Euthanasia and Health Care: Two Essays on the Policy Dilemmas of Aging and Old Age

RICHARD A. POSNER

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RICHARD A. POSNER is Chief Judge of the U.S. Court of Appeals for the Seventh Circuit. He was educated at Yale University and graduated first in his class from Harvard Law School, where he was president of the Harvard Law Review. He worked as law clerk to Justice William Brennan, legal assistant to Commissioner Philip Elman of the Federal Trade Commission, assistant to Solicitor General Thurgood Marshall, and as general counsel for President Lyndon B. Johnson's Task Force on Communications Policy. He taught at Stanford Law School, and was a professor of law at the University of Chicago from 1969 to 1981. Since 1981, when he became a Judge of the U.S. Court of Appeals for the Seventh Circuit, he has continued to teach at Chicago as a Senior Lecturer. He is a member of the American Law Institute and of the Mont Pelerin Society, a fellow of the American Academy of Arts and Sciences, and a corresponding fellow of the British Academy, as well as a member of the American Bar Association, the American Economic Association, the American Law and Economics Association, and the American Philosophical Association. His more than twenty books include *Law and Literature: A Misunderstood Relation* (1988), *The Problems of Jurisprudence* (1990), *Cardozo: A Study in Repudiation* (1990), *Sex and Reason* (1992), *Overcoming Law* (1995), and *Aging and Old Age* (1995).

I. Euthanasia and Geronticide

The rapid aging of the U.S. population has brought to the fore a series of related ethical issues, two of which will be the focus of my discussion. This first essay introduces my approach and then applies it to euthanasia, or, as it is called when practiced on the elderly, "geronticide." The second applies the approach to several issues concerning health care for elderly people.*

Introduction

My approach is primarily though not exclusively an economic one. There is no novelty in applying economics to certain problems related to the aging of the population, particularly macroeconomic problems such as the impact of old-age policies like social security on the aggregate savings rate or on the average age of retirement. What is novel is applying economics to microeconomic issues of aging, such as the different age peaks in fields of creative work; or the differences in respect and care for the old in various societies (for example, mandarin China versus Eskimo Alaska) ; or differences between old and young along such dimensions as crime, suicide, and accidents; or the phenomenon of age discrimination; or why judging is so geriatric a profession. I believe that economics can illuminate such issues, though, as we shall see, not without modifying traditional theory somewhat —and in particular the assumption that each individual is one person rather than a succession of separate persons or selves. I share with the distinguished economist Gary Becker the view that the domain of economics is not limited to activity in explicit markets, or involv-

* The material in this paper appears in somewhat different form in chapters 4, 10, and 11 of my book *Aging and Old Age* (Chicago: University of Chicago Press, 1995). Readers of this paper who are interested in more complete documentation and references for the argument made in the paper are referred to those chapters.

ing money; that it is coterminous with rational behavior; and that more behavior is rational than most noneconomists, and many economists, believe. I am going to illustrate this point first with euthanasia.

Euthanasia: Definition

"Euthanasia" is a word of many meanings and shadings. It can be voluntary, a form of suicide in a broad sense, or involuntary — the sort of thing the Nazis practiced, as have a number of primitive societies. I am not interested in involuntary euthanasia, other than in the case in which an individual is in a vegetative state or otherwise incapable of giving consent to die. That is an important case for the issue of geronticide, since many very elderly individuals are severely demented, and I shall touch upon it. But usually I shall be using the term "euthanasia" as shorthand for "voluntary euthanasia" and interchangeably with "[physician-] assisted suicide." In doing so, I shall be ignoring not only the distinction between voluntary and involuntary euthanasia but also the distinction often made between euthanasia in a narrow sense as a physician's administering drugs intended to kill the patient and physician-assisted suicide narrowly defined as a physician's helping the patient to die. I shall treat both as simply different modalities of physician-assisted suicide (or euthanasia, or voluntary euthanasia).

Euthanasia is merely a subset of medical events (or nonevents) that have the effect of bringing on death earlier than is medically inevitable. Others are withholding or withdrawing medical treatments that are considered useless because they cannot prolong conscious life significantly; administering painkillers likely to shorten the patient's life; and acceding to a patient's refusal to accept further medical treatment. The entire set has been dubbed "MDEL" (medical events at end of life). Even in the Netherlands, where euthanasia or —equivalently in my though not in the Dutch terminology —physician-assisted suicide is not punishable if proper

guidelines are followed, it accounts for only a small fraction of the total number of deaths due to MDEL. I have not found reliable estimates for the United States. One might expect MDELs other than physician-assisted suicide to be more common in this country (a substitution effect), or to be less common because the hostility to the practice of physician-assisted suicide may reflect a desire to prolong life at all costs.

It will be useful—continuing with niceties of distinction—to distinguish between suicides in which the intention is formed and executed at more or less the same time and suicides in which the execution is substantially deferred (*A* decides at time *t* that he wants his life to end at time $t+k$, where k might be many years), and within the first category between suicides where there is assistance from another person and those where there is not. I focus on the assisted suicide because if a person who wants to end his life can do so without the assistance of another person, the right to assist in the suicide without incurring criminal liability has limited practical importance, though not none, as we shall see. I shall narrow my focus still further, to assisted suicide in cases of severe and incurable, mainly terminal (or severely disabling), illness, in which the patient is likely to be incapable of committing suicide (at least without experiencing prohibitive pain or fear) without assistance. These are the cases in which the demand for physician-assisted suicide is greatest and the benefits of the practice most perspicuous; they are also cases of particular importance to the elderly.

Some Costs and Benefits of Permitting Physicians to Assist in Suicide

The main practical objection to making suicide easy by permitting the sale of suicide pills and suicide kits is that many suicides are impulsive, the product of a bout of depression, intense grief or shame, bad news that may be wrong (as in *Romeo and Juliet),* or other transient causes that, ex ante, the affected individual might want to prevent from affecting him. Efforts to pre-

vent such suicides can be loosely analogized to the prohibition of extortion (as in "your money or your life"), in which a class of transactions yielding a short-term gain (life for money) is denied legal enforcement because people would prefer, ex ante, that the class be prohibited. A prohibition against assisting suicide cannot be justified on this ground in cases in which the person who wants to end his life is incapable of doing so without assistance. The physical condition, ordinarily a terminal or agonizing illness or disability, that makes it infeasible for the individual to take his own life will ordinarily furnish a rational motivation for the suicide. A recent judicial decision invalidated, as an arbitrary deprivation of the liberty protected by the due process clause of the Fourteenth Amendment, a state statute criminalizing physician-assisted suicide. Whatever the legal merits of the decision, one cannot fail to be moved by the court's harrowing description of the situations of the three terminally ill plaintiffs (two elderly). Contrary to widespread belief, dying people almost always experience significant pain or other unpleasant symptoms; the "peaceful" death celebrated in Victorian fiction is rare. It is easy to see that an individual who is soon to die anyway and anticipates extraordinary pain or suffering in the interval that remains may have a negative expected utility of living and hence a powerful reason for terminating his life. Those who dislike such terms as "negative expected utility" need only substitute Kent's comment when signs of life are noted in the dying Lear: "Vex not his ghost: O! let him pass; he hates him / That would upon the rack of his tough world / Stretch him out longer."

It is not a good answer that, as Harry Moody has argued, "preemptive suicide on grounds of age actually amounts to a kind of perverse faith that we can predict our own future, that we can know what sources of unexpected meaning life has in store for us."[1] We cannot know for certain, of course; but we can have

[1] Harry R. Moody, "'Rational Suicide' on Grounds of Old Age," *Journal of Geriatric Psychiatry* 24 (1991) : 261, 274.

a pretty good idea; human choices, including the irreversible ones, are made on the basis of probabilities, not certainties (we shall see that uncertainty actually *supports* a policy of permitting physician-assisted suicide). And it is circular to argue that since most elderly people who commit suicide "have emotional or psychological illnesses," their decision to commit suicide is irrational and should not be respected. The principal illness mentioned is depression. Anyone who decides to kill himself must find his life depressing, and, with "suicidal ideation" and the like used to diagnose depression, it is apparent that one would have to *assume* that suicide is irrational in order to be justified in declaring a suicide irrational *because* he was depressed.

An enumeration of potential benefits of physician-assisted suicide would be incomplete without noting that the right to seek assistance in committing suicide has value to the holders even if they never exercise the right. The right of suicide is an option, and options have value independent of the value of exercising them, just as insurance has value for people who never have occasion to file a claim with an insurer. Knowing that one can end one's life if it becomes unbearable creates peace of mind and thereby makes life more bearable. This is important as a reminder that the benefits of euthanasia are not limited to the relatively small number of people who would actually undergo enthanasia even if it were legal.

A common argument against allowing physicians to assist in the suicide of a patient, an argument also made against the right of abortion, is that it is bad for society if physicians are used to kill as well as to save —that by blurring their mission it may make them less committed to healing. The other side of the coin is that if they know that their healing efforts sometimes, perhaps often, place people in a situation of such ghastly pain or incapacity that they would prefer to be dead, they may become ambivalent about healing. It is also argued —by opponents of capital punishment as well —that any policy or permission that facilitates the ending

of human life as a deliberate choice reduces respect for human life. The argument is especially weak in the case of capital punishment when that form of punishment is confined to murderers and can therefore be defended as showing respect for the lives of the victims. We shall see in a moment that a similar "life-saving" rationale may also, paradoxically, be available to defend euthanasia. But even if it is not, the argument that enthanasia is inconsistent with a proper sense of the dignity of human life can be criticized for overlooking the relation of quality of life to dignity. Respect for human life must have *something* to do, for most of us anyway, with perceptions of the value, not wholly metaphysical, of human life. The spectacle of nursing homes crowded with frail and demented old people, or hospital wards crowded with dying people so heavily sedated as to be barely sentient or so twisted with pain as to be barely recognizable, might be thought rather to undermine than to enhance a sense of the preciousness of life. The higher the quality of lives, the greater the perceived value of preserving them.

Voluntary enthanasia has been practiced openly in the Netherlands since the early 1970s, yet the people of the Netherlands do not seem to have become more violent or callous than other Europeans, let alone Americans. I use "seem" deliberately. It is difficult to compare murder rates in the Netherlands with those in other countries, because the Netherlands pools murder with attempted murder in its statistical reporting. The joint rate has increased sharply since the early 1970s, but that is true in a number of other European countries as well, which do not condone enthanasia.

Carlos Gomez, however, argues on the basis of twenty-six case studies of euthanasia in the Netherlands that there are insufficient controls over the practice to ensure that it is always voluntary.[2] Only one of his case studies (one of three that he describes as

[2] Carlos F. Gomez, *Regulating Death: Euthanasia and the Case of the Netherlands* (1991). Gomez's concerns have been echoed recently in John Keown, "Euthanasia in the Netherlands: Sliding Down the Slippery Slope?" *Notre Dame Journal of Law, Ethics and Public Policy* 9 (1995): 407.

"even more troubling" than the other twenty-three) struck me as providing even a modicum of support for his thesis: a young woman dying of leukemia may not have been told that there were less painful alternative treatments to chemotherapy. Then again she may have been told —Gomez doesn't know. During a one-year remission from the disease, she and her husband had spoken with their family doctor many times about euthanasia, but he may not have been conversant with the full range of alternative therapies.

Gomez's fear of doctors' rushing patients to their death has not been substantiated and does not seem realistic,[3] especially with regard to the United States, where the entire professional bias favors treatment, however unlikely of success. Granted, to the extent that this bias reflects financial self-interest as well as professional indoctrination, it depends in part on the method of financing medical services. But it is at its zenith when doctors are paid for services rendered, which is still the prevailing method in the United States. The danger of the abuses that Gomez fears can be minimized with simple regulations, such as that the patient's consent to euthanasia be witnessed or in writing, that the physician performing euthanasia be required to report any case in which he performs it to a hospital committee, and that before performing it he consult with a duly certified specialist in the ethics of treating dying people.

The Effect of Physician-Assisted Suicide on the Rate and Timing of Suicides

I am particularly interested in a different response to the opponents of permittting physician-assisted suicide: when limited to cases of physical incapacity, it may actually *reduce* the number of suicides and *postpone* the ones that occur. If this argument is correct, it removes an essential premise common to most of the objections to physician-assisted suicide.

[3] See Johannes J, M. van Delden, Loes Pijnenborg, and Paul J. Van der Maas, "Dances with Data," *Bioethics* 7 (1993): 323.

To grasp the argument, consider the choice facing an individual who learns he has a progressive disease that will reduce him to a state in which he would consider himself better off dead than alive because of acute suffering unredeemed by any hope of recovery or improvement or by the diminished utility from living in this state. Suppose further that he realizes that at some point the progress of the disease will incapacitate him from committing suicide. This may be one reason why elderly suicide attempters tend to use more lethal methods, such as firearms instead of drugs, than younger ones, and have a higher success rate. The elderly person fears that if his attempt fails, he may be incapacitated from repeating it; the cost of failure is greater to him. An alternative explanation, it is true, is that elderly suicides are more deliberated, and the deliberative as distinct from impulsive attempted suicide is more likely to choose an effective means. But this also suggests that elderly suicides are more likely to be rationally considered rather than impulsive than the suicides of younger persons.

To make the case more realistic, assume that our hypothetical sufferer is not certain that the disease will progress to a point where he will prefer to be dead, though he is certain that if it does progress to that point he will be incapable without assistance of killing himself. The possibility that he will recover after all, at least recover sufficiently to be glad that he is still alive — the possibility, in short, of a mistake — is omnipresent in suicide situations and is one of the objections I listed earlier to making suicide easy. A surprising number of people have had the experience of being told mistakenly that they had a terminal illness or being told that they had less time to live than they actually had.

We need to compare alternative regimes for our hypothetical case. In the first, assisted suicide is forbidden. So when the individual first learns his probable fate he must choose between two states of the world: one in which he commits suicide now, at some cost in dread of death, pain, moral compunctions, whatever; the other in which he postpones the decision to a time when, if he still

wants to commit suicide, he will be unable to do so. The question is which state will confer greater utility on him. If he commits suicide now, he will have a negative utility equal to the cost of suicide. He will experience neither positive nor expected utility from living, because he will be dead, but he will incur the cost of getting from the state of being alive to the state of being dead. If he decides not to commit suicide now, he avoids incurring the cost of suicide and obtains whatever utility, positive or negative, continued life confers upon him. Because of uncertainty, that utility is an expected utility; it is equal to the weighted average of his negative utility in the doomed state — that is, the disutility that he will incur if it turns out that he really does have a terminal or otherwise horribly painful or disabling illness — and his positive utility in the healthy or at least relatively healthy state that he will be in if he recovers to the point of wanting to live after all.

Each expected utility must be weighed by the probability that the individual will in fact find himself in the doomed or the healthy state. He reasonably expects the former, but not with certainty. The sum of these utilities must be compared with the utility of committing suicide. He will commit suicide, therefore, if the expected utility of death now, which is to say the disutility averted by death now, exceeds the expected utility of life plus the cost of suicide.

Contrast the situation in which the individual has a choice between committing suicide now, again at some cost, and committing it later — I'll assume at the same cost, though it could well be lower — with the assistance of a physician. It is a real choice because, by virtue of the possibility of assistance, the individual can postpone the decision to commit suicide. If we assume for simplicity that the pain, suffering, or incapacity that would make him want to commit suicide will begin at some future time when the individual will know for certain that he will not recover into some relatively healthy state, then he will always postpone his decision, since when the disutility of living in the doomed state commences he can (with assistance) substitute for it a lesser disutility, the cost of suicide.

The analysis implies that if assisted suicide in the case of physical incapacity is permitted, the number of suicides in this class of case will be reduced by the percentage of cases in which the individual contemplating suicide is mistaken about the future course of his disease. Moreover, in the fraction of cases in which suicide does occur, it will occur later than if assisted suicide were prevented. In both types of case, years of life will be gained, and with it net utility. To repeat, if the only choice is suicide now and suffering later, some individuals who are suffering from a terminal, or incurable and agonizing, disease will choose suicide now. If the choice is suicide now or suicide at no greater cost later, they will choose suicide later because there is always a chance that they are mistaken in believing that continued life will impose unbearable suffering or incapacity on them. They would give up that chance by committing suicide now. The availability of physician-assisted suicide enables them to defer an irrevocable decision until they have more information. Stated another way, the availability of physician-assisted suicide increases the option value of continued living, and the diminution in that value with age is one of the factors that contributes to the high suicide rate among elderly people.

The general point —that availability can reduce rather than, as one might expect, increase utilization —is not limited to suicide. Compare two physician's offices. One is open on weekends, one closed on weekends. A patient gets a sharp pain in his abdomen on Friday afternoon. If his physician's office is closed on weekends, he may rush to the office on Friday, lest his condition worsen during the weekend. If his physician's office is open on weekends, he may decide to wait and see whether the pain gets better or worse. In most cases it will get better, so there will be fewer total visits to the physician who is more available.

The conjectured effect of physician-assisted suicide in reducing the number of suicides will be amplified if, as is plausible, assisted suicide, because physician-administered, is less costly to a person contemplating suicide than unassisted suicide would be rather

than, as I have been assuming, just as costly. For that will increase the incentive to wait and see. Paradoxically, then, easier suicide may result in less suicide. But this depends on the assumption that I have maintained to this point that the cost of suicide is less than the utility of dying. Suppose that unassisted suicide is so costly (in pain, in information, or in fear of botching the job) that, even if a person anticipates with certainty a life of utter misery, he will not commit suicide without assistance. Then if physician-assisted suicide at a sufficiently lower cost is available when the period of misery begins, he will terminate his life then if, and only if, physician-assisted suicide is permitted. Yet even in this case, it is possible that allowing physician-assisted suicide would, as before, lower rather than raise the suicide rate. With physician-assisted suicide so much cheaper than unassisted, persons contemplating suicide will tend to choose assisted over unassisted. But this implies that before committing suicide they will have consulted with a physician. The delay required by such a consultation will reduce the number of impulsive suicides; others will be avoided by the physician's identifying a treatable mental illness. The frequently remarked difficulty of diagnosing suicidal tendencies in elderly patients is reduced when patients have an incentive to disclose those tendencies because they are seeking help in killing themselves. Physician-assisted suicide thus lowers the cost not only of suicide but also of interventions that can avoid suicide.

The question whether allowing physician-assisted suicide in cases of physical incapacity would increase or reduce the suicide rate can be studied empirically, as in table 1, where suicide rates in

TABLE 1
REGRESSION OF SUICIDE RATE ON ASSISTED-SUICIDE LAW AND OTHER VARIABLES

Per capita income	Percentage black	Assisted-suicide law	R^2
–.0005	—.1287	—.7601	.31
(– 3.388)	(–2.999)	(–0.951)	

the U.S. states are regressed on state per capita income, the percentage of the state's population that is black, and a dummy variable that takes a value of 1 if a state has a law criminalizing assisted suicide and 0 otherwise.

The coefficients of the income and percentage-black variables are negative and highly significant statistically, and these two variables explain a good deal of the variance across states in the suicide rate. The coefficient of the law variable is also negative, implying that states that forbid assisted suicide have lower suicide rates than states that permit it, but is not statistically significant, perhaps because most suicides are not committed by terminally ill people and thus do not come within the scope of the hypothesis that I am trying to test. Although these results certainly do not prove that repealing an assisted-suicide law is a sound method of reducing a state's suicide rate, they cast some doubt on the hypothesis, which I have been questioning despite its intuitive appeal, that making suicide easier is likely to lead to more suicides. But I stress "some" doubt. It is possible that assisted-suicide laws are rarely enforced and as a result have little deterrent effect, or that states that do not have such laws nevertheless punish physician-assisted suicide as homicide, though this appears not to be the case. Physicians are rarely prosecuted under any law for assisting suicide, even though the practice is not uncommon.

Another bit of evidence concerning the likely effects of allowing physician-assisted suicide is the trend in the suicide rate of elderly males (75 years old and older), relative to that of all males, in the Netherlands and other northern European countries. That rate was very high in the Netherlands before euthanasia became common in the early 1970s and has fallen since, both absolutely and relatively to the other countries in the sample. However, deaths caused by euthanasia, including physician-assisted suicides, are not counted as suicides in the Dutch statistics; what they count as "suicide" for statistical reporting purposes is, therefore, only a fraction of deliberate efforts by persons to bring about their

immediate death. Lacking as we do a time series for euthanasia, we cannot infer that the total number of elderly suicides in the broadest sense has fallen in the Netherlands since euthanasia became common. It is possible that what has happened is a substitution of euthanasia for conventional suicide.

Enthanasia with Execution Deferred

I turn now to the case in which there is a nontrivial interval between the decision to die and the carrying out of the decision. I shall consider two versions of this case. The first is where *A*, having acquainted himself with the facts about old age, decides that the physical decrepitude of that state is such that he would greatly prefer not to enter it; but fearing that he will have different preferences when he reaches that age, he wants to commit himself now to die at age 75, which he regards as the threshold of too old age. In the second case, *B* is anxious not about old age as such but about senility, which he considers a living death. He knows that if he becomes senile it may be too late for him to terminate his life voluntarily, so like *A* he wants somehow to commit to die if and when he becomes senile, at whatever age. *B*'s anxiety about becoming senile cannot be considered neurotic or irrational. Senile dementia afflicts a substantial fraction of old people, causing grievous and degrading cognitive impairment. The risk of becoming severely demented, especially for people in their eighties or nineties, is great enough to be a source of understandable dread to many aging people.

The economic argument for giving *A* what he wants is that we permit people to make irrevocable commitments about their future —to foreclose any realistic prospect of becoming a doctor by going to law school instead of to medical school, or —a closer parallel —to impair their longevity by adopting an unsafe or unhealthy mode of life. Suicide can be regarded in that light. But there is a counterargument when the decision to commit suicide is made many years before the intended execution of the decision.

For it can be argued, as I explain at greater length in the second essay, that the self at time t and the self at time $t+k$ are actually two persons, A_t *and* A_{t+k} at least when k is a substantial number. What is a person? By hypothesis A_t and A_{t+k} have different preferences concerning the fundamental issue of life versus death. The younger self has of course a degree of control over the older, and the older has no control at all over the younger, simply because time runs forward but not backward. It may be impossible as a practical matter to make A_t a fiduciary of A_{t+k}. But it doesn't follow that the law should affirmatively assist in the younger self's destructive designs against the older self, as by enforcing a contract between A_t and some third party to kill A at time $t+k$. For on what ground shall the younger self be adjudged more authentic than the older?

If there is no good answer, this might seem to support a stronger position, that suicide should always be prevented if prevention is feasible, since when A_t kills himself he is also killing A_{t+k}, who may have positive utility from living. Indeed we can easily imagine a case in which A_t kills himself because, even though A_{t+k} derives a positive utility from living, the disutility to A_t of living (with the expectation of becoming A_{t+k}) exceeds the utility to A_{t+k} of living. In such a case (for example where A_t's life was blighted by fear that he would end up in a nursing home, which he may consider the equivalent of a concentration camp), even if A_t is altruistic toward his future self, suicide is utility-maximizing because the sum of his negative utility from living and the future self's positive utility from living is negative. This is possible even if the present and future selves' utility is weighted equally, though most of us would be inclined to give greater weight to the utility of the present self —but of course most of "us" are not old, so maybe our preferred weighting should not be decisive.

So multiple-selves analysis need not condemn all suicide —at least if we are utilitarians, a big "if" for many people. Yet even if we are utilitarians, willing to trade off one "person's" life against

another's, the implications of multiple-selves analysis for the permissible scope of governmental interference with individual choices are disquieting to anyone who believes in liberty. For example, if our future self has a moral claim as great as that of a fetus (another potential person) even if not as great as that of our present self, the argument for forbidding a pregnant woman to smoke becomes an argument for forbidding anyone but a dying person to smoke.

The argument cannot be dismissed out of hand as paternalistic even by those who reject all paternalistic grounds for interference with choices made by competent adults; for the person is not choosing for himself if his future self is a different person from his present self. Nevertheless the pragmatic objections to the argument are similar to the pragmatic objections to paternalistic arguments for government interference with personal liberty. In particular, even if the younger self is not a perfect agent of the older self, how likely is it that the state will be a better agent, or more precisely will better balance the competing claims of the two selves? In just the same way, even though parents are not perfect agents of their children, we assume that except in the extreme cases that we call by such names as neglect and abuse they are apt to be better agents than the state. We observe that people *do* make provision for old age, as for their other contingent selves — they buy disability insurance, for example, rather than simply writing off their possible disabled self that may come into being after an accident. They are not wholly neglectful of their future selves. The question is whether they are sufficiently neglectful to warrant government intervention, with all its costs.

B's case (remember it is the case of the person whose older self is going to be severely demented) differs from *A's* because there is a question whether B_{t+k} is a person. If he is not, the question whether he is a *separate person,* entitled to some limited protection against B_t, does not arise, For there is a distinction between identity and personhood. B_{t+k} has the same name and other

indicia of identity as B_t, but if personhood requires some degree of mentation and not merely a functioning brain stem, B_{t+k} may not be a person and therefore may not be entitled to any protection.

I am not comfortable with this argument. As the philosopher Dan Brock, a leading ethicist who believes that a severely demented human being is not a person, acknowledges, his "view of personhood implies that infanticide need not wrong a newborn infant and that infants lack any serious moral right not to be killed."[4] Quite apart from the question of infanticide, it is at present unthinkable that a suicide contract would actually be enforced and a person dragged to his death against his will because he had signed a contract and was now deemed incompetent to repudiate it, or even that it would be enforced by the forfeiture of a bond or by some other monetary sanction. We happen to have unshakable moral intuitions concerning the wrongness of infanticide and of enforcing suicide contracts. These intuitions precede and inform, rather than following and being informed by, philosophical analyses of personhood. If the case for allowing a person to arrange in advance for his death should he some day become senile stands or falls on whether infanticide is just, or whether a monkey or a computer should be deemed more of a person than a severely demented or profoundly retarded human being, we shall make no progress in dealing with the senile case. I do not mean to suggest either that our unshakable moral intuitions are universal or that they are permanent within our society. They seem in fact rather local and fluid. My point is only that they are not changeable by reasons, in part because they are not founnded on reasons. Because of our genetic programming, and because of the material conditions of our society, we have more regard for the lives of infants than for the lives of the senile. That is a good enough ground for decoupling the issues, although not to the extent of enforcing suicide contracts.

[4] Dan W. Brock, *Philosophical Essays in Biomedical Ethics* (1993): p. 385 n. 14.

At the level of nonphilosophical practice, the two issues have been decoupled to some extent. Although contracts of assisted suicide are unenforceable, people have a limited power to bring about, through the devices of the living will and, especially, the durable power of attorney for health care, a state of affairs in which they are unlikely to survive for long in a severely demented state. But the emphasis belongs on the word "limited." The living will is designed for the case in which "death is imminent except for death delaying procedures" (I am quoting from the form approved in Illinois), and this point will not be reached until very late in the progression of the dementia. The power of attorney is broader, authorizing the holder of the power (again I quote from the Illinois form) "to make any decision you could make to obtain or terminate any type of health care, including withdrawal of food and water." But like the living will, the power of attorney is revocable as long as the grantor of the power remains competent, and it may be difficult to determine when that point has been reached in the progress of the dementia. And until the demented patient has entered or at least come very close to the vegetative state, the holder of the power will be reluctant to authorize measures that amount to inflicting death by starvation or dehydration.

Although enforcing a contract of suicide against a person who has changed his mind about being killed is patently inconsistent with the moral feelings of our society, I feel bound to point out that the refusal to enforce such contracts may increase the suicide rate and, what I have explained is qualitatively similar, reduce the average age of suicide. People in the early stages of senile dementia often both know that they have the disease and know that it will get worse. These people may have several pretty good years before their dementia progresses to the point that, ex ante, they would consider themselves better off dead. Unable to "schedule" their death to occur at that cross-over point, however, and fearful that when the point is reached they will lack the will or the means to kill themselves, they may decide to kill themselves now, thus

losing valuable years of life in order to prevent a greater loss of expected utility. Those years would be saved if they could make an enforceable agreement to be killed painlessly when a responsible judgment is made that their quality of life has fallen below the level at which they would, if in possession of their faculties, want to continue living.

I find it particularly difficult to see the point of keeping "alive" a person in a vegetative or irrevocably comatose state unless his religious or other beliefs are such that we can have some confidence that that is what he would have wanted. And even if Dutch-style physician-assisted suicide does not reduce the suicide rate or delay suicide (and well it may not, for I do not pretend that either the theoretical or the empirical evidence that I have presented is more than suggestive), the objections to the practice may well be outweighed by the benefits to suffering people who rationally desire to shorten their lives but cannot do so without assistance. The benefits are actually greater than in the case of the vegetative or comatose candidate for euthanasia, since a person who is not conscious is not suffering and therefore does not, by dying, obtain a release from suffering. The point I have been at particular pains to emphasize, however, is that one of the most "obvious" objections to allowing voluntary euthanasia —that it will result in more people dying sooner —may well be unsound, and that the opposite effect is as plausible.

II. The Allocation of Medical Resources and the Conflict Between Selves

I turn to the subject of the allocation of medical resources to the elderly, and by way of introduction I want to consider more broadly the issue of multiple selves that I introduced in the previous essay.

One Self or Multiple Selves?

When age-related changes in the individual, as distinct from changes in the location of an unchanging individual on the continuum between life and death (the usual economic conception of

aging), are brought into the economic analysis of aging, one of the most elementary assumptions of conventional economic analysis becomes problematic. This is the assumption that a person is a single economic decision-maker throughout his lifetime, rather than two or more decision-makers. The idea that the individual can be modeled as a locus of competing selves (simultaneous or successive) is not new, but it remains esoteric and is disregarded in most economic analysis. For example, economists argue against awarding tort damages for nonpecuniary losses caused by severely disabling personal injuries because the utility of wealth is likely to be reduced in the disabled state —as shown by the fact that people generally don't insure against such losses. In so arguing, they are implicitly and uncritically adopting the standpoint of the pre-injured self, the one that makes the insurance decision. The injured self may want to spend heavily to offset the effects of the injury, rather than forgo those expenditures for the sake of the utility of the pre-injured self. The fact that the marginal utility of wealth is deemed lower in the injured state *by the pre-injured self* —the fulcrum of the economists' criticism of such damages awards— is irrelevant in a Paretian analysis if the occupants of the two states are treated as two persons rather than one, and possibly in a utilitarian analysis as well. Total utility might be greater or less if the tort system were altered to reduce the amount of tort damages payable in the disabled state, even if the reduction in liability for such damages brought about no change in the number of disabling accidents. The reduction would reduce liability insurance rates, a tradeoff preferred by the able-bodied self, but at the expense of utility in the disabled state, to the detriment of the contingent disabled self.

The principal applications of multiple-selves analysis have been to addiction, weakness of will, regret, and self-deception, rather than to old age. The neglect of age is surprising. Aging brings about such large changes in the individual that there may well come a point at which it is more illuminating to think of two

or more persons "time sharing" the same identity than of one person having different preferences, let alone one person having the same preferences, over the entire life cycle. The tendency that psychologists and some economists have noted in people to give greater weight in our intertemporal choices to present pains and pleasures than seems rational is entirely rational if the present self is seen as distinct from our future or contingent selves and naturally inclined to weight its own interests more heavily than those of these other persons, albeit persons with whom it is linked by strong bonds of altruism based on continuity of identity. When elderly people are asked what they would do differently if they could relive their lives, their most emphatic answer is that they would get more education. The costs of education (primarily forgone income from working) are concentrated in one's young years; the benefits are received over many years. So it is just the area in which one would expect the young self to underspend from the standpoint of the old self.

There are a number of objections to multiple-selves analysis. It can be argued that if young and old are different selves, so are the 20-year-old self and the 40-year-old self, or for that matter the 20-year-old self and the 21-year-old self, or the 65-year-old self and the 66-year-old self; and then we shall end up with as many selves per person as there are years of life —or months of life, or perhaps hours of life. The concept of the person, in particular of the responsible person, will disappear; and we may all become — or at least lose a purchase for arguing against becoming —the wards of the state for the sake of our numerous future selves for whom we cannot be trusted to make adequate provision, pecuniary and otherwise.

This *reductio ad absurdum* points to real problems with using multiple-selves analysis to define the relation between the individual and the state. But there is an important difference of degree between successive selves, on the one hand, and, on the other hand, the young and old self separated by many intermediate successive

selves, just as there is an important difference in degree, recognized in countless laws and social practices, between one's self as a child and one's self as an adult.

Once when my mother was a vigorous woman of 65 she noticed a very frail old woman in a wheelchair and said to my wife, "If I ever become like that, shoot me." Twenty years later, she had become just like that but she did not express any desire to die. I do not think that it is just that she had exchanged outside for inside knowledge; to her younger self, had it still existed, confinement to a wheelchair might have been worse in actuality even than in expectation. Were it merely a failure of imagination, or lack of information, that caused people to disparage the elder selves they may one day become, then, as the number of very old people, nursing homes, and geriatric specialists increased (as has been happening), young people would find the prospect of becoming old less depressing, because they would understand better that most old people really do want to keep on living. This seems not to be happening. I believe that aging changed my mother so much that she acquired a totally different outlook, becoming a stranger to her younger self. Some corroboration is the monotonic decline with age in the percentage of Americans who believe that it is okay to allow patients with an incurable disease to die. Young people are much more likely to believe that it is okay, because they discount the utility of their future contingent diseased self.

Was the preference of my mother's younger self for not surviving into an infirm old age more authentic than the opposite preference of her older self? As a practical matter, of course, the younger self, controlling as it does the body, can impose many of its preferences regarding the older self on that self, while the older self has no control over the younger. But I cannot find anything in economic theory that tells us whether this practical control should be elevated into a legal or moral right, entitling us for example to commit ourselves when young to die when we reach the age of 85 rather than be required to save for retirement.

I know of no other source of theory that can answer the question either. It is conventional enough to treat society as an aggregation of potential future persons as well as of those currently living —to suppose, for example, that we living Americans have some duty to hand on a habitable planet to our successors —although only that tiny subset of utilitarians that believes in maximizing total rather than average utility thinks we must weight the utility of potential future persons equally with that of us the living. But there one is speaking of future individuals, most of them strangers to us, rather than of our own successive selves, of whom we might be supposed adequate trustees —but perhaps not, if old and not old really do have different values, as in the example of my mother. And while it would be odd to weight the utility of the unborn equally with that of the living (something not done even by opponents of abortion), most people would also think it odd to give no weight to future persons in making decisions about public expenditures on education or about the protection of the environment. If so, this could be thought to imply some duty to our future selves as well as to future individuals utterly distinct from ourselves; indeed the former might seem the clearer duty.

We must not push multiple-selves analysis to the point of saying that because they are different selves an old person may not be punished for crimes committed when young. The pragmatic reason is that such a policy would reduce the effect of the threat of punishment in deterring crime; and indeed one value of the concept of multiple-selves analysis lies in redirecting analysis from ideological battles over paternalism to pragmatic consideration of consequences. So, similarly, we ought not allow people to repudiate long-term contracts they made when they were young, for then most mortgages would be unenforceable. But if, therefore, old selves have duties, maybe they should have rights as well, which the state should protect, as through social security.

Contrary to the example of social security, not all the implications of multiple-selves analysis are *dirigiste.* For example, the

analysis highlights the arbitrariness of taxing bequests heavily. A bequest reallocates consumption from one's present self to a vicarious future self, that of one's children or other heirs, and is thus no different in principle from saving for one's old age, a "bequest" by one's younger to one's older self. And quite apart from any normative implications of multiple-selves analysis, it has the methodological advantage of enlarging the domain of rational-choice analysis. This is important because rational behavior is easier to model, and to make empirically testable predictions concerning, than irrational behavior.

Yet in tension with the last point, the main objection to using the concept of multiple selves for positive analysis is precisely that it adds nothing useful to conventional economic analysis. Complicating analysis by departing from simple albeit unrealistic assumptions requires justification, for example, by showing that the more complicated analysis yields a richer set of empirically testable implications or has greater explanatory power. We might say, returning to my mother, that all she meant by her dramatic mode of expression was that she rationally forecast a very low, but not necessarily zero or negative, net utility from life in extreme old age, implying not that she would like to enter into a legally enforceable suicide contract but that she intended to minimize her current investment in "longevity human capital." She might also have intended to reduce her level of saving for old age, on the ground that (assuming no strong bequest motive) the utility of income received in extreme old age would be very low. An important general point implied by this discussion is that increases in longevity need not result in increases in savings and may even result in higher discount rates, if because of the infirmities and disabilities of old age people anticipate a low level of utility from expenditures on consumption in old age.

The fact that discount rates of young and middle-aged persons are much higher than necessary to take account of the risk of death and (what is closely related) the rather meager provision

that most people make for their future and other contingent selves are the phenomena that most strongly support the plausibility of modeling the individual as a locus of successive selves, in which the one currently in occupancy weights its own utility more heavily than that of its successors. An alternative explanation for these phenomena that is also consistent with the assumption of rationality, however, is that the costs of imagining future states of the world impede people in obtaining an accurate, vivid picture of future pleasures (and pains). On this view, advanced in a recent unpublished paper by Gary Becker and Casey Mulligan, rational people invest "imagination capital" to overcome these costs to the extent that doing so increases their expected utility, and, other things being equal, therefore maximize that expected utility by devoting more resources to enhancing the presentness of pleasurable states than that of painful future states. In such a model, just as in the multiple-selves model, "excessive" discounting of unpleasant future states (such as death, or a bleak old age) is consistent with rationality. It remains to be seen whether the imagination-capital or the multiple-selves approach will prove more useful for positive analysis of old age. At least from a normative standpoint, however, the concept of multiple selves is clearly a useful reminder of the limitations of expected-utility maximizing as an ethical tool. And the normative use of the concept has a positive dimension, in helping to explain society's refusal to enforce every irrevocable commitment that people make and its efforts to discourage certain behaviors, such as drug addiction, that greatly injure our future selves.

The Compulsory Character of Social Security Explained

What has all this to do with the allocation of medical resources to the elderly? I shall begin at a slight remove from the subject by returning to a matter touched on briefly in the previous essay, the compulsory character of social security. If you work for an employer covered by social security (which is now virtually every em-

ployer, including the self-employer), you are forced to contribute to the social security program; you cannot make a side deal with your employer whereby in exchange for a higher wage you agree that neither you nor the employer will make any pension contribution and in consequence you will have no pension entitlement (or Medicare) when you retire. Nowadays the main practical reason for the compulsory character of social security is to make sure that there is money in the social security till to honor someone else's social security entitlement. But the original rationale was to force people to save for their old age; and even those critics of the social security system who would prefer to substitute an entirely private system believe (most of them anyway) that people should be compelled to enroll in a private pension system and thus to make provision for their old age.

The reasons most commonly offered for such compulsion are two. The first is paternalism: people are short-sighted and therefore cannot be trusted to make arrangements for the distant future. This would be plausible if people typically underestimated their life expectancy and therefore the amount of money they should be setting aside for old age. But the evidence is to the contrary. The second reason is *Realpolitik:* society won't in fact let people starve to death (or die for want of medical attention), so the nonsavers would be free riders. This reason has some support in the fact that persons who have not contributed to social security are entitled to a modest government pension anyway.

Multiple-selves analysis enables a different approach to be taken. A at working age, especially at young working age, is a different person from A at retirement age. A_w should not be allowed to condemn A_r to penury by refusing to make any provision for the support of A_r, who will be unable to support himself. A_w on this view is a kind of trustee of A, the body that A_w and A_r successively inhabit. A compulsory pension system, like a prohibition against enforceable futures contracts of assisted suicide, imposes a limited fiduciary duty on the young self. Lawyers

will perceive an analogy to the duty that a life tenant owes a remainderman not to waste the assets of the property in which they have their successive interests, as by cutting trees before they have reached maturity.

It is too bad that there is no good method of determining the relative weight to give the preferences of the different selves. For who would do the determining? Some master self? But who determines which self shall be the master? In no time we are back where we started. The old self might wish the young one to make extravagant provision for the medical care of the old, but what is the criterion for "extravagance" in this setting? The clearest limit on the claims of the old is where the young self wants to sacrifice those claims on behalf of other selves and so is not being selfish. Evolutionary biology has identified a tradeoff between the longevity and the reproductive fitness of an organism. Maybe the old self should not be heard to complain if the young self decides to divert resources from the old self to the production of children; that is not a *selfish* expenditure by the young. Beyond this I have no idea as to how to arbitrate between the claims of the young and of the old.

The Allocation of Medical Resources to the Elderly

Despite the doubts just expressed, I consider the multiple-selves perspective helpful in addressing issues involving the allocation of medical resources to the elderly. But to explain this will require me first to distinguish between allowing an individual or his family to spend his own (or its own) resources on medical care, a negative liberty, and forcing the taxpayer to pay for it, a positive one. Even the negative liberty is not completely unproblematic. The private health expenditures of the old, that is, expenditures over and above Medicare (which does not reimburse the total expenses of Medicare patients) and other public programs, are large enough to affect the costs of medical care to other people. Persons 65 and older, although less than 13 percent of the Ameri-

can population, account for roughly one-third of all expenditures on health. Two-thirds of the elderly's tab is picked up by the government through Medicare and other public programs, but this means that more than 20 percent of the nation's total expenditures on health are private expenditures by the elderly. If a service is provided under conditions of increasing average cost (that is, if the supply curve for the service is positively sloped), an increase in demand will raise the market price and everyone who shops in the market will pay more than before. I do not know whether this is the case with medical care (especially in the long run, when supply is more elastic), but if it is then the large private demand by the elderly for health care has probably driven up the prices paid by other consumers of medical services. Such an effect on other consumers, however, would be a purely pecuniary externality; that is, it would be completely offset by the increased revenue of the sellers of medical services. The distribution of income across persons or groups might be affected, but the total wealth of society would be unchanged. Whether the redistribution of income would promote or retard economic equality is anybody's guess. Not all providers of medical services are wealthy by any means; indeed most health-care workers are rather poorly paid.

The analysis would be the same if, instead of paying as they went, the old bought medical insurance policies when young that guaranteed the payment of their medical expenses when they grew old. One might even suppose the analysis unchanged if the expenditures of the old on health care are subsidized, as of course they are, primarily by the federal taxpayer through the Medicare program. It is true once again that, to the extent that essential inputs into health-care services are in permanently short supply, an expansion of the health-care sector will result in higher prices. But we have just seen that the same thing would happen, under the identical assumption of a long-run rising average cost of health care, if the old decided to spend more of their own money on health care. The difference between the two cases is that a govern-

mental subsidy of medical care reduces the total *value* of the economy's output of goods and services by inducing the old to substitute medical care for things they would value more highly if medical services were priced to them at their market value. For if the total annual expenditures on Medicare were simply given to the Medicare-eligible population in cash, the old would not (in all likelihood) spend all their new wealth on medical care. An elderly person who now receives $20,000 in social security retirement benefits a year would not, in all likelihood, if given another $10,000 a year to spend as he wants, use it all to buy health insurance. If this is right, it suggests that Medicare has brought about a misallocation of resources from the standpoint of economic efficiency or consumer sovereignty.

Although Medicare is too generous in the economic sense of giving the old more medical care than they would pay for if they had an unfettered choice among competing goods and services, it is not too generous —Ronald Dworkin to the contrary notwithstanding —merely because old people receive more medical care than they would when young contract to receive in a lifetime health-insurance policy. Dworkin is no doubt correct that most young people would not buy a policy that would require heavy premiums to defray the expected cost of dramatic though usually futile medical interventions in the last few weeks of life. But his argument is nevertheless vulnerable to the objection, which he does not discuss, that to allow the young to make life and death decisions for the old is to give one person, the younger self, undue control over a resource (a body) shared with another, the same individual's older self. This is a common oversight in philosophical (as in economic) analysis of aging —surprisingly so, since "deconstructing" the self is the sort of thing philosophers like to do. Yet Norman Daniels, for example, in discussing the issue of justice between generations, argues that because youth and age are merely different stages of a single life, treating them differently "generates no inequality at all. . . . From the perspective of

stable institutions operating over time, unequal treatment of people by age is a kind of budgeting within a life."[5] It is entirely rational for old people to spend heavily on medical care to extend their lives; they do not have good alternative uses of their resources. The young self may scant its future self's interest in extending life not because the young self is short-sighted or lacks self-control but simply because it has different preferences.

But because there is no satisfactory procedure for balancing the claims of the young and of the old self, the current old, in effect as proxies for the future old selves of the current young, struggle with the current young in the political marketplace for the allocation of consumption over the life cycle. The increasing productivity of medical expenditures in extending life and in improving the health of the old is increasing the intergenerational tension. The Medicare hospital trust fund is expected to be depleted by the year 2001, at which point the social security tax will have to be raised, benefits cut, or other steps to restore balance taken. The old self has an argument (if only it could make it!) that the ever-increasing productivity of expenditures on medical care warrants a reallocation of resources from the young self; that the marginal dollar will purchase more utility for the old self than it would for the young. But the young self may disagree.

The issue of subsidizing health care for the elderly population arises in still another form, that of federal support of medical research on diseases such as heart disease and cancer that afflict old people disproportionately. Not all serious diseases do. Asthma and migraine, for example, as well as certain cancers — and of course AIDS — are more common among young than old people. But heart conditions are 10 times more frequent among men 65-74 years old than among all men under 45, and 15 times more frequent among men 75 and older than among the under-45 set. The

[5] "Justice and Transfer between Generations," in *Workers versus Pensioners: Intergenerational Justice in an Aging World,* ed. Paul Johnson, Christoph Conrad, and David Thompson (1989), pp. 57, 61, 63.

U.S. Public Health Service spends much of its annual research budget on diseases that afflict old people disproportionately (with most of the rest going to AIDS). The marginal benefit of these expenditures may be slight. Old people are highly vulnerable to a large number of lethal or incapacitating diseases. In effect these diseases compete to kill or grievously impair the old. The effect of curing one or two such diseases is to eliminate competition for the other diseases, enabling the latter to do more harm than would have been the case had the competitors remained in the field. Curing heart disease saves the patient for cancer, and curing both would save him for nephritis, blindness, or Alzheimer's. The "benefit" that these diseases derive from medical research that cures their rivals is enhanced by the fact that improvements in medical technology benefit persons of weak constitution disproportionately, thus providing easier targets for the lying-in-wait diseases.

Yet we know that the benefits of medical research to the old have not been zero. Although longevity is positively related to income and the income of the old has soared in recent times, the increase in longevity (and the reduction in the fraction of the aged that is disabled) has far exceeded what is plausible to assign to the increase in income. "Saving" an old person with heart disease for cancer will still give him some additional years of life; we know that increases in longevity confer substantial private benefits on the elderly, especially since, for reasons I cannot go into here but that are part of my larger project on old age, a young person and an old person may well feel an equal dread at the prospect of imminent death. It does not follow, however, that a cure that saves many years of life confers no greater utility than one that saves only a few. This is a case in which both ex ante utility and ex post utility are relevant to the choice of policy. Where they clash and the former seems clearly preferable is in cases in which choices sensible when made turn out badly: one takes a fair gamble, but loses and now wants one's stake returned. To use

assessments of ex post utility to invalidate ex ante choices would greatly reduce the scope of free choice, and in the long run ex post as well as ex ante utility —utility, period —would be diminished. But if young and old dread death equally, the only basis for choosing between them, if a choice must be made, may be the difference in ex post utility —that the young person will live longer if he is saved.

Yet even so, it is not certain, though it is likely, that medical research that primarily benefits the old is a poorer investment from the social standpoint than medical research that primarily benefits the middle-aged. Consider two alternative medical investments, costing the same and having the same probability of success. One will extend the life of an 80-year-old to 85 and the other the life of a 60-year-old to 80. In strictly financial terms, the former is quite likely to be the better (which is not to say a good) investment. For it will add "only" 5 years of old age, while the latter investment will add 5 years of productive life and (assuming retirement at age 65) 15 years of old age, during which the individual will be receiving social security retirement benefits and incurring very heavy, and very heavily subsidized, health costs. Those costs may be especially heavy because the individual is constitutionally weak, which is why he would have died at the age of 60 had it not been for the new medical technology.

But costs to the public fisc do not exhaust the considerations relevant to evaluating a public investment. Success in fighting the disease that kills the younger individual is, as we just saw, likely to create greater nonfinancial utility than a similar success with a disease of the old. And this is not only because more years of life will be saved and most people derive utility from living; it is also because, the older a person is, the fewer surviving family members he has and the less (on average) they will grieve if he dies. I conclude that failing to give priority to life-threatening diseases of the young would signify an inefficient allocation of resources to medical research unless the old were being short-changed in other

government services that their taxes support, which is unlikely, or unless medical research on the diseases of the elderly would produce much greater savings of life relative to expenditures.

These are important qualifications and a further complication is that efforts to cure diseases that are greatly feared because they cause premature death will willy-nilly prolong the lives of old people. Heart disease and cancer are principal examples, except to the extent that research can fruitfully be separated between forms of these diseases that affect the young more and those that affect the old more. Still another complication is that young people are better able than old ones to avoid disease by making changes in their style of living, as by giving up cigarettes, losing weight, reducing the amount of fat in their diet, or moderating their intake of alcohol; most elderly people have already made these changes. The effect of better treatment for diseases of the young may be to induce the young to relapse into unhealthful habits, which cost less when the expected disease costs created by the habits are lower. Such relapses, possibly illustrated by the recent increase in obesity in the American population, reduce the effectiveness of medical research on diseases of the young, although they confer net utility on the young.

The Gender Issue in the Allocation of Medical Resources

A neglected issue is the allocation of public funds between research on diseases of old men and research on diseases of old women. The life expectancy of women in the United States greatly exceeds that of men, and the difference translates into a decided preponderance of women in the older age groups. By 1989 there were only 39 percent as many men as women among Americans 85 and older, and in the entire 65-and-over age group women outnumbered men 3 to 2 (compared to 5 to 2 in the 85-and-over group). Justice between the sexes might seem to require, therefore, that medical research on the diseases of the old be tilted in

favor of diseases, such as prostate cancer and coronary artery disease, that kill old men but not (or, as in the case of coronary artery disease, not as often) old women. Feminists might object that women should not be penalized for their "natural" advantage in longevity over men. But such an objection would rest on a biological essentialism rejected by feminists in most other policy settings, such as maternity leave, pregnancy benefits, and abortion rights. Here are two better arguments. First, the natural advantage of women may be illusory; as the occupational profiles of men and women converge, so may their mortality statistics. One biologist has estimated that "about 18% of the sex differential in total mortality may be due to these sorts of sex-specific hormonal effects on the cardiovascular system, and thus may well represent an intrinsic and perhaps unchangeable risk to males," while "at least 55% . . . can be attributed to destructive behaviors," such as smoking, which are influenced by occupation and other social factors[6] Second, to the extent that men are inherently more vulnerable than women, expenditures on fighting the diseases of men may have a lower payoff in years of life saved because "competition" between diseases to kill men is more intense. A hundred million dollars spent to develop a cure for some disease of women might add a month to female longevity, yet the same expenditure to develop a cure for a disease of men that had the same prevalence might add only three weeks to male longevity.

The second argument may seem decisive, at least from an economic standpoint, by establishing that the marginal benefit of the cure for the women's disease exceeded that of the cure for the men's disease. It establishes no such thing. Utility and longevity are not interchangeable. Given the imbalance in the number of elderly men and women, an extra month of life of an elderly woman may not necessarily be "worth" as much (in a utilitarian, not financial, sense) as an extra month of life of an elderly man. This may sound like a sexist statement, but it is not. Women as a

[6] Robert Arking, *Biology of Aging: Observations and Principles* (1991), p. 223.

group might benefit from policies that promoted a greater equality in the number of elderly men and women —for example, policies that added a year to female longevity but two years to male longevity —because it would give elderly women a greater prospect of male companionship, something many of them greatly value. The continuance of sexual activity on the part of elderly women is heavily dependent on marital status. And (though this may change as women work more and accrue substantial pensions rights) elderly women who are married are far better off financially than ones who live alone. A much higher fraction of men than of women aged 65 and over are married, and the disparity grows with age. Male-female differences in widowhood are particularly striking. In the 65–69 age group, only 7 percent of men, but 34 percent of women, are widowed; in the 80-84 age group, the figures are 27 and 72 percent. These disparaties would be smaller if men lived as long as women.

The question whether to reallocate medical resources from women's to men's diseases is similar to the question whether to reallocate medical resources from the diseases of older people to the diseases of younger people. If adding a year of life to a 65-year-old would confer greater utility than adding a year of life to a 75-year-old, then adding a year of life to an old man is likely to confer greater utility than adding a year of life to an old woman, quite apart from the imbalance in numbers, simply because the average old man is younger than the average old woman.

Treatment Issues, and Quantity versus Quality of Life

Age is an issue not only in fiscal decisions concerning health care and medical research, but also in treatment decisions. When medical resources are short, as in the classic triage situation, and price is not used to clear the market, should age be a criterion of the decision whom to treat? It frequently is used as a criterion, to the disadvantage of the elderly. English doctors will not provide dialysis to elderly sufferers from kidney disease, and American

doctors use age as a criterion for determining admission to the last open bed in intensive-care units and eligibility for a heart transplant. The use of this criterion is often defensible on strictly "medical" grounds —the elderly patient is much less likely to survive or otherwise benefit from the procedure than the younger competitor. But not always. What to do? As is so often the case when allocative decisions are taken away from the market, the moral diversity of our society appears to preclude a satisfactory answer. The ingenious quasi-contractual solution suggested by Daniels, Dworkin, and others founders, I have argued, on the shoals of multiple-selves analysis. All that is clear is that some of the arguments against the use of age criteria in medical allocation decisions are poor —for example, the argument that it is inconsistent with punishing murderers of elderly people as heavily as murderers of young people. No social purpose would be served by encouraging the murder of elderly people by punishing such murder more lightly. The objective of most criminal statutes is to punish the criminal as heavily as is consistent with maintaining marginal deterrence and economizing on expenditures on the criminal-justice system, and neither of these constraints points to a punishment "discount" for murdering the elderly. It is true that "mercy killing," mainly of elderly people, is usually though not always punished more lightly than other murders. Many mercy killings are akin or even equivalent to assisted suicide, which we saw ought probably to carry a very different moral charge from murder.

In discussing the allocation of research and treatment resources among young and old and among men and women, as in discussing physician-assisted suicide in my first essay, I have touched on the distinction between longevity and quality of life, or between quantity and quality of life, and I want, in closing, to examine it a little more closely. The expected-utility perspective that is fundamental to economic analysis has limitations in understanding the behavior of old people and in evaluating normative issues. But it is very helpful in framing the quality versus quantity of life issue.

In a rough but serviceable way (ignoring complications like discounting) we can say that people want to maximize the product of quantity times quality of life. So ten years of life each of which would confer 100 utiles would yield a lower expected utility than eight years of life each of which would confer 150 utiles, and therefore the shorter life expectancy will be preferred. I argued that women might actually prefer a slightly shorter life expectancy if the consequence were to increase the utility of their lives when old by making it more likely that they would have male companionship. Their expected utility might be greater. This is not the only thing that society should consider in making decisions on the allocation of medical resources, but it is an important factor.

The point has implications for the allocation of medical resources between research on lethal and on nonlethal diseases, say between research on heart disease and research on deafness. One thing or rather a pair of things that greatly reduces the utility of elderly life is failing eyesight and hearing, which particularly in tandem make a person feel cut off from life and greatly curtail the range of his or her activities. Yet blindness and deafness have only a slight effect on life expectancy. They reduce the quality rather than the quantity of life. But once it is recognized that expected utility is a product of both quality and quantity, it is no longer obvious that the balance of research on the diseases of the elderly should be heavily skewed, or skewed at all, in favor of the life-threatening diseases. A 2 percent reduction in the prevalence of blindness among elderly people might contribute more to the expected utility of elderly life than a 2 percent increase in elderly life expectancy.

Obviously I have just scratched the surface of some extremely difficult questions. They are discussed more fully in my book (see note, page 15). If these essays persuade the reader of the fruitfulness of economic analysis, flavored with some philosophy, in framing these questions, suggesting possible answers, and opening up avenues of further inquiry, I shall be entirely content.