Although the fundamental principles and solutions to three-dimensional transaxial reconstruction derive from other disciplines, the method promises to have its most dramatic impact on medicine. Indeed, before the role and efficacy of an outstanding technological application of these principles to neuroradiology can be fully assessed, new developments promising more extensive clinical applications also demand our attention. The rapid growth and dissemination of a new technological development in medicine are said to derive from "a moral demand for its use" (Elliott Krause, *Sociology of Occupations*). Whether or not such collective altruism truly identifies the driving force, it is nevertheless an obligation of protagonists and participants alike to anticipate and carefully evaluate technological innovations.

Comparison of the clinical efficacy of transverse x-ray images and radionuclide images is needed in order to ascertain whether one modality is clinically superior to the other in specific applications. Of course, this ultimately depends on whether the disease state is more detectable because of differences in density or atomic composition or contrast in radiopharmaceutical concentrations. The final comparison, however, must await the development of three-dimensional radionuclide techniques that are comparable to x-ray sectional imaging. To avoid premature judgments based on two-dimensional radionuclide imaging, it is hoped that we may soon see practical applications of sectional radionuclide imaging anticipated by Phelps in this issue of the *Journal* and elsewhere by several predecessors.

From the vantage point afforded us from "standing on the shoulders of giants," (Issac Newton) it now appears disarmingly simple to produce transverse-imaging devices, and many are led into this fold. The difficulty of which we in the nuclear medicine community are most aware is that pictures do, in fact, sometimes lie. The real task is not to obtain an image but to optimize its fidelity. It therefore seems timely to suggest that a performance-evaluation mechanism for three-dimensional radioscopic imaging devices be established. This may take the form of a detailed list of specifications that manufacturers will be asked to supply in a standard manner and a report on measurements with a standard phantom designed to reveal the limits of detection and possible image artifacts.

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