that λ^{p^2-1} is the highest power of λ contained in D'_r. Hence

(9) $$D'_r = c^{p-1}\lambda^{p^2-1},$$

where c is the product of the distinct prime factors of m different from p.

From (1), (2), (3), (5), (7), (8), and (9) it then easily follows in both cases that

(10) $$N(D_r) = p^{p-2}.$$

But in the field $k(\sqrt[p]{m})$ we have the following decomposition of p into prime ideal factors, as was proved in the paper mentioned above :

(11) $$p = P^p,$$

if $b^{p-1} - a_{p-1}^{p-1}$ is not divisible by p^2, and

(12) $$p = P^{p-1}Q,$$

if $b^{p-1} - a_{p-1}^{p-1}$ is divisible by p^2, where P and Q are different prime ideals of the first degree.

In the first case we obtain

(13) $$D_r = P^{p-2}.$$

In the second case, however, our method does not enable us to determine the exact powers of P and Q which enter into D_r. We only know that

(14) $$D_r = P^x \cdot Q^y,$$

where $x + y = p - 2$.

PURDUE UNIVERSITY,
October, 1910.

NOTE ON RECIPROCAL FIGURES IN SPACE.

BY PROFESSOR PETER FIELD.

MAXWELL [Collected Works, page 523. Also see Rankine, *Philosophical Magazine* for February, 1864] defines figures in three dimensions as reciprocal when they can be so placed that every line in the one is perpendicular to a plane face of the other and every vertex in the one is represented by a closed polyhedron with plane faces in the other.

The simplest case [Maxwell, loc. cit., page 524] is that of 5