this with water, and it will represent the earth, or a confined reservoir of water. Bring a little pressure to bear on any part of the ball, and you have an artesian well. Add a tube to the aperture, and the water will flow from it freely. The flow of springs on mountain tops can have no other explanation than simply the weight of the superincumbent strata acting on basins or reservoirs of considerable size, and experience has demonstrated that only such are capable of supplying a continuous flow. The objection which will be urged against this theory, is that we must concede the settling of the surface. This is no more than what is actually taking place at Mahoning, Pa., at Virginia City, and many other places, where large areas have been slowly settling for years. Portions of sea-coast sinking for years, other portions becoming elevated. All these mountains of the Pacific Slope

were once level land, and unknown ages after this upheaval the slimy denizens of the sea were sporting fathoms deep where the Willamette valley lies with its fields and forests outspread today. There is no impossibility about the matter of a change of elevation; it is something which is taking place all the time, and it makes little difference whether we reason by exclusion, or directly, it is the only cause which can possibly account for the phenomena which we have been discussing.

OREGON AND ITS PROSPECTS.

A few words regarding the inducements held out by the State of Oregon to people in general who are in search of homes.

First, as to climate. In Western Oregon, which comprehends the valleys of the Willamette, Umpqua and Rogue rivers, is mild and equable, as may be seen by reference to the observations made at the United States Signal Service office, which, in spring, is put down at 52°, in summer 67°, in autumn 52°, and in winter, 39°, Fahrenheit. The thermometer seldom rises above 90° in summer, and rarely falls below 20° in winter, so that out-door labor may be performed at all seasons of the year. It may with propriety be said that in Oregon there are but two seasons, the wet and the dry. The rainy season usually begins about the middle of November, and lasts until early in May, with intermissions of fine weather for days, even for weeks. These rains, although disagreeable, are a blessing, since they insure abundant crops and plentiful natural pasturage. Such a thing as an entire failure of crops in Oregon has never been heard of. According to the records kept by the United States Signal Service office for a number of years, the average year in Oregon is composed of two hundred and thirty-three rainless, a hundred and twenty-two rainy, and ten snowy days. In Middle and Eastern Oregon there is less rain in winter, but it is much colder, and in summer it is dryer.

As health is, or should be, the first consideration with all people seeking a new country to locate in, we will state upon the authority of the State Board of Immigration, that the climate of Western Oregon is unusually conducive to health, the air being peculiarly pure and mild, yet bracing. The Coast Range affords protection from the ocean gales, while the Cascade mountains keep out cold winds and snow storms from the north and east to a great extent. The exemption from sharp winds and violent changes of temperature, thus secured, renders the inhabitants far less liable to throat and lung troubles, rheumatism and inflammatory diseases generally. Western Oregon is not entirely exempt from fevers, but they are of a milder

type, and yield readily to treatment. A resident physician for twenty years says: "For our exemption from malarial disorders we are indebted to our northern latitude, to the daily sea breeze, to our cool, bracing nights, and to the medium temperature of our warmest days."

The soil of Oregon, for fertility, is unsurpassed by any State in the Union. At the Centennial Exhibition in Philadelphia the State was distinguished by more awards for the excellence and variety of its products than comparatively any other State. Whatever seed is put into the ground and cultivated is sure to return a rich reward. There never yet have been any failures. This is a most important consideration—no drouths, no blighting winds, no grasshoppers, no anything else to destroy the fruits of the husbandman's industry. Good lands can be cheaply acquired, and held under simple and secure titles. Unlike in our sister State of California, the lands are not monopolized by a few owners, with no Mexican or Spanish grants to render titles insecure. Lands can be had of the Oregon and California Railroad Company, at low prices, and on favorable terms, and an abundance of government land can be had under the homestead law.

For timber and water Oregon is unsurpassed, and challenges comparison. Besides her navigable rivers, so well known, beautiful streams of clear, cold water traverse the State in every direction. Springs also are to be found in great numbers. Immense forests of hard and soft timber are to be found in every part of the State, which supplies the markets of California, South America, Australia, Japan and China with lumber. In the valleys are to be found different varieties of ash, oak, maple, balm and alder, as well as fir, cedar, spruce, pine and yew. In the foot-hills scattering oaks and firs, with a thick second growth, are found. The mountains are mostly covered with tall fir, pine, spruce, hemlock, cedar, larch, and laurel. Two kinds of cedar, three of fir and three of pine are indigenous to Oregon. Trees here attain to an enormous height and great straightness, firs measuring from one to two hundred and fifty feet.

In minerals Oregon is extremely rich, but for the want of capital imperfectly developed. Gold, silver, iron, copper, coal and many other minerals exist in great abundance. Iron ore is plentiful, and from tests has proved of superior quality.

For the raising of live stock no country can excel Oregon. The natural grasses are of a fine quality, and retain their fattening qualities until late in the season. The wild pea also grows in great abundance. In southeastern Oregon there are 33,000,000 acres of natural pasturage.

One very important advantage Ore-