stimulating. The first of these, by Professor Blaschke, gives an account of Study's line geometry. Professor Radon contributes the second of these chapters which is devoted to a discussion of the author's mechanical derivation of Levi-Civita's parallel displacement. The third chapter, apparently a joint product of Professors Blaschke and Artin, is devoted to analysis situs. It is of special interest to American readers in that it reproduces Alexander's elegant proof of the deformation theorem of Tietze. Professor Radon contributes also the fourth of these chapters which is devoted to a variety of geometric interpretations in the theory of partial differential equations and the calculus of variations. The last of these chapters furnishes a geometric treatment of the theory of elementary divisors. Each of these chapters is enriched by an adequate bibliography of the subjects under discussion. It is to be hoped that some of our younger devotees will receive inspiration from this work, with a view to bringing geometry back to the front of the stage, from which it has been temporarily crowded by the recent advances in analysis.

J. W. Young


Explaining scientific theories to people with small knowledge of the technique used by the original developers is the cause of much difficulty in modern thinking. This book is an attempt to present the development of space-time in a manner understandable to a person unfamiliar with the mathematical tools used by the physicists in the new theories.

The author uses the only possible method—that of first acquainting the reader with the foundations of the mathematical and physical problems to be discussed. We find in Chapters I–V and VII an excellent sketch of the non-euclidean geometries particularly from Riemann's point of view. In Chapters VI and VIII–XII the physical questions of time, classical relativity and electromagnetics are dealt with.

We are surprised at the amount of insight it is possible to give without the use of mathematical manipulation. Having wondered how much a student of first year calculus (which is, after all, about as much mathematics as the average layman has in his background, if not more) would make out of such a treatment, we tried Chapter VII on one of our students. This chapter introduces the idea of the curvature of space. To our surprise, the idea was grasped rather well from the author's explanation.

The next section (Chapters XIII–XXII) consists of a most accurate and altogether excellent account of the restricted theory of relativity. One of the most interesting chapters is the one devoted to paradoxes (XXII).

Part three deals with the general theory. As the task is much more difficult here, in view of the extremely complicated mathematics, it is much more to the author's credit that he accomplishes such a fine presentation. The difficulties of discussing tensor equations when your reader has no knowledge of how they are arrived at, seem, at first, insuperable, but the author succeeds in showing the meaning of the law of gravitation and in