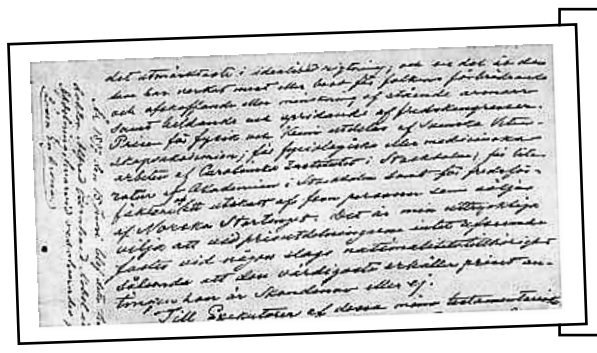
THIS YEAR'S NOBEL PRIZE IN MEDICINE

The shameful wrong that is a flagrant violation of Alfred Nobel's will

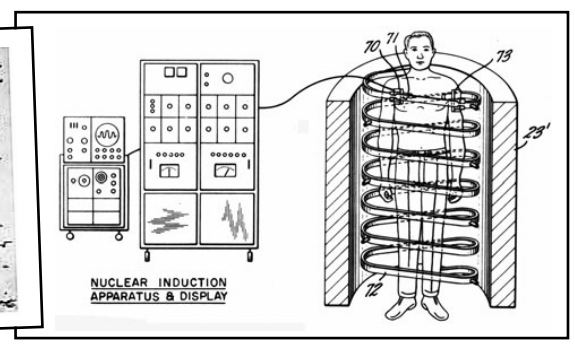
THE WILL OF ALFRED NOBEL, SHAMEFULLY VIOLATED



"I, Alfred Nobel, hereby declare ...

The whole of my remaining realizable estate shall be dealt with in the following way: the capital, invested in safe securities by my executors, shall constitute a fund, the interest on which shall be annually distributed in the form of prizes to those who, during the preceding year, shall have conferred the ***greatest benefit on mankind.*** *The said interest shall be divided into five equal parts, which shall be apportioned as follows: one part to the person who shall have made the most important* ***discovery or invention within the field of physics;*** *one part to the person who shall have made the most important* ***chemical discovery or improvement;*** *one part to the person who shall have made the most important* ***discovery within the domain of physiology or medicine;*** *one part to the person who shall have produced in the field of literature the most outstanding work in an ideal direction; and one part to the person who shall have done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies and for the holding and promotion of peace congresses."*

THE MRI DISCOVERY OF RAYMOND DAMADIAN, SHAMEFULLY EXCLUDED



Raymond Damadian's "Apparatus and method for detecting cancer in tissue," US patent 3789832, filed 17 March 1972, issued 5 February 1974. Image from the US Patent and Trademark Office. [Drawing and caption from the textbook.]

Here is the true history of the MRI, as presented in the recent medical textbook *MRI From Picture to Proton* (Cambridge University Press, UK, 2003):[2] "The initial concept for the medical application of NMR, as it was then called [nuclear magnetic resonance], originated with the **discovery** by Raymond Damadian in 1971 that certain mouse tumours displayed elevated relaxation times compared with normal tissues in vitro. This exciting **discovery** opened the door for a complete new way of imaging the human body where the potential contrast between tissues and disease was many times greater than that offered by X-ray technology and ultrasound. At the same time developments in cryogenics, or the study of very low temperatures, made the development of whole-body superconducting magnets possible. Damadian and his colleagues at the State University of New York, starved of mainstream research funding, went so far as to design and build their own superconducting magnet operating in their Brooklyn laboratory and the first human body image by NMR is attributed to them....

"In 1973, in an article in *Nature*, Paul Lauterbur proposed using magnetic field gradients to distinguish between NMR signals originating from different locations. This is the basis of all modern MRI. Unfortunately, Lauterbur's brilliant **invention** was not accompanied by a brilliant acronym... Selective excitation, or the sensitization of tomographic image slices, was **invented** at the University of Nottingham, England, in 1974 by Sir Peter Mansfield's group...

"So what were NMR researchers doing between the forties [when the NMR phenomenon was discovered] and the seventies—that's a long time in cultural and scientific terms. The answer is: they were doing chemistry, including Lauterbur, a professor of chemistry at the same institution as Damadian. NMR developed into a laboratory spectroscopic technique capable of examining the molecular structure of compounds, until Damadian's ground-breaking **discovery** in 1971."

In our continuing effort to right the shameful wrong that has been done to Raymond Damadian, M. D., by this year's Nobel Prize Committee for Physiology or Medicine in excluding him from the award for the MRI, we now share with you why his exclusion is a flagrant violation of the last will and testament of Alfred Nobel, which the Committee apparently plans to ignore at the prize ceremony on the night of December 10th.

As you see by reading Alfred Nobel's will, he meticulously distinguishes between a **discovery** and an **invention.** Why? He is recognizing the classical distinction between basic science (discovery) and applied science (technology or inventions). Since he recognizes the difference painstakingly, it is the fiduciary responsibility of those entrusted with the implementation of his will to honor it to the letter.

For example, in physics he wills: "one part [shall be awarded] to the person who shall have made the most important **discovery or invention** within the field of physics." Nobel is stating that as far as his will is concerned, invention is **not** discovery.

On the other hand, when he specifies what the award shall be given for in physiology or medicine, he states very clearly: "one part [shall be awarded] to the person who shall have made the most important **discovery** within the domain of physiology or medicine."

He intentionally limits the prize to **discovery and does not allow it to be given for invention.**

THE FLAGRANT VIOLATION OF ALFRED NOBEL'S WILL

This year's Nobel Committee for Physiology or Medicine has decided the prize will honor **only inventions,** while they have willfully excluded the "exciting **discovery** [that] opened the door for a complete new way of imaging the human body where the potential contrast between tissues and disease was many times greater than that offered by X-ray technology and ultrasound."[2]

One of the winners himself, Paul Lauterbur, regarded his contribution as an invention. He sought a patent. Patents are not granted for discoveries. SUNY's patent prosecution agent wrote "... your scanning **invention** ... we have regretfully decided not to accept ..."[3]

The contributions of both winners were, in fact, **inventions** that improved the point-by-point scanning method Dr. Damadian invented to record the signals he discovered—and the method by which he achieved the world's first MR scan of a living human being.

RAYMOND DAMADIAN'S SELF-EVIDENT PRIORITY

As reported in *The Downstate Reporter* in the Spring of 1971,[4] far ahead of any MR contributions by Lauterbur or Mansfield: "Already, Dr. Damadian is planning to build a much larger nuclear magnetic resonance device, one that will be big enough to hold a human being." In the same issue, Dr. Damadian further outlined the method he would use to accomplish the 3D spatial resolution needed for a scan. "The proposed NMR device for detecting cancer in humans would not have to be highly elaborate," Dr. Damadian said. "It would consist of a large coil to emit radio waves and a movable magnet to create the magnetic field required. The coil would be wrapped around the patient's chest, while the magnet passed back and forth across the body. A detector would pick up NMR emissions for analysis."[5]

This landmark disclosure of Dr. Damadian's intentions to scan the human body by NMR to detect cancer and his first disclosure of a method for achieving the 3D spatial resolution needed to accomplish a scan of the human body by NMR was published in *The Downstate Reporter* 18 months before Lauterbur reported his back-projection gradient method for NMR scanning, which he did not submit for publication until October 1972 and which was not published in *Nature* until March 1973.

Damadian's first thoughts of using NMR in biomedical research actually came to him way back in 1963 when he was a postdoctorial research fellow at Harvard. He was researching salt and water behavior within living cells. His original discovery of the strong cancer signal that originated MRI grows out of the different ways the structure of water within tissues responds to magnetic resonance.

ALFRED NOBEL WOULD NOT QUALIFY FOR HIS OWN AWARD

Imagine how awry the decision-making process has gone! A leading Swedish inventor recently flew from Stockholm to New York to corroborate that the Nobel Committee willfully ignores Nobel's will. He brought with him a video tape that ran nationally on Swedish television. On the tape, the Secretary of the Nobel Committee of Physics, Anders Barany, actually states, "If an invention is so practical that you can patent it and make money from it, the academy should not give the prize to such, and instead give the prize to discoveries within science." Sorry, we didn't think the Nobel Prize was about money. We thought it's about the recognition of scientific achievement.

Unfortunately, Nobel held 355 patents on his **inventions.** So Alfred Nobel would not qualify for his own prize!

THE DISCOVERY THAT MADE MRI HAPPEN. Dr. Damadian with the NMR instrument he used to discover the cancer-detecting MR signal.

WILLY-NILLY WITH THE WILL

Actually, the Nobel Committee seems to honor or violate Nobel's will whenever it chooses.

In 1954 the Committee chose to honor it.[6] They excluded Jonas Salk from the polio prize in medicine, because his contribution was a technique, **not a discovery.** Yet in 1979 they violated it. They gave the prize in medicine for the CAT scanner to two individuals for their "independent **development** [not discovery] of computer-assisted tomography (CAT scan)." In this instance, they did not even bother to disguise the violation of Nobel's will with the deceptive inclusion of the word "discovery," as they did with the announcement of this year's prize for MRI.

THE TWO WINNERS KNOW BETTER,[7] SO DOES THE COMMITTEE

Paul Lauterbur, in his witnessed notebook entry, which he made at the moment he thought to use a magnetic gradient for scanning, credits Damadian's March 1971 paper in *Science*. (The magnetic gradient was invented Gabillard.) Lauterbur also added Damadian's tissue discovery to his first paper to persuade *Nature* to publish it. (March 1973.) He needed a significant application to convince the editors of the importance of his idea and used Damadian's cancer-signal discovery. Yet, despite citing Damadian's priority in his private notebook, he did not credit Damadian in his published paper. In fact, he attributed Damadian's work to a subsequent author.

Peter Mansfield only began to think about imaging when Damadian's tissue discovery was brought to his attention. "So it certainly had an influence," Mansfield said. "I think Damadian's work had some influence on everyone."

So why on earth did the Committee exclude Dr. Damadian?

Since idealism seems to be falling on deaf ears, let us finally trot out the regrettable facts. Over the years Paul Lauterbur has refused to credit Damadian publicly. In addition to neglecting to credit Damadian in his first paper, he also refused to credit him in a lengthy series of papers over many years. To add insult to injury, he has even said repeatedly that if Damadian were included in the prize, he would refuse it. Apparently, the committee decided to let him have his way.

This decision is an outrage. The Nobel Prize is not about a game of favorites or a personality contest. It's about the truth of science. They should have named three winners and let the ones who have respect for the award show up to accept it.

IF ALFRED NOBEL WERE ALIVE, WHAT WOULD HE SAY?

The true history of MRI was meticulously and repeatedly provided to the Nobel Committee for Physiology or Medicine since Raymond Damadian's repeated nomination for the prize over the years. So the Nobel Committee knew all too well the wrong they were perpetrating. Their attempt to cover up the flagrant violation of Nobel's will is evident in their deliberate mislabeling of the contributions of the two winners. They were selected: "for certain discoveries concerning magnetic resonance imaging." What discoveries?

HERE ARE THREE OF ALFRED NOBEL'S APHORISMS:[1]

"Lying is the greatest of all sins."

"The truthful man is usually defeated by the liar."

"The best excuse for the fallen ones is that Madame Justice herself is one of them."

TO THOSE WHO PLAN TO ATTEND THE NOBEL PRIZE CEREMONY

We appeal to all right-minded people to help us right the shameful wrong done by this year's Nobel Prize Committee for Medicine.

At this time, we make a special appeal to those who plan to attend the prize ceremony on the evening of December 10th.

As so far planned, the ceremony must devolve into an empty show of Nobel's will meretriciously violated and Damadian's true merit illegitimately sealed out. On the other hand, the prompt corrective inclusion of Raymond Damadian as the third recipient of this year's prize in medicine will transform the charade now in prospect into an honorable ceremony.

Should the Nobel Committee continue to defy the wording of Alfred Nobel's will and the self-evident deserving of Raymond Damadian, where will you be on the evening of December 10th?

On such a night, even the King might want to make his excuses.

THREE WINNERS CAN BE NAMED

If the truth had prevailed, the Committee would have named three winners. It is still not too late for those in the Committee who know the wrong that has been done to step forward and prevail.

We grant the Committee the right to award the prize to anyone they choose. But we will never grant them the right to rewrite history.

Demand now a Nobel Prize ceremony proudly illuminated by the light of justice done to the founder's last will and to an inventor's distinguished vivification of it.

Join your voice to the worldwide outcry, now.

A FOOTNOTE TO HISTORY

Should we fail to right the shameful wrong of Raymond Damadian's exclusion from this year's Nobel Prize for Medicine, where will the truly lasting damage affix itself? For over 30 years Raymond V. Damadian, M. D., has been credited with the signal discovery that opened the door to all MR medical scanning. His landmark MR tissue-signal discoveries will forever shine out as the charter for MR medical imaging. He will also continue to be credited with far more original contributions to the development of the MRI than any other scientist. Raymond Damadian is very securely in the history books.

What will now begin to appear in history books is that the Nobel Prize was given to two men who made technical improvements on Damadian's "ground-breaking discovery" and his other foundational contributions to MRI—technical improvements that have long since been replaced by additional improvements contributed by a brilliant train of other scientists.

To all those who know better—medical doctors, Ph.D.'s, and other informed readers—the shameful wrong done to Raymond Damadian and the flagrant violation of Alfred Nobel's will it entails cannot help but be viewed with scorn for what it is so obviously and shamefully: The misguided attempt of the Committee to transfer a long-honored medical doctor's life's work to their research cronies.

In the face of the shameful wrong done to him, Raymond Damadian has once again shown the indomitable spirit to which we truly owe the MRI—the spirit that persisted even when the machine he alone envisioned was almost universally ridiculed in scientific circles with such moronic expletives as "visionary nonsense." In the face of all that scorn, he stood his ground and he called his machine Indomitable. Today he has also stood his ground, not only for himself, but to help assure that all those medical doctors and other scientists who have found their calling in research and all those who will come after him can trust that their achievements will be judged in the pure light of the truth. It is the minimal requirement of any credible award—particularly one that hopes to commend these dedicated seekers after truth—that its singular allegiance is to the labor of research and to the glory of inspiration that characterize the adventure of scientific discovery. Only then may any award deserve the distinction of being considered commensurate with the truth of science.

All potential beneficiaries of Nobel's will—that is, all current and future candidates for the Nobel Prize—have the right to expect the terms of Nobel's will to be faithfully adhered to. Such adherence is not only ethically correct. It's the law.

Regardless of what happens with this year's Nobel Prize in Medicine, some values are, thankfully, beyond the grasp of cunning. Dr. Raymond Damadian will continue to rest easy in the National Inventors Hall of Fame of the U.S. Patent Office, into which he was inducted as the inventor of the MRI in 1989. He will remain in this hallowed hall in the distinguished company of the other great inventors who have been honored by induction into it, including, ironically enough, Alfred Nobel. In looking over the brilliant contributors to science who are enshrined in the hall, we note that an occasional inductee has also been awarded the Nobel Prize. Yet what is most conspicuous is that the vast majority of these unquestionably deserving benefactors of humanity have managed to maintain their place in history without having been awarded that particular prize. For example, since the Nobel began we find among the excluded Edison, Bell, the Wright Brothers, Tesla, Marconi, Diesel, Goddard, Sikorsky and now, apparently, Raymond Damadian.

THE REGRETTABLE DECLINE IN PRESTIGE OF THE NOBEL PRIZE

A prize is in itself neutral, a mere medal and money. What gives it any prestige worth high consideration is an eminently laudable selection process, the accumulated merit of those on whom it is bestowed, and the admiration consequent to both instances of excellence. The tragic descent of the Nobel Prize has not only been the step down from excellence in its selection process but the unreasonably high estimation accorded the prize by the scientific community.

So far has excess in the pursuit of the prize gone that the heady chase after it now often takes precedence over the inspired pursuit of scientific truth. Today projects are often funded, not so much on the unadulterated intuition that they might confer the greatest benefit to humanity, but on a cynical bet that a successful outcome just might win the Nobel Prize.

Newton didn't need the Nobel Prize for gravity. Einstein didn't get it for relativity. It is high time for the men and women of science to reassert the primacy of the unblinking quest for truth.

Paid for by The Friends of Raymond Damadian
Contact DanielCulver@aol.com or call him at 631-694-2929.

Write to: The Nobel Committee for Physiology or Medicine, Nobel Forum, Box 270 SE – 171 77 Stockholm, Sweden **E-Mail to:** secr@mednobel.ki.se **Or call:** 011-46-8-585-823-44 • 011-46-8-662-64-31 • 011-46-8-51-77-45-00

1. Nobel E-Museum 2. *MRI From Picture to Proton*, Cambridge University Press, UK, 2003 3. *The Pioneers of NMR and Magnetic Resonance in Medicine*, Bar-Ilan University Press, Ramat Gan, Israel, 1996, p. 724, p. 725 4. This was Dr. Damadian's restatement of his 1969 written proposal to build a cancer-detecting body scanner as the basis of his request for research funds from The Health Research Council of the City of New York 5. Subsequently, detailed in his March 1972 patent. The method outlined in *The Downstate Reporter* and patented by Damadian was the method with which he achieved the first scan of a human being on July 3, 1977, and shortly afterward scans of patients with cancer 6. *Makers of Modern Science: Jonas Salk*, V. Sharrow, 1993, New York: Facts of File, 1993 7. *A Machine Called Indomitable*, by Sonny Kleinfield, Times Books, Inc., 1985 Additional documentation can be found at www.fonar.com