

of "Docteur es Sciences". It was while working for this that he began to direct his attention to the study of the tartaric acids, especially their crystalline form, as he had decided to make his doctor's thesis on a subject of crystallography. Let me give you Prof. Frankland's (Professor of Chemistry, Mason College, Birmingham,) appreciative description of Pasteur's work on this subject. "The phenomenon which attracted the attention of young Pasteur was the existence of two tartaric acids apparently identical in chemical composition, in chemical properties, in crystalline form, and in fact in every detail excepting alone that the solution of one of these tartaric acids had no effect on polarized light, whilst the solution of the other turned the plane of polarization to the right. Submitting these crystals to the most searching scrutiny, Pasteur found that there were some minute faces on the crystals of the tartrate inactive to the polarized beam, and such importance did he attribute to these little faces that he recognized that their presence relegated the substance possessing them to an entirely different class of objects from that to which belonged the substance possessing them not.

For whilst the crystals of the inactive tartaric acid, which were destitute of these little surfaces, he found were symmetrical, the crystals of the optically active tartaric acid he found were unsymmetrical or disymmetric, as he called it. Now to the symmetric character of the crystals of the one tartaric acid he attributed the inactivity of this tartaric acid to polarized light, whilst with the disymmetric character of the crystals of the other tartaric acid he connected its action on the polarized beam.

In studying these apparently insignificant details, Pasteur found that by crystallizing the inactive tartaric acid in a particular way he obtained two different kinds of crystals, the one set being identical with those of the active tartaric acid already known, whilst the other set were the mirror images of these, and had never been seen by the eye of man before. The young philosopher at once drew the conclusion that if the disymmetry of the known tartaric acid caused it to turn the plane of polarization to the right, the disymmetry of this new tartaric acid would turn it to the left.