owing to the variability of plane. In clinants, two points, O and I, could be considered fixed, and one only, X, being variable, could pass into any point of the plane, and hence determine any triangle on that plane. Now it might also pass into any point in space, but in doing so it would determine triangles only on such planes as intersect in OI. To complete the geometry of space, the standard line must be itself movable, but its *origin* may be fixed, and the *length* of its initial limit may be unchanged. Let then OM be a unit radius in the same unit circle as before, so that $OM = m \,.\, OI$, and $Tm = i$, where m is a clinant. OM may be called the (*unit*) *base*, M the *base point*. Let X be any point in space, which may be called the *vertex*. Then MOX will be any triangle on, or parallel to, any plane in space; and if OA be any line parallel to the plane of MOX, it is possible to construct $AOB \, \Delta \, MOX$, and thus determine B. The operation thus performed is called a *quaternion*, and may be represented by x_m, the subscript letter referring to the clinant m, so that $OB = x_m \,.\, OA$. This is the operation, differently conceived, of which Sir W. R. Hamilton has investigated the laws, and we see that *clinants are quaternions with a constant base point and constant plane of rotation*, or for which x_m always $= x_i = x^{\cdot}$ on the plane IOJ. Now assume the laws of quaternions as established by Sir W. R. Hamilton, and let y_n be some other quaternion, and let $\phi\,(x_m, y_n) = o$. Then, so far as this equation can be solved, (which is not very far, for Sir W. R. Hamilton only solved the equation of the first degree completely,) the assumption of any two points M, X, forming a *quin* (*qu*-aternion *in*-dex) will determine two other points N, Y, forming a *quas* (*qua*-ternion *s*-tigma). The relation then is not one between *two points*, index and stigma, forming a stigmal, but between two *pairs* of points, quin and quas, forming a *qual* (*qu*-aternion stigm-*al*), and hence partakes of the character of the relation between an indistigmal and a stigmo-stigmal in the case of a transordinated stigmatic, (art. 47. i.) This bare statement of the conception must here suffice. Solid stigmatics, and the correspondence of points lying in different planes, lie beyond the scope of this Tract, although the geometry here developed allows of such correspondence being expressed in various particular cases, by the aid of conventions similar to those in (ii.) and those indicated in the first case of art. 44. iv.

CONCLUSION.

55. Such is my Stigmatic Geometry. The sketch is rough, and bare of detail, but the outline is, I trust, sufficiently firm and true for Mathematicians to recognise the main features of my Theory, and to justify my own confidence that Clinants and Stigmatics are a New Power in Mathematical Analysis, a New Instrument for Geometrical Investigation, and a New Form of Life for Algebra.