The question now arises, "What difference does it make whether we recognize that equations 7 through 9 represent proportional or linear concepts?" The answer lies in the fact that proportional concepts are extremely ineffective--proportional concepts cannot deal effectively with either linear behavior or nonlinear behavior. We are thus led to the conclusion that twentieth century engineering is founded on concepts which effectively deal with only the most trivial behavior--proportional behavior--and which are altogether ineffective when dealing with either linear or nonlinear behavior--as we often are.

Once we accept the ineffectiveness of these proportional concepts which form the basis of twentieth century engineering, the next step is easy--these "old way" concepts must be retired--and they must be replaced with concepts which deal effectively with proportional behavior, with linear behavior, and with nonlinear behavior. And this is what The New Heat Transfer is really about--it is about the invention of concepts which effectively deal with nonlinear behavior, and it illustrates the application of such a concept to the science of heat transfer--but it could just as well have been The New Stress/Strain--or The New Electrical Engineering--or The New Fluid Flow.

It is a virtual certainty that Ohm's Law will be retired within the next few decades and be replaced with

$$V = f\{I\} \tag{10}$$

and that Hooke's Law will be retired and replaced with

$$\sigma = f\{\varepsilon\} \tag{11}$$

and that "Newton's Law" will be retired and replaced with

$$q = f_1\{\text{sys. props.}\}\ f_2\{\text{TDF}\} \tag{12}$$

and that the many other proportional concepts which provide the foundation for twentieth century engineering will also be retired--and will also be replaced with concepts which, like eqs 10-12, can effectively deal with all types of behavior without restriction. And these new concepts, like those represented in eqs 10-12, will provide the foundation for engineering in the twenty-first century.