## **Guest Editorial**

## The Knowledge Game

Soil fertility, vital to agricultural success, is highly dependent upon earthworms. In North America, native earthworms are battling European and Asian invaders in an attempt to avoid displacement. Such an event could have monumental agricultural consequences. Despite this fact, only one actively working scientist is familiar with North American earthworm taxonomy.

A research endocrinologist asks a former professor a question important to her research: At what point in animal evolution was the porphyrin molecule first adopted for use specifically as an oxygen carrier? The professor is able to find nothing published more recently on the subject than a 1964 textbook on Comparative Biochemistry. When he asks a group of biochemistry professors and graduate students attending one of his lectures whom they would suggest he speak with on the subject, the response he receives is that "nobody does comparative biochemistry anymore."

These anecdotes, excerpted from the essay "Forgetting" by Professor David Ehrenfeld, which appeared in his text *Beginning Again: People and Nature in the New Millenium*, are two of Professor Ehrenfeld's examples of knowledge that is in danger of disappearing from our world. To quote Professor Ehrenfeld: "Our concept of progress prevents us from realizing that skills and knowledge can simply vanish from the world. Most of us probably imagine knowledge to be cumulative: each advance built on prior discoveries, block piled upon block in an ever-growing edifice. We don't think of blocks underneath as crumbling away, or worse, vanishing altogether."

Professors are not interested in teaching "unglamorous" courses. Students are discouraged from entering into "old-fashioned" fields of study. The message is clear: if you want to obtain funding and the accompanying prestige, limit your efforts to modern areas of study; utilize high technology and show more "sizzle."

An examination of the curricula of various periodontal training programs and a comparison of the lists of papers presented at different scientific meetings demonstrate trends that are disturbingly similar to those cautioned by Professor Ehrenfeld. Graduate students are given only scant exposure to "older," less exciting treatment modalities. For example, relatively little time is spent on resective techniques and their proper application. Root amputation procedures are quickly becoming the earthworms of periodontal training programs.

Scientific symposia are filled with paper after paper dealing with either implants or regeneration. Nowhere are predictable, timeproven techniques such as resective therapy discussed. Even worse, such symposia are curiously devoid of papers discussing "Comparative Periodontology." No one presents papers dealing with treatment planning decisions. When do you resect? When do you regenerate? When do you incorporate implants into the treatment plan? What about combined techniques?

There is no doubt that the field of periodontics has undergone dramatic changes in the last 10 to 15 years. A greater understanding of etiologic agents, the advent of increased predictability with regenerative techniques, and implant therapy have all served to improve clinical results in both the short and long term. However, these therapies are not a panacea. Regenerative techniques are not indicated in all situations. Implant therapy, in addition to subjecting the patient to vastly increased expenses (both financial and temporal), is fraught with its own set of concerns. In short, such therapies are not more of a chimera than their predecessors.

As with all treatment modalities, the newer techniques must be utilized only where applicable. They should be seen as additions to the progressive clinician's armamentarium, not as replacements. Herein lies the danger. If graduate students are not well-versed in all techniques, if they do not fully understand the strengths and weaknesses of each technique in different clinical situations, how do they truly perform ideal therapy for their patients?

Newer treatment modalities, while exciting and ego-fulfilling, must not be championed at the expense of other time-tested, successful clinical approaches. They must be properly incorporated into our training and our treatment decisions. To give these techniques more weight than they truly deserve is a disservice to ourselves, to our patients, and to the future of comprehensive periodontal care.

To once more quote Professor Ehrenfeld: "Make no mistake, I am not talking about the preservation of trivia, but the safe transmission of vital existing knowledge."

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