

lakes,) which characterize the Australian districts, and in which the rich "runs," "leads" or "gutters" of alluvial gold are found by sinking through the alluvions to the bed-rock, which generally protrudes in ledges along the margins of the flats and in the adjoining hills. If we assume the lakes and swamps in Nova Scotia to represent the flats and gulleys in Australia, there are no apparently important differences in the geological conditions presented in the two regions. It becomes a question, therefore, whether rich deposits may not underlie many of the lakes and swamps of Nova Scotia, as they do the flats and gulleys of Australia; and if so whether they could be profitably mined. To do so it might be necessary to drain the surface-water, but this would depend entirely on the depth beneath the lake-bed of the old channel or gutter.

TANGIER.

At Tangier, works were commenced, as described by Professor Silliman in his Report published in 1864, [See Dr. Hunt's Report on the Gold Region of Nova Scotia, page 40,] to drain Copper Lake, in order to explore the deposits in its bed; but the enterprise appears to have been abandoned before any result had been arrived at, and nothing was being done at the time of my visit to the locality last summer.

NOVA SCOTIA.

The reason which has been given, and apparently very generally believed, why no considerable quantity of alluvial gold is likely to be found in Nova Scotia, viz.: that over the greater part of the country the superficial accumulations of gravel have been removed by comparatively recent denuding agencies, has certainly no foundation in fact; and I can confidently assert that bare rock-surfaces are not more prevalent in the gold-districts of Nova Scotia than they are in similar districts in Australia.

It is incredible that in the latter country the gold-bearing veins should be invariably accompanied by rich alluvial deposits, while in Nova Scotia the detrital deposits, which certainly occur under precisely similar conditions, should be almost as invariably unproductive. I do not believe in any such anomaly, but think that the whole secret of the matter lies in the fact that, owing to obvious local circumstances, they have never yet been sought for with that degree of enterprise, intelligence and perseverance, which the investigation demands.

It is stated that surface-lead have occasionally been found, and have been followed for limited distances into gradually deepening ground, with highly promising indications, when the influx of water being too great to be overcome by manual labor with an ordinary bucket and windlass, the ground was at once abandoned. Under such circumstances it is not surprising that no alluvial leads have been developed in Nova Scotia.

At Tangier, at Oldham, at Sherbrooke, at Waverley, and at Renfrew, I observed places that appeared to present all the conditions required for the occurrence of rich alluvial "diggings;" but, so far as I could learn, no attempts had been made to test them, although they lie in close proximity to quartz veins which have afforded

large returns, and the abrasion of which in past times must have contributed to form the detritus in the adjacent depressions.

WORKING ALLUVIONS.

The great quantity of water which would probably be encountered in all the deep and low-lying drift-deposits in Nova Scotia doubtless constitutes a serious hindrance to their being explored, inasmuch as it almost precludes the success of individual effort, to which, in Australia, the original discovery of nearly all the principal gold-fields is due. They offer however, I consider, a legitimate and exceedingly promising field for combined capital and labor skillfully applied, and it is certainly remarkable that so little attention has hitherto been bestowed upon them.

MR. MICHEL.

As will be seen in Dr. Hunt's Report (page 14), Mr. Michel insisted strongly upon the importance of searching for alluvial gold beneath the glacial drift or boulder-clay of the coast; where, as Dr. Hunt remarked, the gold alluvions "may reasonably be expected to be of great richness."

Wherever valleys filled with detritus are found crossing the strike of the veins, as is the case at Waverley, at Oldham, and doubtless in many other places, explorations should be made immediately below such lines of intersection, as being the most likely to afford satisfactory results. In the few places where alluvial gold has been detected, the discovery has been purely accidental. The search has never been conducted on any defined system or principle, and was, therefore, not likely to effect more than it has done; viz.: prove the presence of particles of gold in almost all the superficial sands and gravels which have been examined, and occasionally to such an extent as to be capable of being profitably extracted.

HYDRAULIC METHOD.

I have not seen any localities in Nova Scotia where the hydraulic methods of washing in use in California and Australia could be successfully adopted, because the recent gravels appear for the most part to lie in depressions which are below the present drainage level of the country; and seldom on hills, or in elevated terraces along the sides of the valleys. I am not aware whether this is also the case in New Brunswick.

CHAUDIÈRE, QUEBEC.

In the province of Quebec, on the Chaudière and its tributaries, the drift appears in some cases to rest at considerable elevations above the main water-channels, and this was long since pointed out by Sir W. E. Logan. Nothing, however, has ever been done to test the value of the gravels. Recently, through the enterprise of the manager of the Company already mentioned as being the only one at present operating in that district, it has been proved that they likewise extend to depths of one hundred feet beneath them. It is in these old deep channels and depressions that the heaviest particles of gold may be looked for, and with the requisite appliances for draining the ground there seems every reason for hoping that a very extended and valuable field for gold-mining enterprise will be opened up