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# BOOK REVIEWS

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## MATHEMATICS

### ADVANCED MATHEMATICS

SURAWIT KONGSASNA

*Thai Watana Panich, Bangkok, 1974, in Thai, pp. 349, 68 baht.*

This book was written as the text for a course in Advanced Mathematics in the Mathematics Department, Faculty of Science, Chulalongkorn University. But the author hoped that it would also be useful to any student or interested person. The book consists of six chapters in the following order: Vector Analysis, Integral Theorems and Transformations, Series of Functions, Functions Defined From Integrals, Orthogonal Functions and Linear Algebra.

The first chapter is more elementary than advanced. Most of the proofs are done geometrically in two or three dimensions. It should also have been noted that directed line segments is only one representation of vectors and that the statements still hold true for  $n$ -dimensional space.

The author gave an admirable effort to write an all-Thai textbook. It is regrettable that this tends to be more confusing than helpful. The definitions become ambiguous and difficult to understand.

The following four chapters are generally quite well-written. They are easy to understand and contain enough materials to give a clear idea of what it is all about. If the theorems are given proofs or at least some comments as to the how and the why, these chapters would be excellent. The last chapter would be more appropriately called, "Matrices and Determinants". I could not help feeling that there is more to Linear Algebra than these two.

Overall, the book is recommended for those using mathematical applications such as engineers, and physicists .

Nardtida Achava-amrung

## INTRODUCTION TO MATHEMATICAL LOGIC

SUTEP CHUNSOMSAK

*Thai Watana Panich, Bangkok, 1975, in Thai, pp. 75, 25 baht*

The text, which is designed for the first year university students, contains 4 chapters and 2 appendices.

Chapter one is a brief introduction to basic arithmetic system, proposition (statement), variable, and solution set. Chapter two deals with propositional Calculus. In chapter three the predicate calculus is introduced. Chapter four gives a brief idea of proof in mathematical logic.

Every definition in this text is very well-given in Thai. The reader should not have any difficulty for the first three chapters because each section in these chapters contains enough examples and exercises with solutions for the reader to study by himself. It will become a very good text if the author gives more examples and exercises in chapter four so that the reader can appreciate more the technique and the beauty of proof.

Of the two appendices the first one is unnecessary for the reader; however, this book is good enough to be an elementary text for the reader who wants to read it in Thai.

Chinda Achariyakul.

## NUTRITION

### PROTEIN-CALORIE MALNUTRITION

R.E. OLSON, ED.

*Academic Press, New York, 1975, pp. 467.*

Protein-calorie malnutrition (PCM) ranks first among nutritional diseases of infants and preschool children in most developing countries, and Thailand is no exception. This monograph is based on the international symposium on "Protein-Calorie Malnutrition" held in Chiangmai, Thailand during January 8-11, 1973. Twenty-nine world noted scientists who participated in the symposium contributed 31 papers to this monograph. It began with reviews on protein, carbohydrate, lipids, nucleic acids, vitamins and minerals as pertaining to PCM, then moves on to ultra-structural and other systemic changes such as hormonal, lymphoid and hemopoiesis changes associated with this disease. The interactions between malnutrition and infection and alteration in the immunological system in PCM were also discussed. It was found, for example, that most complement

proteins except C<sub>4</sub>, were lower in PCM as compared to normal control. High protein intake (4 g per kg per day) resulted in a marked increase in the complement level whereas low protein (1 g per kg per day) failed to restore the complement level during the same period. Other aspects such as mental development and rehabilitation capacity in treated cases were also covered. The controversy regarding the relative importance of protein versus calories in the pathogenesis and treatment of the disease were also presented. Studies from India indicated that the amount of calories can be critical in bringing about weight gain. With sufficient caloric intake, protein level can be reduced to almost half. When 200 kcal per kg body weight per day was given, no difference in weight gain was observed between cases receiving either 6 g protein per kg per day or 3.5 g protein per kg per day. At the level of 140 kcal per kg per day, no weight gain was observed even when 6 g protein per kg was given daily. It was concluded that in some developing countries, the real "bottleneck" could be calorie deficiency.

The monograph contains information on early diagnosis, treatment and prevention of PCM as well. This book will be useful to physicians, nutritionists, public health workers as well as medical students who are involved or have interest in the problem of protein-calorie malnutrition.

Serene Vimokesant