

From the Editor

Small Careful Steps

It was a good year, 1969. The United States and Russia signed a non-proliferation agreement in hopes of containing the growing build-up of nuclear weapons. Nearly 400,000 people gathered at Max Yasgur's dairy farm near Woodstock, NY, for a music and arts festival. But most notably that year, the crew of Apollo 11 flew their mission to the Moon and on July 20th, Neil Armstrong and Buzz Aldrin made the first human footprints on the dusty lunar surface. One billion people heard Neil Armstrong say those famous words, **"That's one small step for man, and one giant leap for mankind."** Armstrong misspoke; what he intended to say was, "That is one small step for a man . . ." But somehow the article "a" was lost across the 238,000-mile transmission from his cerebral cortex to earth. Neil Armstrong later wrote, **"I believed that a successful lunar landing could, might, inspire men around the world to believe that impossible goals were possible."**

In the very last days of 1968, just eight months before the moonwalk, another notable small step was taken. It was not quite world news worthy, but nonetheless, was of great significance for the world of cardiovascular perfusionists. In December of 1968, the Journal of ExtraCorporeal Technology (JECT) was first published. In an early issue, the founding editor, Ed Berger, stated that the journal's primary purpose was for disseminating information. He stressed that the audience and contributors of the journal should be broad, including technologists, physicians, nurses, administrators, designers, engineers, and manufacturers. The journey continues; at this moment you are reading from the thirty-eighth volume of the journal. This represents page upon pages of useful information, each perhaps a small step. Today there are more than 2000 subscribers from all over the globe that read JECT. Our editorial board is composed of leaders in our field from eleven countries, more than 75% of which are currently credentialed and clinically active perfusionists. The Journal is indexed in Pub Med and the Cumulative Index of Nursing and Allied Health Literature. All that have served or published in the journal since its inception has made this a journey of continuous progress.

In May of 1953, the late John H. Gibbon's small step and great leap at Jefferson Hospital in Pennsylvania, much like the lunar landing, inspired the belief that sometimes we can attain that which seems impossible. Later, in his Presidential address to the Society of Thoracic Surgeons, he shared important insights about the journey of scientific investigation entitled *The Road Ahead for Thoracic Surgery*. **"The essential requirement,"** he wrote, **"is the investigator himself (herself) who must . . . dig knowledge from the morass of ignorance around us."** He went on to list qualities of an investigator. Honesty, attention to detail, and the ability to be critical of his research were listed as essential qualities. Gibbon cited common errors of scientific investigation that remain relevant to this day. His list of common errors of scientific investigation included: lack of adequate review of the literature, poor experimental design, failure to evaluate the



Robert Groom

investigative work on a day to day basis, lack of adequate controls, failure to report *all* results, drawing unwarranted conclusions from the experimental data, and unintelligent application and appreciation of statistical method.

Gibbon was telling the members of the Society of Thoracic Surgeons to watch their step. The discovery of fabricated results published in a high profile article on stem cell research in the journal *Science* in May of last year is a modern day example of the shame, outrage, and loss of public trust that follow carelessness, dishonesty, and a loss of objectivity. We are all vulnerable, and we must be ever vigilant. Bias preys on objectivity and, in extreme cases, it devours integrity. Stephen Jay Gould, the renowned Harvard Paleontologist, once said, **"Objectivity cannot be equated with mental blankness; rather, objectivity resides in recognizing your preferences and then subjecting them to especially harsh scrutiny and also in a willingness to revise or abandon your theories when the tests fail (as they usually do)."**

This issue features an invited editorial, *A Primer on Randomized Clinical Trials*, from Donald Likosky, PhD., an epidemiologist from Dartmouth Hitchcock Medical Center. Dr Likosky has agreed to write a series of editorials on study design and statistical methods. I am also pleased to announce that he is joining our editorial board as Associate Editor of Epidemiology and Statistics. His participation will serve to further strengthen our distinguished editorial board. Also featured in this issue are proceedings of the inaugural Perfusion Downunder Winter Meeting held in Queenstown, New Zealand, August 18–21, 2005: a superb collection of presentations provided by guest editors, Robert A. Baker, PhD, CCP (Aust.) and Timothy Wilcox, CCP (Aust.). We are pleased to publish abstracts of papers to be presented at AmSECT 44th International Convention that will take place in Las Vegas, Nevada, April 19–22, 2006.

One small step in December of 1968 was the beginning of a journey that now spans the globe!

Where do we go from here? On January 19th (the date of this writing), NASA launched the first space mission to Pluto, a nine-year, three-billion-mile journey to the edge of the solar system.

**"A journey of a thousand miles begins with a single step."
Lao-tzu (604 BC–531 BC)**

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Editor