Guest Editorial

Thinking Allowed

Some years ago I attended a conference sponsored by a prestigious assembly of orthodontists. The leader of the group, in his welcoming remarks, invited visitors to join in a common enterprise of bringing excellence to orthodontics, but he hastened to add that all new members had to treat their patients in a prescribed and undeviating manner. Otherwise, they shouldn't apply for membership.

That was the first time in my then-young career that I had come across an orthodontic ideology. It stunned me to find a group of scientifically trained professionals committed to treating patients in one way only—apparently remaining impervious to other possibilities.

Jean-Francois Revel, the French author and philosopher, has just a published a book called *The Flight from Truth** in which he examines this human tendency to use our minds to protect parochial interests and interpretations. He fears the replacement of our culture of information with a "culture of affirmation."

Revel doesn't think scientists are more honest or virtuous than anyone else. But he concedes that for scientists to behave irrationally and ideologically, they have to abandon the time-honored scientific method. When scientists embrace an ideology, they necessarily discard objectivity and reason. Sometimes such a departure has enormous consequences. An example is the dogged adherence to Lysenko's misguided genetic theory (the inheritance of acquired characteristics) that resulted in agricultural disasters in the Soviet Union.

A principal feature of any totalitarian system, whether political or scientific, is its impermeability to unsanctioned information. Revel concludes, "What characterizes the ideologist who propounds a scientific thesis is that he lays claim to being upheld by scientific demonstrations and experiments while refusing any confrontation with objective knowledge except on terms that suit him and on his specially chosen ground."

Revel believes the power of ideology is rooted in an inherent human lack of curiosity about facts. It isn't that ideas don't interest us; rather, the ideas that hold the most interest are those that are customary and familiar. Science has always had to struggle against this primordial indifference to new knowledge.

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Paul McLean of the National Institute for Mental Health offered an anatomical basis for such behavior more than 20 years ago when he described the three human brains. The oldest, which he called the reptilian brain, comprises the brain stem and certain ganglia; its primary role is directing instinctive functions such as establishing territory, finding shelter, hunting, homing, mating, breeding, forming social hierarchies, and selecting leaders.

The evolving mammal next brought forth a lobe of primitive cortex in a ring surrounding the original brain. This cortex made possible a keener capacity for adapting old ways to new environments and for feeling and expressing wider ranges of emotion. Together, the two early brains are known as the limbic system. The third brain, the neocortex, appeared first in monkeys and apes. It was in this new brain that the human explosion of thinking and reasoning ability took place.

Robert Ardrey, in *The Social Contract,* reminds us that when push comes to shove, 50,000 years of neocortex are no match for several million years of limbic system. But insofar as we succumb to this primitive nature, we sacrifice our individuality and our chief advantage in the world—abstract thought. We would do well to recall Ardrey's conclusion: "It was the individual who created our civilizations . . . the mob speaks no human language. We repress the individual at our peril."

This is not to say that any unorthodox idea should be embraced unquestioningly, because there are probably more bad new ideas than good ones. Any concept must prove itself or, at least, offer a reasonable hypothesis after rigorous testing before it merits endorsement.

Honest disagreements can emerge through different interpretations of the same data, but we are fortunate that scientific disputes tend to be resolved more quickly than political or social ones. Once objective measurements begin and investigators analyze them, the truth cascades from the data. Either one idea then prevails, or some kind of synthesis emerges from the fragments of truth contained in each argument.

Unfortunately, many of our current dental controversies seem more like political or social conflicts. But when one considers what Revel, Ardrey, and others have to say about the sources of ideology, fanaticism, and group behavior, then our disputes over amalgam toxicity, condylar displacement, and the extraction or nonextraction of bicuspids don't seem quite so baffling.

Since the stridency of our arguments stems from the prehistoric, irrational portion of our brains, perhaps a lowering of voices would help. Rather than seeking conscripts to a cause, we ought to encourage dentists to quietly and resolutely seek the truth.

If there is any hope for dentistry—and, indeed, for humanity—it lies in our willingness to process information as truthfully, sincerely, and individually as possible, rather than extracting bits and pieces that fit some predetermined group judgments. That is the scientific process.

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