

EDITORIAL

THE TECHNICAL CORNER

Despite the fact that the lymphatic system was "discovered" at roughly the same time as William Harvey's epic treatise appeared on the blood circulation, knowledge of the tissue fluid or "third circulation" continues to lag considerably behind the blood vascular system. This comparative slowness in progress derives from the innate structure of the lymphatic apparatus where learning has depended to a large measure on improved technology. Even though lymphatic channels are in close proximity to arteries and veins, as thin-walled, barely perceptible diaphanous structures, they are typically recognized only after a fatty meal (mesenteric lacteals) or under the most dire pathologic circumstance. Historically, therefore, lymphatic visualization and assessment of function has required patience and considerable technical know-how to complement scientific ingenuity, imagination, and originality. Not until use of heat-modified glass cannulae (Ludwig and Starling) and later plastic catheters (Drinker) was it possible to quantify regional and total body lymph flow. Even nowadays, however, verification of these volume measurements by *in situ* lymph flow monitoring (i.e., noncannulated) has remained an elusive goal. Lymphatic and nodal visualization took a quantum leap forward with the introduction by Kinmonth of lymphography capitalizing on the adsorption of vital dyes to local tissue protein, and the absorption and retention of protein-bound particulates and radiographic contrast oils almost exclusively by the

lymphatic apparatus. More recently use of radioisotope lymphoscintigraphy, computed tomography, magnetic resonance imaging, flow cytometry, and intradermal water-soluble lymphography is providing a further, almost revolutionary dimension for "staging" nodal neoplasia and examining lymphatic function. *In vitro*, application of transmission and scanning electron microscopy combined with immunohistochemistry is also providing extraordinary magnification and insight into lymphatic organelle structure and function rarely conceived possible before.

Therefore, even in this era of exploding molecular biology *Lymphology* recognizes the need and importance of improved technology to (re)examine established concepts as well as to expand horizons and create future challenges. For a ubiquitous system where knowledge is still so rudimentary and difficult to acquire, a special category—"The Technical Corner"—has accordingly been formulated to encourage and facilitate publication of methods and techniques that illuminate its inner secrets. A number of such anatomic, physiologic, and radiologic refinements are described in this and succeeding issues.

The Editors