

and inversive geometers have delighted, but which they have signally failed to popularize, are now to be almost a commonplace in the wider field of differential geometry. The physicists who would not look at the projective gnats will swallow the differential camels. And there is no doubt more nutriment in a camel. There will be a lively market, and it should be met by some recasting where pedagogic reasons already exist. The mapping of spaces should be led up to by the simplest cases of mapping. Once again, what pedagogy sighed for physical science demands, this time in the field of elementary geometry itself.

If the science should be taught in its early stages not as a jumble of special applications, but always with an honest consideration of its legitimate contexts, then would it still be true of the far wider mathematics of today, that, to quote old Isaac Barrow again, "The Mathematics is the unshaken Foundation of Science and the Plentiful Fountain of Advantage in Human Affairs."

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FALLACIES AND MISCONCEPTIONS IN DIOPHANTINE ANALYSIS.

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§ 1. *Introduction.* Numerous writers have claimed to find all integral solutions of various homogeneous equations when they have actually found merely the rational solutions, expressed by formulas involving rational parameters. They have really left untouched the more difficult problem of finding all the integral solutions exclusively. The fallacies exposed in § 2 and § 3 are merely particular instances of the wide-spread misconception of the problem of solving a homogeneous equation in integers. It is therefore not safe, without re-examination, to place confidence in any claim that a homogeneous equation has been completely solved in integers.

In the next number of this BULLETIN, I shall show how the