

Book Proposal

Title and Author

The New Engineering by Eugene F. Adiutori

Prospectus

The book describes a new science of engineering that will replace conventional engineering because it greatly simplifies the solution of nonlinear problems.

Conventional engineering is based on ratios of primary parameters. For example, electrical resistance R is the ratio of electromotive force to electric current, heat transfer coefficient h is the ratio of heat flux to temperature difference, material modulus E is the ratio of stress to strain. Because these ratios *combine* the primary parameters, they make it necessary to solve problems with the variables combined.

In the new engineering, parameters such as R , h , and E are *abandoned*, and primary parameters such as electromotive force and electric current are kept *separate*. This makes it possible to solve problems with the variables separated.

One of the first lessons in mathematics is the desirability of separating x and y by *eliminating* all terms that combine them—terms such as y/x and y/x^2 . The particular advantage of separating the variables is that problem solutions are generally simpler if the variables are separate.

If a problem involves proportional behavior, it makes little difference whether the variables are separated or combined. But if a problem involves nonlinear behavior, the difference between separated variables and combined variables can make the difference between a problem that is readily solved, and one that borders on impossible.

The book describes the new engineering, and contains numerous examples that demonstrate its application to the solution of proportional and nonlinear problems that concern electricity, heat transfer, stress/strain, and fluid flow. The problems are repeated using conventional terminology, but their solution using conventional methodology is left to the reader. The problems demonstrate that the new engineering greatly simplifies the solution of practical, nonlinear problems. And, since simpler is better, they explain why the new engineering will replace conventional engineering.

The book is intended for persons who are familiar with conventional engineering—practicing engineers, engineering professors, and advanced engineering students. It should rapidly become the best selling engineering book of all time.

The book should be reviewed by engineers with strong mathematical background, or mathematicians with strong engineering background.