The relative proportion of the different constituent substances, above given, necessarily leads to the following state of their combination:

EXTERIOR LAYER.

| | | |
|---|---|---|
| Tri-phosphate of lime | | 77.71 |
| containing of lime | 41.76 | |
| containing of phosphoric acid | 35.95 | |
| Tri-phosphate of magnesia | | 6.77 |
| containing of magnesia | 3.10 | |
| containing of phosphoric acid | 3.67 | |
| Phosphate of iron | | 0.64 |
| Fluoride of calcium | | 1.76 |
| Chloride of calcium | | 1.18 |
| Sulphate of soda | | 3.68 |
| Water and organic matter | | 8.60 |
| Sand | | 0.02 |
| | | 100.36 |

BODY OF THE ROCK.

| | | |
|---|---|---|
| Common phosphate of lime | | 82.48 |
| containing of lime | 34.04 | |
| containing of water | 5.44 | |
| containing of phosphoric acid | 43.00 | |
| Common phosphate of magnesia | | 0.66 |
| containing of magnesia | 0.22 | |
| containing of water | 0.05 | |
| containing of phosphoric acid | 0.39 | |
| Phosphate of iron | | 0.22 |
| Sulphate of lime | | 12.05 |
| containing of lime | 4.97 | |
| containing of sulphuric acid | 7.08 | |
| Water and organic matter | | 5.26 |
| Sand | | 0.02 |
| | | 100.69 |

It will be seen from the above that in both parts of the rock the phosphoric acid is present in the form of a tribasic phosphate, (containing three atoms of base to one atom of acid) with the difference that in the "exterior layer" the three atoms of base are made up by lime alone, thus forming the so-called *tri-phosphate of lime*, whilst in the "body of the rock" only two of them are lime, and the third is water, a combination which is known as *common phosphate of lime.*

In the following we will add a few items which will prove the correctness of this view beyond all doubt:

1. Common phosphate of lime, when exposed to a high degree