



## **Readings II in Faith & Science**

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### **The Inner Environment**

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## The Inner Environment

[After 31 years as a research chemist at Monsanto, Dr. Greenley is now semi-retired. He composes and publishes a 20-page monthly newsletter for the technical community of Pfizer. He also coordinates an annual symposium for the Pfizer Fellow program. Also, he referees articles for the **Journal of Applied Polymer Science** and does speaking tours on scientific creativity for the American Chemical Society.]

### Editor's Note:

Dr. Greenley is commenting on issues that were raised at the March, 1990 ITEST Workshop on *The Inner Environment: Clinical Research, Health Care Delivery and Economics*. Quotations in italics and bold italics are from the Proceedings of that Workshop.

**1. (Modern day health care is expensive and it is growing more expensive every year. . . . Many medical economists argue that mega-increases in health care costs have been driven by discoveries resulting from clinical research which has provided us with unique and expensive biotechnology. As a consequence, one of the major considerations relating to the future of clinical investigation that must be examined is whether we can any longer afford human research, if it only results in developing expensive technology with limited application.) (page 3.)**

Are such proposals realistic in view of the expectations that have developed through the pushing of new and better techniques? Can we afford increasingly sophisticated medical technology? Can today's physicians and health care personnel operate effectively without all of the newer technology?

*(Some have argued that future clinical research should not be concentrating on sophisticated biotechnology but rather on finding ways of best distributing the technology and pharmacology that is already available. It has been recommended that future clinical research should emphasize prevention of disease and improvement in life style. Additionally, clinical studies should focus on providing greater efficiency in the delivery of overall health care, concentrating on "mass distribution," rather than limiting the application of expensive bio-technology to a few, like heart transplantation and costly chemotherapy.*

*Regardless of the overwhelming economical factors, which will surely play a significant part in the design of clinical research, it must be acknowledged that there will be much better methods at hand to conduct human experimentation. Some of these are obvious: the great advancement in the use of computers and communicative systems will, undoubtedly, link geographically distanced centers to each other in such a way that shared data banks, thereby enabling each investigator, regardless of distance or location, to be able to instantaneously update his or her own research on the basis of an immediate review of the results of other investigators. This will have immediate dividends in planning international cooperatives, resulting in better designed clinical studies and rapid inter-group comparisons to reinforce or eliminate unique investigations.*

*One might ask: What areas will form the basis for future clinical investigation? Certainly, the Decade of the Brain has been proclaimed for the 90's and we will surely see a quantum jump in neuropharmacological investigation for such brain diseases as Alzheimer's, Parkinsonism, stroke and mental abnormalities. Certainly, vastly important studies will be initiated in attempting to find a chemotherapeutic or immunological cure for cancer. These investigations will be strongly based on molecular biology and genetics.) (pages 3 & 4.)*

Will there be any ethical problems with the ongoing research on the brain. We must remember that "dead brains" will be of little use to researchers. Will we use fetal brains for such research? What are the chances of our ending up trying to direct our affective and cognitive lives with pharmaceuticals?

**2. (Organ transplantation is already with us, but, because of the shortage of organs, we may well find that a new era will be ushered in whereby organs from large mammals, notably subhuman primates, will provide a source of replacement for diseased human organs.) (page 4.)**

There are easy questions about the recipient being less than human. Perhaps in the light of the Animal Rights debate, should animals be used in this way? More broadly, what should be our treatment of animals?

**3. (Are there areas that represent limits as far as clinical investigation is concerned? In other words, are there human biological problems, either normal or abnormal, that ethically and morally should not be investigated? At the present time, there are serious ethical reservations about the broad area of in vitro fertilization and, specifically as it relates to experiments that would be conducted on human embryos at the very earliest stages of development.) (page 5.)**

*Another area of concern deals with the use of the human fetus for experimental study (such as cell culture) or transplantation (Alzheimer's, Parkinson's). (page 5.)*

Why does the Catholic Church object to in vitro fertilization? What are the objections to the experimental study of human embryos? Why should (or should not) we use fetal tissue for transplants? Is the fetus/embryo a human being? a person?

Further, and on both a theoretical and practical basis, can we legitimately assume that it is possible to set limits on future investigation? What about the restrictions that several European countries are legislating in areas of molecular biology and embryology? Will they be effective in the country doing the legislation? Will they be effective in view of the fact that such work will proceed in other countries? Is there anything the churches can do about such research? If so, what?

**4. Today the physician passes [material] out as information from which the patient makes a decision about choice of treatment plan. (page 9)**

Rather than a “multiple choice” option for patients, should the physician merely use his/her best judgment with respect to treatment? Would it be more appropriate for doctor and patient together to work out the treatment protocol? What in reality is “informed consent”? Is there honestly such a thing in real-life situations?

**5. Without a third party payer, patients will not have the financial means to avail themselves of these services. The patient is now frightened and yearns to give back to the physician the role of nurturer and the advocate of the patient. The physician, too, yearns for a simpler relationship. Since much of disease is either self-inflicted or exacerbated by a lack of self care, the patient's lack of follow through on advice/recommendations is frequently responsible for the patient requiring expensive care. The physician is in conflict in the roles of nurturer and advocate. Now he is also valued by the patient for wisdom. The clock, however, cannot be turned back. (page 11)**

Is this the actual state of the patient/physician relationship? Is the doctor seen as a “savior” in matters concerning health? Are patients really their own worst enemies? What should the ideal relationship be between a patient and a physician or health care professional? Why and how did we get into the current model? Why can't we turn the clock back?

**6. Can a physician who provides care when a patient has been injured (frequently as a result of not following recommendations of wearing a seat belt when a car is in motion) be subject to suit for less than optimal outcome? Yes! (page 13)**

Is this appropriate? Is there any real reason why a doctor should be shielded from legal consequences in the case of any “less than optimal outcomes”? Is malpractice the way to improve doctors' performance? Is malpractice merely a punitive practice?

**7. There are four new horsemen of the Apocalypse. One of them is AIDS. Another is drug use and alcoholism. The third is trauma. (If you think trauma is not one, note that in 1987 the costs for trauma, much of it dealing with rehabilitation, was \$133 billion. And the final one is us - the aging population. (page 25)**

With the high cost of medical treatment, should there be an age-related cut-off of treatment? For example, people over 75 with Alzheimer's or severe strokes or the like? Should very expensive medical treatment be reserved for the relatively young?

**8. Very often the researcher doesn't need a double blind study. That's what the people with AIDS are saying and that is what the people in the FDA have realized in mitigating some of the requirements for the use of drugs that are questionable. [Also true for cancer treatments.] (page 29)**

A whole range of questions swirl about the use of medications which, say, may be addictive. For example, why is the use of marijuana proscribed for patients with glaucoma or with illness from various forms of chemotherapy? Why are people dying of very painful conditions denied the use of heroin? Does it make sense to forbid the medicinal use of heroin to the terminally ill? Should new pharmaceuticals or treatments be rushed through the regulatory process in the hope that they might help a particular class of people? If so, why? If not, why not?

**9. Maybe as the [embryo] approaches the one cell entity, it may not be called an embryo; but when it starts to divide, it's an embryo. [The Church] says that abortion is wrong because the entity, which is the fertilized ovum, will become a human being. (page 61)**

What does the Church actually say here? Does anyone here know? Is anyone willing to do some research on this?

**10. Dr. Margaret Hagemann mentioned that physicians were not philosophers and theologians, but scientists. I agree but I'll exaggerate in order to make the point? maybe it won't be accepted, but at least it will have been made. I will exaggerate by saying that physicians are scientists but they don't listen to any philosophers or any theologians. (page 70)**

Is this true or is it stereotyping? Or are all (or most or many) scientists adverse to listening to people from other disciplines or from institutions like the churches or political society? This leads to the question of both personal and professional humility? Is this a good? Does any professional group (definitely including philosophers and theologians) exhibit anything resembling humility or modesty? What, by the way, is humility? How would it work out in "my" professional life?

**11. Is the purpose of medicine to prolong physiological function when there is no possibility of restoring or sustaining cognitive/affective function? (page 96)**

Is this simply another way of asking what a human being is? Is there anything in human dignity violated by a refusal to "prolong physiological function"? Is a person in a coma able to demonstrate "cognitive/affective function"? Is there a "vegetative state" for human beings? If so, what are the criteria for defining it? Is it proper to withhold nutrition and hydration from a person in a "persistent vegetative state"? Is biblical morality (See, say, Matthew 25: 31-46) of any value in discussing modern living, in this case, health care?

**12. The teaching of the Church is very clear, namely, if a means to prolong life is judged to be ineffective or a grave burden for the patient, the means need not be utilized. (page 105)**

These are usually referred to as *extraordinary means*. What are extraordinary means? Do they vary from specific case to specific case? Can the same set of means be extraordinary for patient A and ordinary for patient B? Can nutrition and hydration ever be considered to be extraordinary? Does the patient refused nutrition and hydration die of starvation and/or dehydration?

## Questions

What is health? Why is (and has been) the Church interested in health care? Charity? Overcome the effects of original sin? Signs of the messianic times? (See, for example, Luke 7)

Is longevity the highest of the health-care “virtues”? Does our contemporary society view it as such? Does belief in a heaven change our view of health care? Is “scientific medicine” basically Promethean? Is it an oxymoron? What is a profession? Is current American medicine still a profession? a trade? a market-driven enterprise? What is it, if it is none of the above? What ought “clinical research” concentrate on? Prevention? Cure? Hygiene? Are each of these incompatible with the other?

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