



## The case against alternative medicine

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It is with great consternation and some concern that I see the intrusion of the unscientific and antirational forces of so-called alternative medicine into our veterinary journals, continuing education conferences, and professional practice lives. Not only do I feel personally affronted by this development, but I believe that, as a profession, we are guilty of abandoning our mandate to protect the public. It is only quite recently and with some difficulty that we have managed to break the connection between veterinary medicine and folklore, quackery, and ignorance, and to bring veterinary medicine to its present place among the other scientific disciplines. I am distressed by the ease with which we seem to be backsliding and by the apparent lack of concern of the veterinary establishment at this state of affairs. The American Veterinary Medical Association's (AVMA's) position paper on this subject (1), for example, which implicitly endorses some of the systems falling under the rubric of alternative medicine, is a particularly egregious example of the success of the assault against science and reason.

The proponents of alternative medicine are benefiting by a timidity on the part of our profession in challenging the assumptions of alternative medicine. We have made a show of deliberating, in our usual careful way, on the merits and minutiae of even the most preposterous claims, without comment on the larger belief system from which the claims arise. While laudable and necessary from a scientific point of view, we hold ourselves, and are held, to a standard of rational discourse held in contempt by the proponents of alternative medicine. In an excess of politeness, I sometimes feel, we leave the notions underlying the competing systems unchallenged. Our reticence, I contend, is an abdication of our responsibility as scientists, as veterinarians, as teachers of the next generation, and as guardians of the health of animals.

### How did we arrive at this state of affairs?

#### Political correctness and moral relativism

Eras of relative enlightenment brought on by social and political freedom have been accompanied historically by tolerance for different forms of religion, allowed expression of varied philosophical systems, and engendered a rejection of orthodoxy. We are living in such an era now, at least in this part of the world. Ironically, we have become subject to another tyranny resulting from

just such freedom: the authoritarianism of political correctness. Thus, our defense of the right of anyone to posit any opinion has become confused with the requirement to respect that opinion, no matter how stupid it may be. Our North American tradition of open-mindedness and antielitism has, in this case, transmuted to empty-mindedness. Buried in this relativistic universe is the notion of scientific *truth*. As preposterous as any idea may appear to be, our newfound fear of being considered intolerant, or politically incorrect, prevents us from saying, "The emperor has no clothes," meaning, these ideas are nonsense. Allied with this is the idea that if knowledge is difficult to attain and is the domain of the few, then it is inherently undemocratic and elitist.

#### Lack of historical education

Proponents of alternative medicine imply that the growth of alternative medicine is a response to the hegemony of modern medicine and, hence, is a modern phenomenon. In truth, the battle is an old one, which has at one time favored the other side, the side of folklore, superstition, hearsay, religion, magic, shamanism, and animism. These forces have always been in the background, struggling for an audience, but, until recently, with muted voice. The advances of science in the last century have been so dramatic that the adherents of superstition were largely overwhelmed; but they never disappeared. Many older veterinarians can remember the challenges they faced in educating their clients about the sense of the newfangled scientific approach and the nonsense of folk medicine and the ministrations of the local quacks. Evans and Barker's history of veterinary medicine in North America (2) or the novel of James Herriot (Alfred Wight) (3) offer many vivid examples that clearly demonstrate the persistent efforts of those opposed to modern medicine and eager to promote their own agenda. When viewed in this historical perspective, the claims of alternative medicine are properly seen as the continuation of a historical antagonism and not as a modern response to a modern problem. The conflict then becomes one of the forces of alternative medicine seeking ascendancy in a battle they have never conceded.

#### Ignorance and poor quality education

Nothing, it seems, is so foreign to the mind as an understanding of statistics. While the general public has trouble with concepts of probability and cause and effect, it is frightening that veterinarians demonstrate the same ignorance and disregard. Challenges to — "Prove it!" — are dismissed with the condescension and sanctimonious contempt typical of the true believer. If there is blame here, it must be laid at the feet of the educators

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entrusted with teaching the fundamentals of scientific inquiry.

### **Public demand**

One popular argument, goes like this: the public *demand*s this technique or that product; therefore, we should provide it. Cognizant of the force of consumer demand in our society, we seem to be willing to sacrifice our principles to satisfy it. A corollary of this argument is that if we don't provide "it," someone else will.

How does this inherently cynical idea work in practice? I recently saw a particularly blatant example of this. A physician, well known to television viewers as a medical correspondent on a popular early morning newsmagazine, takes out a full page advertisement in *People Weekly*. In it, the doctor explains that he has changed his opinion about vitamin supplements. Once, in the dark and ignorant past, he had held that supplements were unnecessary and a waste of money. Now, with his newfound knowledge and, perhaps, as a form of penance, he is offering his own line of products to the public — at a substantial cost.

Pharmacies, seeing which way the wind is blowing through the flocks of confused sheep that make up the vast majority of their customers, have, with great alacrity, cobbled up new displays featuring the "flavor of the day" — vitamins, minerals, nutraceuticals, oils, and potions — thereby coopting the slander that they deal in "unnatural" drugs, and adding, felicitously, to their bottom line.

### **Paranoia**

There is in all the movements of alternative medicine a strong streak of paranoia. Alternative movements are often articulated as a response to a perceived conspiracy: the medical-industrial complex, the medical professional lobby, the scientific establishment, the pet food companies, and any number of cabals that the particular individual perceives and fears.

### **Response to modernism**

The modern era has brought with it a sense of alienation. The older social systems that provided a cultural context for establishing identity have been lost, and the focus has been placed on the individual to find his own meaning and identity. The anxiety of the individual who feels cast adrift has resulted in the proliferation of systems of thought that take, as their basis, a rejection of the modern age. Thus, we see the emergence of "New Age" spirituality, mysticism, magical thinking, paganism, animism. Reason, rationale, and science are considered enemies, as in truth they are. Acceptance of one means rejection of the other. "New Ageism," in particular that bizarre blend of Western and Eastern religion, science fiction, Hollywood sentiment, and carnival hucksterism, all packaged into "Spirituality-Lite," has cast its unfocused spell over medicine as well. Thus, rigor and analytical thought are characteristics of the unenlightened, while sincerity of *belief* and *feelings* are the new guidelines for life (4). Modern life is terrible; therefore, a return to some ancient mythical past and its concepts of the forces of nature is required.

### **Ignorance of the scientific method**

The most egregious flaw in the alternative medicine movement is its utter lack of understanding of the scientific method. This is an accusation that I make against our colleagues, who, after all, should know better, and those who were charged with their education. The fundamental principle that is ignored is that science is not a *system of beliefs* but a *method of finding the truth*. Thus, in arguments with adherents of alternative medicine, I have often heard allusion made to the failure of some technique, surgical or medical, and the conclusion that science is intrinsically flawed as a result. It is true that the catalogue of wrongheaded approaches and treatments in the history of medicine is long. Yet, the failure of any one is not the failure of science. Science is a method that seeks to discover the truth and is predicated on constantly challenging itself and rejecting what is proven to be wrong. But science itself is not truth; it is a mechanism designed to find the truth. Not so with the alternatives. To accept acupuncture, herbalism, homeopathy, chiropractic, colonic purging, and the hundreds of other claimants to legitimacy is to accept the belief system on which they are predicated (5). Disproving any part of these systems results in the collapse of the entire system.

### **What are the arguments of the proponents of alternative medicine?**

#### **Old means valid**

It is difficult to know where to begin to refute what is so self-evidently foolish. Acupuncture, Chinese medicine, Indian medicine, and many other systems are presumed to be effective, merely because they have existed for a long time. Acceptance of such claims at face value is antithetical to common sense, much less science. Yet, it remains popular because the appeal to validity based on the authority bestowed by virtue of antiquity relieves one of the obligation for critical thinking.

#### **The grain of truth**

If one aspect of a system seems to have promise as a therapeutic manipulation, then the entire system must be based on truth. For example, chiropractic manipulation may be of benefit in some cases of lower back pain in humans; ergo, the chiropractic tenets of most (all?) disease being caused by malaligned spines is accepted as valid. Or, acupuncture may have some effect on relieving pain; therefore, the entire field based on meridians and energy flows must be true. Aspirin is derived from a plant; therefore, plants are better than pills. Again, logic is a stranger to these arguments.

#### **Opponents of alternative medicine are motivated by self-interest**

This canard fits snugly into the views of the paranoid elements, the scoundrels, and the gullible. Frequent allusions to "turf wars" to describe the motivations of opponents are a ploy to discredit the credibility of the opponents and their arguments. It may be bad manners to point this out, but it is the proponents of alternative medicine who seem to have the most to gain in the "turf wars." Acceptance of their case is almost always

accompanied by a call to buy whatever nostrums they are selling, or books or therapies they are promoting. As the alternative medicine movement gains more credibility in our largely insentient consumer society, more and more money, in the billions of dollars annually, is spent on those businesses. Yet, we are to pretend that these advocates are motivated by the purest of impulses, even as their hands are in our wallets. In the battle over "turf," one salient point has been overlooked: Organized medicine has been given its "monopoly" by society, not to exalt one segment of society at the expense of another, but to serve as its watchdog, entrusted with the responsibility of protecting it from false claims and unscrupulous charlatans.

### **Evidence-based science is not applicable to everything**

This is an example of the semantic distortions used to deflect attention away from the need to investigate and prove claims. It represents a failure of either intellect or ethics on the part of medical professionals to accept this statement. In place of proof in the form of well-designed studies, we are offered *truth by declaration*. In place of "evidence," we are offered testimonials, unaudited experiments, anecdotes, and a hodgepodge of pseudoscience mingled with mysticism.

Underlying all the organized forms of alternative medicine is an underlying system of thought from which all conclusions derive. These underlying verities are not verifiable via experimentation. Nor are the actions taken in the name of these systems of alternative medicine considered to be subject to the scrutiny of experimental design.

### **There are no placebo effects in animals**

This may be true. But there are definitely placebo effects in their owners. How many of us have seen owners so desperate to help their pets that they will convince themselves, in spite of objective evidence to the contrary, that whatever it is that is being done is working? I can recall the case of a St. Bernard suffering with cancer that had invaded her abdominal organs. When I first saw her, her belly was full of fluid, and I could feel substantial masses on her liver and spleen. A few weeks later, the owner returned with the news that the dog had been treated with a naturopathic mixture and that she was now vastly improved. On examination, I saw a dog whose belly was more distended than before. She was now cachectic and lethargic, and looked, by any measure, to be sicker than before. The owner remained convinced that his dog was on the road to recovery. She died soon after. This is the placebo effect by proxy and is, of course, the reason why we have double-blind studies, so that the natural human impulse of wishful thinking should not distort the results.

### **Pseudoscience**

It is easy to pull the wool over people's eyes by using language stolen from science in order to give credence to some fanciful claim. It is an old and venerable scam. For example, the Echinacea plant was introduced in 1885 and was touted as a "blood purifier" (6). Today, it "hastens the elimination of toxins", "possesses a general

antiseptic property," and "stimulates the immune system" (7). Most of these agents perform varied and ambiguous tasks treating conditions that are notable more for their semantic creativity than for their actual existence. A partial list would include agents that accomplish such tasks as cleansing the blood, detoxifying the blood, enhancing the immune system, improving digestion, slowing aging, reducing oxidative stresses, modulating the immune system, realigning energy, etc. (5,7). These phrases, vague and unverifiable, have an intuitive appeal to the unsophisticated layperson who is neither accustomed to nor interested in challenging scientific notions.

### **Accreditation and licensing are necessary**

In this new age where everyone's ideas are valid, it is ironic that there should be a call for licensing by the very people who decry the medical establishment's use of licensing. Their justification is that licensing will elevate standards and protect the public. This is putting the cart before the horse. In reality, the call for licensing is an attempt to enhance the credibility of an unproven practice and to give it legitimization in the eyes of the public. Once given the rights and privileges of accreditation, there is less need to prove the fundamental worth of the practice.

Practitioners of alternative medicine seek "to have it both ways." They want to employ unscientific techniques on their patients, but they don't want nonveterinarians to do so. Why? Is a veterinarian who promotes quackery any less of a charlatan if he also knows how to take an x-ray, or if he knows that certain laboratory tests indicate disease and then prescribes a course of treatment for which there is neither proof of efficacy nor a logical reason to expect such? What argument can one make to nonveterinarians that they are less qualified to practise massaging, laying on of hands, ear candling, coffee enemas, or any of the hundreds of other foolish techniques? If proof of the worth of a technique is not needed, then quackery is on an equal footing with veterinary medicine, and exclusion of lay people makes no sense.

### **Reductivism versus holism**

It is a shame to be compelled to counter the argument that scientists inevitably lose sight of the whole by focusing investigation on its constituents. It is simply not true. The word "holistic" is another semantic diversion devoid of actual meaning. It properly belongs in the realm of advertising where it appears to perform at its protean best. It is an attempt to elevate the stature of its adherents at the expense of "ordinary" practitioners.

If we continue to allow our profession to be manipulated by the elements I have noted above, we will lose all of the gains we have made in the last generation, gains in our ability to acquire new knowledge, help our patients, and maintain our position in the scientific community. We must require of the alternative medicine adherents the same proof that we require of any therapeutic claimant. We should not be dissuaded by misguided applications of the principles of equality and open-mindedness to accept, willy-nilly, any notion that is presented. We must reexamine the way in which we

educate veterinarians, so that they properly understand the meaning of scientific methodology. To do less would be to fail our patients, the public, and the search for knowledge.

Well-intentioned but wrong-headed initiatives, such as the position of the AVMA on alternative practices, should be reversed. It is a mistake that is an assault against reason. It is a Trojan horse that has been allowed into our city because the sentries of reason and logic were asleep at their post.

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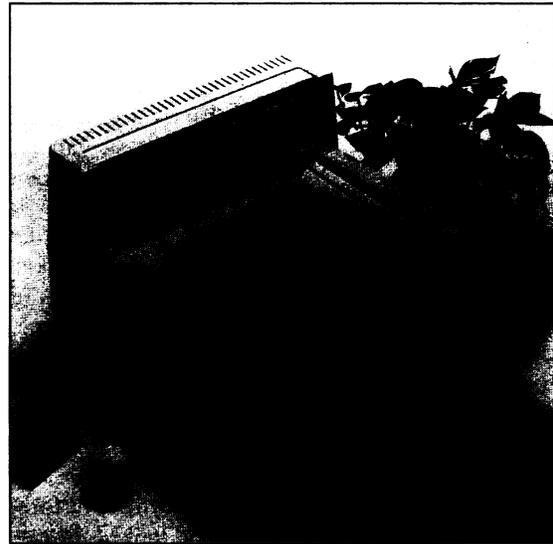
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