

## **STATEMENT OF THE POSITION OF THE IOWA ACADEMY OF SCIENCE ON PSEUDOSCIENCE**

**July, 1986**

The Iowa Academy of Science strongly opposes the public promotion of pseudoscience, whether through the media, the legislature, or classrooms of accredited educational institutions of Iowa.

Pseudoscience is a catch-all term for nay mistaken or unsupported beliefs that are cloaked in the disguise of scientific credibility. Examples include assertions of scientific creationism, the control of actions at a distance through mediation, and the belief in levitation, astrology or UFO visitors. While the IAS opposes the promotion of such beliefs, it does not oppose critical examination of them, either in the public media or in the classrooms. Indeed, there is much to be learned from critical examination of pseudoscience.

One main concern is public confusion over what science is and what it is not. This cannot be resolved merely by contriving tighter definitions of science or its methods. In fact, authoritative definitions inadvertently provide a model that counterfeiters need in order to better fashion their "cloaks of scientific credibility." To clear up the confusion between real and bogus science we must not focus on their definitions, but on their differences.

In contrast to pseudoscientists, scientists seek out, expose and correct any logical fallacies or other errors which could weaken their theories or interpretations. To assure complete scrutiny, open criticism is not only tolerated but often rewarded, particularly when it results in significant revisions of established views. The debate is held in refereed scientific journals and in meetings, and anyone, well known or not, can submit pro or con arguments for publication or presentation before our peers.

By contrast, open criticism is not welcomed by pseudoscientists. They usually avoid publishing in refereed scientific journals, and subsequently their theories are not self-correcting; thus they fail to experience the progressive changes characteristic of science. Astrology and creationism, for example, have experienced nothing comparable to Copernican or Darwinian revolutions (paradigm shifts) which have occurred in astronomy and biology.

The Iowa Academy of Science is prepared to assist citizens, teachers, public officials and the media who seek information on issues involving science and pseudoscience/

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