BOOK REVIEWS - COMPTES RENDUS CRITIQUES

Puzzles and Paradoxes. BY T. H. O'BIERNE. Oxford University Press, New York and London (1965). XIV+238 pp.

This book takes the reader on ten interesting strolls along well-worn trails, often turning into byways to the less familiar and sometimes making forays into new territory. The metaphor is enhanced by a somewhat pedestrian style but the promenades usually lead to material which is fresh and sometimes nontrivial.

Chapter I starts in the ninth century with jealous husbands, available wives and a river to cross. From this familiar setting, we progress to missionaries and cannibals, wolves, goats and cabbages, a father and his five hostile sons all wanting to cross the stream and all having problems with the boat. Finally, a method of solving and inventing this kind of problem using graphs.

In Chapter II, coinweighing problems of all descriptions are discussed and general solutions of most types are described.

Successive chapters deal with pouring problems, a finite geometry of twenty-five points and some ways to use it. Those colored cubes that nephews bring you to arrange in a certain order are described and a system for solving them explained. Nim and related games, the date of Easter, liars and truth-tellers, and an ancient diophantine equation are discussed in an entertaining way.

An excellent addition to the book is a list of references and source material, and a comprehensive index.

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Contributions à la Géométrie Différentielle Projective-Symplectique. BY IZU VAISMAN. Annalele Ştünţifice ale Universităţii "Al. I. Cuza" of Iaşi, (1966). 126 pp.

A symplectic structure on an even dimensional vector space is a scalar-valued bilinear map which is skew-symmetric and non-singular.

A projective space of dimension m may be regarded as the set of one-dimensional subspaces of a vector space of dimension $m+1$ and coordinatized accordingly.

Starting with a $2n$-dimensional vector space with a symplectic structure one may form a $(2n-1)$-dimensional projective space with an induced "symplectic" structure. Call such a space "projective-symplectic".

The author considers C^∞ fibre bundles whose base is a $(2n-1)$-dimensional manifold and whose fibres are projective-symplectic spaces of dimension $2n$-1.