

be a compensatory widening, just, as has been said, may be observed when two slices of bread thickly buttered are placed together and subjected to unequal pressure. In that case there will be regions where butter abounds and spaces that possess very little. This irregularity of phosphate deposits has proved very discouraging to those working in a small way and confining their efforts to a single vein, whereas those who work a number of deposits are more likely to secure a paying result; for when one seam is pinching another will be widening, and the average result may be good. An Ontario farmer, discouraged by the vagaries of the vein of apatite that he had endeavored to follow, upon being asked his opinion of phosphate mining replied: "It's broad, it's narrow, it's deep, it's shallow, it's long, it's short, it's here, it's there, you see it and you don't see it, it appears, and it disappears, you've got it and you haven't got it, it's a confounded nuisance and I won't have a darned thing to do with it." But similar remarks might be made of nearly all mineral veins; and success in working them is only gained by a careful adaptation of means to circumstances, and a combination of intelligence with economical effort.

The Apatite occurs usually in connection with pyroxene, lime or mica, and sometimes there occurs a grand mixture of all four, with iron pyrites, hornblende or felspar added. One miner was fond of boasting that he had 23 minerals in one pit, which he called "the Old Trusty." While the Apatite itself is usually of a uniform high grade, the quality of the cargo shipments depends upon the care with which the impurities are separated; and analyses vary from 88 to 65 per cent. Sometimes iron pyrites and mica are so disseminated through the Apatite that separation by hand-cobbing is impossible. Mills have been erected at Buckingham for the purpose of grinding and separating this low grade ore; and by a system of fanning, screening and hand-picking, a good grade of phosphate is saved that was formerly wasted. The Apatite is usually of a green color, but varies in shades between white and red. It sometimes occurs with a red felspar so similar in