

concerning ordinary complex quantities, or at least analogous to them.” “In fact,” he continues, “the arithmetic of hyper-complex quantities can lead to no result which could not be reached by processes known in the theory of ordinary complex quantities.”

The views of Dedekind upon this last point quite coincide with those of Weierstrass; but for an account of his beautiful method of generating systems of complex quantities, the reader is for the present referred to the memoirs cited above.

C. H. CHAPMAN.

JOHNS HOPKINS UNIVERSITY, *February 3, 1892.*

EMILE MATHIEU, HIS LIFE AND WORKS.*

IF it were asked what tyranny in this world has least foundation in reason and is at the same time most overbearing and capricious, none could be found to answer better to this description than *fashion*; that fashion which makes us admire to-day what but yesterday would have excited astonishment, and which may provoke ridicule to-morrow. We all know that this sovereign whose iron rule is so much more keenly felt on account of its injustice governs the thousand and one details of every-day life; that it is supreme in literature and in the arts. But those who have not watched closely the life of the scientific world may perhaps be surprised to hear that even there if you would please you must bend the knee to fashion. What? might exclaim the stranger to the world of science, can it be true that the mathematician knows other laws than the inflexible rules of logic? Does he care to obey other orders than the invariable commands of reason?—Well, yes. Of course, to have a mathematical production accepted as *correct*, it is sufficient that it conform to the precepts of logic; but to have it admired as beautiful, as interesting, as of importance, to gain honor and success by it, more is required: it must then satisfy the manifold and varying exactness imposed by the prevailing taste of the day, by the preferences of prominent men, by the preoccupations of the public.

Thus it comes to pass that, in mathematics as elsewhere, fashion will sometimes award the laurels to those who have not deserved the triumph and make victims of men whose lack of success is an injustice. In every country there are such victors and such victims; but nowhere perhaps are they

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