

nections between these three topics, which thus appear only as different aspects of what one may call the theory of (numerical and functional) invariants of an algebraic variety. Although the geometric, analytic and transcendental points of view are freely allowed to have full play, the stress is laid upon the analysis situs applications, which, we think, is fully justified by the fact that even specialists in algebraic geometry are not yet sufficiently familiar with the topological aspects and methods of the theory.

The author does not confine himself to mere exposition of known results. When necessary, unsolved questions are raised and freely discussed, and this valuable feature of the pamphlet makes it something more than a résumé. At the end a rather inspiring list of possible new researches to be pursued is given.

Some details may be criticized. For instance, Theorem 27 on page 24 is given somewhat casually, without any accompanying comment, which is against the historic and intrinsic importance which this theorem had in the development of the theory of algebraic surfaces. In the discussion of the problem of the existence of double integrals of the 1st kind without periods (p. 28) it would have been advisable to mention explicitly the closely connected problem of the existence of simple integrals of the so-called semiexact differentials of the first kind, introduced by Severi.

There are a few misprints which may mislead the reader. On p. 15, XIV, " $k < d-2$ ," " $\Gamma_{k-2}$ " and in formula (10) " $C^{k+1}$ " should be respectively: " $k \leq d-2$ ," " $\Gamma_k$ " and " $C^{d-k-1}$ ". On p. 16 fourth line from bottom and on p. 17, XX, " $C^{d-k}$ " and " $C^{d-k+1}$ " should be " $C^k$ " and " $C^{k+1}$ ", respectively.

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*Cours de Mécanique Professé à l'École Supérieure des Mines.* By P. Lévy  
Paris, Gauthier-Villars, 1928. 8+205 pp.

This book was prepared by Professor Lévy, of l'École Polytechnique, on the occasion of his assignment to l'École Supérieure des Mines. The point of view differs from that of such standard treatises as Appell's in that more attention is given to mechanical and geometrical considerations. For example in studying the dynamics of a particle, the author feels that it is more important for the student to understand and appreciate the form of the trajectory than the analytic formulas defining it.

The technical applications are almost entirely confined to kinematics. After the first chapter on theoretical kinematics there are two comparatively long chapters on applications to machinery. Then follow eight chapters giving the customary treatment of the dynamics of a particle and of rigid bodies. The next chapter considers the equilibrium of flexible systems and includes a brief treatment of graphical statics.

It is implied in the preface that this volume is intended to furnish a foundation for the oral instruction of the course and hence it does not contain exercises for the student. Some material not covered in the oral instruction is included in the book with the hope that the curiosity of the better students will be aroused. For this reason the volume closes with a supplementary chapter on the theory of relativity.

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