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Philosophical Reflections on Experimenting with  
Human Subjects

WHEN I was first asked to comment "philosophically" on the subject of human experimentation, I had all the hesitation natural to a layman in the face of matters on which experts of the highest competence have had their say and still carry on their dialogue. As I familiarized myself with the material,<sup>1</sup> any initial feeling of moral rectitude that might have facilitated my task quickly dissipated before the awesome complexity of the problem, and a state of great humility took its place. Nevertheless, because the subject is obscure by its nature and involves fundamental, transtechnical issues, any attempt at clarification can be of use, even without novelty. Even if the philosophical reflection should in the end achieve no more than the realization that in the dialectics of this area we must sin and fall into guilt, this insight may not be without its own gains.

*The Peculiarity of Human Experimentation*

Experimentation was originally sanctioned by natural science. There it is performed on inanimate objects, and this raises no moral problems. But as soon as animate, feeling beings become the subjects of experiment, as they do in the life sciences and especially in medical research, this innocence of the search for knowledge is lost and questions of conscience arise. The depth to which moral and religious sensibilities can become aroused is shown by the vivisection issue. Human experimentation must sharpen the issue as it involves ultimate questions of personal dignity and sacrosanctity. One difference between the human experiments and the physical is this: The physical experiment employs small-scale, artificially devised substitutes for that about which knowledge is to be obtained, and the experimenter extrapolates from these models and simulated conditions to nature at large. Something deputizes for the

"real thing"—balls rolling down an inclined plane for sun and planets, electric discharges from a condenser for real lightning, and so on. For the most part, no such substitution is possible in the biological sphere. We must operate on the original itself, the real thing in the fullest sense, and perhaps affect it irreversibly. No simulacrum can take its place. Especially in the human sphere, experimentation loses entirely the advantage of the clear division between vicarious model and true object. Up to a point, animals may fulfill the proxy role of the classical physical experiment. But in the end man himself must furnish knowledge about himself, and the comfortable separation of noncommittal experiment and definitive action vanishes. An experiment in education affects the lives of its subjects, perhaps a whole generation of schoolchildren. Human experimentation for whatever purpose is always *also* a responsible, nonexperimental, definitive dealing with the subject himself. And not even the noblest purpose abrogates the obligations this involves.

Can both that purpose and this obligation be satisfied? If not, what would be a just compromise? Which side should give way to the other? The question is inherently philosophical as it concerns not merely pragmatic difficulties and their arbitration, but a genuine conflict of values involving principles of a high order. On principle, it is felt, human beings *ought not* to be dealt with in that way (the "guinea pig" protest); on the other hand, such dealings are increasingly urged on us by considerations, in turn appealing to principle, that claim to override those objections. Such a claim must be carefully assessed, especially when it is swept along by a mighty tide. Putting the matter thus, we have already made one important assumption rooted in our "Western" cultural tradition: The prohibitive rule is, to that way of thinking, the primary and axiomatic one; the permissive counter-rule, as qualifying the first, is secondary and stands in need of justification. We must justify the infringement of a primary inviolability, which needs no justification itself; and the justification of its infringement must be by values and needs of a dignity commensurate with those to be sacrificed.

#### *"Individual Versus Society" as the Conceptual Framework*

The setting for the conflict most consistently invoked in the literature is the polarity of individual versus society—the possible tension between the individual good and the common good, be-

tween private and public welfare. Thus, W. Wolfensberger speaks of "the tension between the long-range interests of society, science, and progress, on one hand, and the rights of the individual on the other."<sup>2</sup> Walsh McDermott says: "In essence, this is a problem of the rights of the individual versus the rights of society."<sup>3</sup> Somewhere I found the "social contract" invoked in support of claims that science may make on individuals in the matter of experimentation. I have grave doubts about the adequacy of this frame of reference, but I will go along with it part of the way. It does apply to some extent, and it has the advantage of being familiar. We concede, as a matter of course, to the common good some pragmatically determined measure of precedence over the individual good. In terms of rights, we let some of the basic rights of the individual be overruled by the acknowledged rights of society—as a matter of right and moral justness and not of mere force or dire necessity (much as such necessity may be adduced in defense of that right). But in making that concession, we require a careful clarification of what the needs, interests, and rights of society are, for society—as distinct from any plurality of individuals—is an abstract and as such is subject to our definition, while the individual is the primary concrete, prior to all definition, and his basic good is more or less known. Thus, the unknown in our problem is the so-called common or public good and its potentially superior claims, to which the individual good must or might sometimes be sacrificed, in circumstances that in turn must also be counted among the unknowns of our question. Note that in putting the matter in this way—that is, in asking about the right of society to individual sacrifice—the consent of the sacrificial subject is no necessary part of the *basic* question.

"Consent," however, is the other most consistently emphasized and examined concept in discussions of this issue. This attention betrays a feeling that the "social" angle is not fully satisfactory. If society has a right, its exercise is not contingent on volunteering. On the other hand, if volunteering is fully genuine, no public right to the volunteered act need be construed. There is a difference between the moral or emotional appeal of a cause that elicits volunteering and a right that demands compliance—for example, with particular reference to the social sphere, between the *moral claim* of a common good and society's *right* to that good and to the means of its realization. A moral claim cannot be met without consent; a right can do without it. Where consent is present anyway,



the distinction may become immaterial. But the awareness of the many ambiguities besetting the "consent" actually available and used in medical research prompts recourse to the idea of a public right conceived independently of (and valid prior to) consent; and, vice versa, the awareness of the problematic nature of such a right makes even its advocates still insist on the idea of consent with all its ambiguities: An uneasy situation exists for both sides.

Nor does it help much to replace the language of "rights" by that of "interests" and then argue the sheer cumulative weight of the interests of the many over against those of the few or the single individual. "Interests" range all the way from the most marginal and optional to the most vital and imperative, and only those sanctioned by particular importance and merit will be admitted to count in such a calculus—which simply brings us back to the question of right or moral claim. Moreover, the appeal to numbers is dangerous. Is the number of those afflicted with a particular disease great enough to warrant violating the interests of the non-afflicted? Since the number of the latter is usually so much greater, the argument can actually turn around to the contention that the cumulative weight of interest is on *their* side. Finally, it may well be the case that the individual's interest in his own inviolability is itself a public interest such that its publicly condoned violation, irrespective of numbers, violates the interest of all. In that case, its protection in *each* instance would be a paramount interest, and the comparison of numbers will not avail.

These are some of the difficulties hidden in the conceptual framework indicated by the terms "society-individual," "interest," and "rights." But we also spoke of a moral call, and this points to another dimension—not indeed divorced from the societal sphere, but transcending it. And there is something even beyond that: true sacrifice from highest devotion, for which there are no laws or rules except that it must be absolutely free. "No one has the right to choose martyrs for science" was a statement repeatedly quoted in the November, 1967, *Daedalus* conference. But no scientist can be prevented from making himself a martyr for his science. At all times, dedicated explorers, thinkers, and artists have immolated themselves on the altar of their vocation, and creative genius most often pays the price of happiness, health, and life for its own consummation. But no one, not even society, has the shred of a right to expect and ask these things. They come to the rest of us as a *gratia gratis data*.

### The Sacrificial Theme

Yet we must face the somber truth that the *ultima ratio* of communal life is and has always been the compulsory, vicarious sacrifice of individual lives. The primordial sacrificial situation is that of outright human sacrifices in early communities. These were not acts of blood-lust or gleeful savagery; they were the solemn execution of a supreme, sacral necessity. One of the fellowship of men had to die so that all could live, the earth be fertile, the cycle of nature renewed. The victim often was not a captured enemy, but a select member of the group: "The king must die." If there was cruelty here, it was not that of men, but that of the gods, or rather of the stern order of things, which was believed to exact that price for the bounty of life. To assure it for the community, and to assure it ever again, the awesome *quid pro quo* had to be paid ever again.

Far be it from me, and far should it be from us, to belittle from the height of our enlightened knowledge the majesty of the underlying conception. The particular *causal* views that prompted our ancestors have long since been relegated to the realm of superstition. But in moments of national danger we still send the flower of our young manhood to offer their lives for the continued life of the community, and if it is a just war, we see them go forth as consecrated and strangely ennobled by a sacrificial role. Nor do we make their going forth depend on their own will and consent, much as we may desire and foster these: We conscript them according to law. We conscript the best and feel morally disturbed if the draft, either by design or in effect, works so that mainly the disadvantaged, socially less useful, more expendable, make up those whose lives are to buy ours. No rational persuasion of the pragmatic necessity here at work can do away with the feeling, mixed of gratitude and guilt, that the sphere of the sacred is touched with the vicarious offering of life for life. Quite apart from these dramatic occasions, there is, it appears, a persistent and constitutive aspect of human immolation to the very being and prospering of human society—an immolation in terms of life and happiness, imposed or voluntary, of few for many. What Goethe has said of the rise of Christianity may well apply to the nature of civilization in general: "*Opfer fallen hier, / Weder Lamm noch Stier, / Aber Menschenopfer unerhoert.*"\* We can never rest comfortably in the belief that the soil from which our satisfactions sprout is not wa-



tered with the blood of martyrs. But a troubled conscience compels us, the undeserving beneficiaries, to ask: Who is to be martyred? in the service of what cause? and by whose choice?

Not for a moment do I wish to suggest that medical experimentation on human subjects, sick or healthy, is to be likened to premeval human sacrifices. Yet something sacrificial is involved in the selective abrogation of personal inviolability and the ritualized exposure to gratuitous risk of health and life, justified by a presumed greater, social good. My examples from the sphere of stark sacrifice were intended to sharpen the issues implied in that context and to set them off clearly from the kinds of obligations and constraints imposed on the citizen in the normal course of things or generally demanded of the individual in exchange for the advantages of civil society.

### *The "Social Contract" Theme*

The first thing to say in such a setting-off is that the sacrificial area is not covered by what is called the "social contract." This fiction of political theory, premised on the primacy of the individual, was designed to supply a rationale for the *limitation* of individual freedom and power required for the existence of the body politic, whose existence in turn is for the benefit of the individuals. The principle of these limitations is that their *general* observance profits all, and that therefore the individual observer, assuring this general observance for his part, profits by it himself. I observe property rights because their general observance assures my own; I observe traffic rules because their general observance assures my own safety; and so on. The obligations here are mutual and general; no one is singled out for special sacrifice. For the most part, *qua* limitations of my liberty, the laws thus deducible from the hypothetical "social contract" enjoin me from certain actions rather than obligate me to positive actions (as did the laws of feudal society). Even where the latter is the case, as in the duty to pay taxes, the rationale is that I am myself a beneficiary of the services financed through these payments. Even the contributions levied by the welfare state, though not originally contemplated in the liberal version of the social contract theory, can be interpreted as a personal insurance policy of one sort or another—be it against the contingency of my own indigence, the dangers of disaffection from the laws in consequence of widespread unrelieved destitution, or the disadvan-

tages of a diminished consumer market. Thus, by some stretch, such contributions can still be subsumed under the principle of enlightened self-interest. But no complete abrogation of self-interest at any time is in the terms of the social contract, and so pure sacrifice falls outside it. Under the putative terms of the contract alone, I cannot be required to die for the public good. (Thomas Hobbes made this forcibly clear.) Even short of this extreme, we like to think that nobody is entirely and one-sidedly the victim in any of the renunciations exacted under normal circumstances by society "in the general interest"—that is, for the benefit of others. "Under normal circumstances," as we shall see, is a necessary qualification. Moreover, the "contract" can legitimize claims only on our overt public actions and not on our invisible private being. Our powers, not our persons, are beholden to the commonweal. In one important respect, it is true, public interest and control do extend to the private sphere by general consent: in the compulsory education of our children. Even there, the assumption is that the learning and what is learned, apart from all future social usefulness, are also for the benefit of the individual in his own being. We would not tolerate education to degenerate into the conditioning of useful robots for the social machine.

Both restrictions of public claim in behalf of the "common good"—that concerning one-sided sacrifice and that concerning the private sphere—are valid only, let us remember, on the premise of the primacy of the individual, upon which the whole idea of the "social contract" rests. This primacy is itself a metaphysical axiom or option peculiar to our Western tradition, and the whittling away of this axiom would threaten the tradition's whole foundation. In passing, I may remark that systems adopting the alternative primacy of the community as their axiom are naturally less bound by the restrictions we postulate. Whereas we reject the idea of "expensables" and regard those not useful or even recalcitrant to the social purpose as a burden that society must carry (since their individual claim to existence is as absolute as that of the most useful), a truly totalitarian regime, Communist or other, may deem it right for the collective to rid itself of such encumbrances or to make them forcibly serve some social end by conscripting their persons (and there are effective combinations of both). We do not normally—that is, in nonemergency conditions—give the state the right to conscript labor, while we do give it the right to "conscript" money, for money is detachable from the person as labor is not.



Even less than forced labor do we countenance forced risk, injury, and indignity.

But in time of war our society itself supersedes the nice balance of the social contract with an almost absolute precedence of public necessities over individual rights. In this and similar emergencies, the sacrosanctity of the individual is abrogated, and what for all practical purposes amounts to a near-totalitarian, quasi-Communist state of affairs is *temporarily* permitted to prevail. In such situations, the community is conceded the right to make calls on its members, or certain of its members, entirely different in magnitude and kind from the calls normally allowed. It is deemed right that a part of the population bears a disproportionate burden of risk of a disproportionate gravity; and it is deemed right that the rest of the community accepts this sacrifice, whether voluntary or enforced, and reaps its benefits—difficult as we find it to justify this acceptance and this benefit by any normal ethical categories. We justify it transethically, as it were, by the supreme collective emergency, formalized, for example, by the declaration of a state of war.

Medical experimentation on human subjects falls somewhere between this overpowering case and the normal transactions of the social contract. On the one hand, no comparable extreme issue of social survival is (by and large) at stake. And no comparable extreme sacrifice or foreseeable risk is (by and large) asked. On the other hand, what is asked goes decidedly beyond, even runs counter to, what it is otherwise deemed fair to let the individual sign over of his person to the benefit of the "common good." Indeed, our sensitivity to the kind of intrusion and use involved is such that only an end of transcendent value or overriding urgency can make it arguable and possibly acceptable in our eyes.

### *Health as a Public Good*

The cause invoked is health and, in its more critical aspect, life itself—clearly superlative goods that the physician serves directly by curing and the researcher indirectly by the knowledge gained through his experiments. There is no question about the good **served** nor about the evil fought—disease and premature death. But a good to whom and an evil to whom? Here the issue tends **to** become; **somewhat** clouded. In the attempt to give experimentation the proper dignity (on the problematic view that a value be-

### *Philosophical Reflections on Human Experimentation*

comes greater by being "social" instead of merely individual), the health in question or the disease in question is somehow predicated of the social whole, as if it were society that, in the persons of its members, enjoyed the one and suffered the other. For the purposes of our problem, public interest can then be pitted against private interest, the common good against the individual good. Indeed, I have found health called a national resource, which of course it is, but surely not in the first place.

In trying to resolve some of the complexities and ambiguities lurking in these conceptualizations, I have pondered a particular statement, made in the form of a question, which I found in the *Proceedings* of the November *Daedalus* conference: "Can society afford to discard the tissues and organs of the hopelessly unconscious patient when they could be used to restore the otherwise hopelessly ill, but still salvageable individual?" And somewhat later: "A strong case can be made that society can ill afford to discard the tissues and organs of the hopelessly unconscious patient; they are greatly needed for study and experimental trial to help those who can be salvaged."<sup>5</sup> I hasten to add that any suspicion of callousness that the "commodity" language of these statements may suggest is immediately dispelled by the name of the speaker, Dr. Henry K. Beecher, for whose humanity and moral sensibility there can be nothing but admiration. But the use, in all innocence, of this language gives food for thought. Let me, for a moment, take the question literally. "Discarding" implies proprietary rights—nobody can discard what does not belong to him in the first place. Does society then own my body? "Salvaging" implies the same and, moreover, a use-value to the owner. Is the life-extension of certain individuals then a public interest? "Affording" implies a critically vital level of such an interest—that is, of the loss or gain involved. And "society" itself—what is it? When does a need, an aim, an obligation become social? Let us reflect on some of these terms.

### *What Society Can Afford*

"Can Society afford. . . P" Afford what? To let people die intact, thereby withholding something from other people who desperately need it, who in consequence will have to die too? These other, unfortunate people indeed cannot afford not to have a kidney, heart, or other organ of the dying patient, on which they depend



for an extension of their lease on life; but does that give them a right to it? Does it oblige society to procure it for them? What is it that *society* can or cannot afford—leaving aside for the moment the question of what it has a *right to*? It surely can afford to lose members through death; more than that, it is built on the balance of death and birth decreed by the order of life. This is too general, of course, for our question, but perhaps it is well to remember. The specific question seems to be whether society can afford to let some people die whose death might be deferred by particular means if these were authorized by society. Again, if it is merely a question of what society can or cannot afford, rather than of what it ought or ought not to do, the answer must be: Of course, it can. If cancer, heart disease, and other organic, noncontagious ills, especially those tending to strike the old more than the young, continue to exact their toll at the normal rate of incidence (including the toll of private anguish and misery), society can go on flourishing in every way.

Here, by contrast, are some examples of what, in sober truth, society cannot afford. It cannot afford to let an epidemic rage unchecked; a persistent excess of deaths over births, but neither too great an excess of births over deaths; too low an average life-expectancy even if demographically balanced by fertility, but neither too great a longevity with the necessitated correlative dearth of youth in the social body; a debilitating state of general health; and things of this kind. These are plain cases where the whole condition of society is critically affected, and the public interest can make its imperative claims. The Black Death of the Middle Ages was a *public* calamity of the acute kind; the life-sapping ravages of endemic malaria or sleeping sickness in certain areas are a public calamity of the chronic kind. A society as a whole can truly not "afford" such situations, and they may call for extraordinary remedies, including, perhaps, the invasion of private sacrosanctities.

This is not entirely a matter of numbers and numerical ratios. Society, in a subtler sense, cannot "afford" a single miscarriage of justice, a single inequity in the dispensation of its laws, the violation of the rights of even the tiniest minority, because these undermine the moral basis on which society's existence rests. Nor can it, for a similar reason, afford the absence or atrophy in its midst of compassion and of the effort to alleviate suffering—be it widespread or rare—one form of which is the effort to conquer disease of any kind, whether "socially" significant (by reason of number)

or not. And in short, society cannot afford the absence among its members of *virtue* with its readiness to sacrifice beyond defined duty. Since its presence—that is to say, that of personal idealism—is a matter of grace and not of decree, we have the paradox that society depends for its existence on intangibles of nothing less than a religious order, for which it can hope, but which it cannot enforce. All the more must it protect this most precious capital from abuse.

For what objectives connected with the medico-biological sphere should this reserve be drawn upon—for example, in the form of accepting, soliciting, perhaps even imposing the submission of human subjects to experimentation? We postulate that this must be not just a worthy cause, as any promotion of the health of anybody doubtlessly is, but a cause qualifying for transcendent social sanction. Here one thinks first of those cases critically affecting the whole condition, present and future, of the community. Something equivalent to what in the political sphere is called "clear and present danger" may be invoked and a state of emergency proclaimed, thereby suspending certain otherwise inviolable prohibitions and taboos. We may observe that averting a disaster always carries greater weight than promoting a good. Extraordinary danger excuses extraordinary means. This covers human experimentation, which we would like to count, as far as possible, among the extraordinary rather than the ordinary means of serving the common good under public auspices. Naturally, since foresight and responsibility for the future are of the essence of institutional society, averting disaster extends into long-term prevention, although the lesser urgency will warrant less sweeping licenses.

#### *Society and the Cause of Progress*

Much weaker is the case where it is a matter not of saving but of improving society. Much of medical research falls into this category. A permanent death rate from heart failure or cancer does not threaten society. So long as certain statistical ratios are maintained, the incidence of disease and of disease-induced mortality is not (in the strict sense) a "social" misfortune. I hasten to add that it is not therefore less of a human misfortune, and the call for relief issuing with silent eloquence from each victim and all potential victims is of no lesser dignity. But it is misleading to equate the fundamentally human response to it with what is owed to society: It is



owed by man to man—and it is thereby owed by society to the individuals as soon as the adequate ministering to these concerns outgrows (as it progressively does) the scope of private spontaneity and is made a public mandate. It is thus that society assumes responsibility for medical care, research, old age, and innumerable other things not originally of the public realm (in the original "social contract"), and they become duties toward "society" (rather than directly toward one's fellow man) by the fact that they are socially operated.

Indeed, we expect from organized society no longer mere protection against harm and the securing of the conditions of our preservation, but active and constant improvement in all the domains of life: the waging of the battle against nature, the enhancement of the human estate—in short, the promotion of progress. This is an expansive goal, one far surpassing the disaster norm of our previous reflections. It lacks the urgency of the latter, but has the nobility of the free, forward thrust. It surely is worth sacrifices. It is not at all a question of what society can afford, but of what it is committed to, beyond all necessity, by our mandate. Its trusteeship has become an established, ongoing, institutionalized business of the body politic. As eager beneficiaries of its gains, we now owe to "society," as its chief agent, our individual contribution toward its *continued pursuit*. Maintaining the existing level requires no more than the orthodox means of taxation and enforcement of professional standards that raise no problems. The more optional goal of pushing forward is also more exacting. We have this syndrome: Progress is by our choosing an acknowledged interest of society, in which we have a stake in various degrees; science is a necessary instrument of progress; research is a necessary instrument of science; and in medical science experimentation on human subjects is a necessary instrument of research: Therefore, human experimentation has come to be a societal interest.

The destination of research is essentially melioristic. It does not serve the preservation of the existing good from which I profit myself and to which I am obligated. Unless the present state is intolerable, the melioristic goal is in a sense gratuitous, and not only from the vantage point of the present. Our descendants have a right to be left an unplundered planet; they do not have a right to new miracle cures. We have sinned against them if by our doing we have destroyed their inheritance—which we are doing at full blast; we have not sinned against them if by the time they come

around arthritis has not yet been conquered (unless by sheer neglect). And generally, in the matter of progress, as humanity had no claim on a Newton, a Michelangelo, or a St. Francis to appear, and no right to the blessings of their unscheduled deeds, so progress, with all our methodical labor for it, cannot be budgeted in advance and its fruits received as a due. Its coming-about at all and its turning out for good (of which we can never be sure) must rather be regarded as something akin to grace.

### *The Melioristic Goal, Medical Research, and Individual Duty*

Nowhere is the melioristic goal more inherent than in medicine. To the physician, it is not gratuitous. He is committed to curing and thus to improving the power to cure. Gratuitous we called it (outside disaster conditions) as a *social* goal, but noble at the same time. Both the nobility and the gratuitousness must influence the manner in which self-sacrifice for it is elicited and even its free offer accepted. Freedom is certainly the first condition to be observed here. The surrender of one's body to medical experimentation is entirely outside the enforceable "social contract."

Or can it be construed to fall within its terms—namely, as repayment for benefits from past experimentation that I have enjoyed myself? But I am indebted for these benefits not to society, but to the past "martyrs," to whom society is indebted itself, and society has no right to call in my personal debt by way of adding new to its own. Moreover, gratitude is not an enforceable social obligation; it anyway does not mean that I must emulate the deed. Most of all, if it was wrong to exact such sacrifice in the first place, it does not become right to exact it again with the plea of the profit it has brought me. If, however, it was not exacted, but entirely free, as it ought to have been, then it should remain so, and its precedence must not be used as a social pressure on others for doing the same under the sign of duty.

Indeed, we must look outside the sphere of the social contract, outside the whole realm of public rights and duties, for the motivations and norms by which we can expect ever again the upwelling of a will to give what nobody—neither society, nor fellow man, nor posterity—is entitled to. There are such dimensions in man with trans-social wellsprings of conduct, and I have already pointed



to the paradox, or mystery, that society cannot prosper without them, that it must draw on them, but cannot command them.

What about the moral law as such a transcendent motivation of conduct? It goes considerably beyond the public law of the social contract. The latter, we saw, is founded on the rule of enlightened self-interest: *Do ut des*—I give so that I be given to. The law of individual conscience asks more. Under the Golden Rule, for example, I am required to give as I wish to be given to under like circumstances, but not in order that I be given to and not in expectation of return. Reciprocity, essential to the social law, is not a condition of the moral law. One subtle "expectation" and "self-interest," but of the moral order itself, may even then be in my mind: I prefer the environment of a moral society and can expect to contribute to the general morality by my own example. But even if I should always be the dupe, the Golden Rule holds. (If the social law breaks faith with me, I am released from its claim.)

#### *Moral Law and Transmoral Dedication*

Can I, then, be called upon to offer myself for medical experimentation in the name of the moral law? *Prima facie*, the Golden Rule seems to apply. I should wish, were I dying of a disease, that enough volunteers in the past had provided enough knowledge through the gift of their bodies that I could now be saved. I should wish, were I desperately in need of a transplant, that the dying patient next door had agreed to a definition of death by which his organs would become available to me in the freshest possible condition. I surely should also wish, were I drowning, that somebody would risk his life, even sacrifice his life, for mine.

But the last example reminds us that only the negative form of the Golden Rule ("Do not do unto others what you do not want done unto yourself") is fully prescriptive. The positive form ("Do unto others as you would wish them to do unto you"), in whose compass our issue falls, points into an infinite, open horizon where prescriptive force soon ceases. We may well say of somebody that he ought to have come to the succor of B, to have shared with him in his need, and the like. But we may not say that he ought to have given his life for him. To have done so would be praiseworthy; not to have done so is not blameworthy. It cannot be asked of him; if he fails to do so, he reneges on no duty. But *he* may say of himself, and only he, that he ought to have given his life. *This*

"ought" is strictly between him and himself, or between him and God; no outside party—fellow man or society—can appropriate its voice. It can humbly receive the supererogatory gifts from the free enactment of it.

We must, in other words, distinguish between moral obligation and the much larger sphere of moral value. (This, incidentally, shows up the error in the widely held view of value theory that the higher a value, the stronger its claim and the greater the duty to realize it. The highest are in a region beyond duty and claim.) The ethical dimension far exceeds that of the moral law and reaches into the sublime solitude of dedication and ultimate commitment, away from all reckoning and rule—in short, into the sphere of the *holy*. From there alone can the offer of self-sacrifice genuinely spring, and this—its source—must be honored religiously. How? The first duty here falling on the research community, when it enlists and uses this source, is the safeguarding of true authenticity and spontaneity.

#### *TJie "Conscription" of Consent*

But here we must realize that the mere issuing of the appeal, the calling for volunteers, with the moral and social pressures it inevitably generates, amounts even under the most meticulous rules of consent to a sort of *conscripting*. And some soliciting is necessarily involved. This was in part meant by the earlier remark that in this area sin and guilt can perhaps not be wholly avoided. And this is why "consent," surely a non-negotiable minimum requirement, is not the full answer to the problem. Granting then that soliciting and therefore some degree of conscripting are part of the situation, who may conscript and who may be conscripted? Or less harshly expressed: Who should issue appeals and to whom?

The naturally qualified issuer of the appeal is the research scientist himself, collectively the main carrier of the impulse and the only one with the technical competence to judge. But his being very much an interested party (with vested interests, indeed, not purely in the public good, but in the scientific enterprise as such, in "his" project, and even in his career) makes him also suspect. The ineradicable dialectic of this situation—a delicate incompatibility problem—calls for particular controls by the research community and by public authority that we need not discuss. They can mitigate, but not eliminate the problem. We have to live with the ambiguity, the treacherous impurity of everything human.



### *Self-Recruitment of the Research Community*

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To whom should the appeal be addressed? The natural issuer of the call is also the first natural addressee: the physician-researcher himself and the scientific confraternity at large. With such a coincidence—indeed, the noble tradition with which the whole business of human experimentation started—almost all of the associated legal, ethical, and metaphysical problems vanish. If it is full, autonomous identification of the subject with the purpose that is required for the dignifying of his serving as a subject—here it is; if strongest motivation—here it is; if fullest understanding—here it is; if freest decision—here it is; if greatest integration with the person's total, chosen pursuit—here it is. With self-solicitation, the issue of consent in all its insoluble equivocality is bypassed *per se*. Not even the condition that the particular purpose be truly important and the project reasonably promising, which must hold in any solicitation of others, need be satisfied here. By himself, the scientist is free to obey his obsession, to play his hunch, to wager on chance, to follow the lure of ambition. It is all part of the "divine madness" that somehow animates the ceaseless pressing against frontiers. For the rest of society, which has a deep-seated disposition to look with reverence and awe upon the guardians of the mysteries of life, the profession assumes with this proof of its devotion the role of a self-chosen, consecrated fraternity, not unlike the monastic orders of the past; and this would come nearest to the actual, religious origins of the art of healing.

It would be the ideal, but not a real solution to keep the issue of human experimentation within the research community itself. Neither in numbers nor in variety of material would its potential suffice for the many-pronged, systematic, continual attack on disease into which the lonely exploits of the early investigators have grown. Statistical requirements alone make their voracious demands; were it not for what I have called the essentially "gratuitous" nature of the whole enterprise of progress, as against the mandatory respect for invasion-proof selfhood, the simplest answer would be to keep the whole population enrolled, and let the lot, or an equivalent of draft boards, decide which of each category will at any one time be called up for "service." It is not difficult to picture societies with whose philosophy this would be consonant. We are agreed that ours is not one such and should not become one. The specter of it is indeed among the threatening Utopias on

our own horizon from which we should recoil, and of whose advent by imperceptible steps we must beware. How then can our mandatory faith be honored when the recruitment for experimentation goes outside the scientific community, as it must in honoring another commitment of no mean dignity? We simply repeat the former question: To whom should the call be addressed?

### *"Identification" as the Principle of Recruitment in General*

If the properties we adduced as the particular qualifications of the members of the scientific fraternity itself are taken as general criteria of selection, then one should look for additional subjects where a maximum of identification, understanding, and spontaneity can be expected—that is, among the most highly motivated, the most highly educated, and the least "captive" members of the community. From this naturally scarce resource, a descending order of permissibility leads to greater abundance and ease of supply, whose use should become proportionately more hesitant as the exculpatory criteria are relaxed. An inversion of normal "market" behavior is demanded here—namely, to accept the lowest quotation last (and excused only by the greatest pressure of need), to pay the highest price first.

As such a rule of selection is bound to be rather hard on the number-hungry research industry, it will be asked: Why all the fuss? At this point we had better spell out some of the things we have been tacitly presupposing all the time. What is wrong with making a person an experimental subject is not so much that we make him thereby a means (which happens in social contexts of all kinds), as that we make him a thing—a passive thing merely to be acted on, and passive not even for real action, but for token action whose token object he is. His being is reduced to that of a mere token or "sample." This is different from even the most exploitative situations of social life; there the business is real, not fictitious. The subject, however much abused, remains an agent and thus a "subject" in the other sense of the word. The soldier's case, referred to earlier, is instructive: Subject to most unilateral discipline, forced to risk mutilation and death, conscripted without, perhaps against, his will—he is still conscripted with his capacities to act, to hold his own or fail in situations, to meet real challenges for real stakes. Though a mere "number" to the High Command, he is not a token and not a thing. (Imagine what he



would say if it turned out that the war was a game staged to sample observations on his endurance, courage, or cowardice.)

These compensations of personhood are denied to the subject of experimentation, who is acted upon for an extraneous end without being engaged in a real relation where he would be the counterpoint to the other or to circumstance. Mere "consent" (mostly amounting to no more than permission) does not right this reification. The "wrong" of it can only be made "right" by such authentic identification with the cause that it is the subject's as well as the researcher's cause—whereby his role in its service is not just permitted by him, but *willed*. That sovereign will of his which embraces the end as his own restores his personhood to the otherwise depersonalizing context. To be valid it must be autonomous and informed. The latter condition can, outside the research community, only be fulfilled by degrees; but the higher the degree of the understanding regarding the purpose and the technique, the more valid becomes the endorsement of the will. A margin of mere trust inevitably remains. Ultimately, the appeal for volunteers should seek this free and generous endorsement, the appropriation of the research purpose into the person's own scheme of ends. Thus, the appeal is in truth addressed to the one, mysterious, and sacred source of any such generosity of the will—"devotion," whose forms and objects of commitment are various and may invest different motivations in different individuals. The following, for instance, may be responsive to the "call" we are discussing: compassion with human suffering, zeal for humanity, reverence for the Golden Rule, enthusiasm for progress, homage to the cause of knowledge, even longing for sacrificial justification (do not call that "masochism," please). On all these, I say, it is defensible and right to draw when the research objective is worthy enough; and it is a prime duty of the research community (especially in view of what we called the "margin of trust") to see that this sacred source is never abused for frivolous ends. For a less than adequate cause, not even the freest, unsolicited offer should be accepted.

#### *The Rule of the "Descending Order" and Its Counter-Utility Sense*

We have laid down what must seem to be a forbidding rule. Having faith in the transcendent potential of man, I do not fear that the "source" will ever fail a society that does not destroy it—

and only such a one is worthy of the blessings of progress. But "elitistic" the rule is (as is the enterprise of progress itself), and elites are by nature small. The combined attribute of motivation and information, plus the absence of external pressures, tends to be socially so circumscribed that strict adherence to the rule might numerically starve the research process. This is why I spoke of a descending order of permissibility, which is itself permissive, but where the realization that it is a *descending* order is not without pragmatic import. Departing from the august norm, the appeal must needs shift from idealism to docility, from high-mindedness to compliance, from judgment to trust. Consent spreads over the whole spectrum. I will not go into the casuistics of this penumbral area. I merely indicate the principle of the order of preference: The poorer in knowledge, motivation, and freedom of decision (and that, alas, means the more readily available in terms of numbers and possible manipulation), the more sparingly and indeed reluctantly should the reservoir be used, and the more compelling must therefore become the countervailing justification.

Let us note that this is the opposite of a social utility standard, the reverse of the order by "availability and expendability": The most valuable and scarcest, the least expendable elements of the social organism, are to be the first candidates for risk and sacrifice. It is the standard of *noblesse oblige*; and with all its counter-utility and seeming "wastefulness," we feel a Tightness about it and perhaps even a higher "utility," for the soul of the community lives by this spirit.<sup>6</sup> It is also the opposite of what the day-to-day interests of research clamor for, and for the scientific community to honor it will mean that it will have to fight a strong temptation to go by routine to the readiest sources of supply—the suggestible, the ignorant, the dependent, the "captive" in various senses.<sup>7</sup> I do not believe that heightened resistance here must cripple research, which cannot be permitted; but it may slow it down by the smaller numbers fed into experimentation in consequence. This price—a possibly slower rate of progress—may have to be paid for the preservation of the most precious capital of higher communal life.

#### *Experimentation on Patients*

So far we have been speaking on the tacit assumption that the subjects of experimentation are recruited from among the healthy. To the question "Who is conscriptable?" the spontaneous answer is:



Least and last of all the sick—the most available source as they are under treatment and observation anyway. That the afflicted should not be called upon to bear additional burden and risk, that they are society's special trust and the physician's particular trust—these are elementary responses of our moral sense. Yet the very destination of medical research, the conquest of disease, requires at the crucial stage trial and verification on precisely the sufferers from the disease, and their total exemption would defeat the purpose itself. In acknowledging this inescapable necessity, we enter the most sensitive area of the whole complex, the one most keenly felt and most searchingly discussed by the practitioners themselves. This issue touches the heart of the doctor-patient relation, putting its most solemn obligations to the test. Some of the oldest verities of this area should be recalled.

#### *The Fundamental Privilege of the Sick*

In the course of treatment, the physician is obligated to the patient and to no one else. He is not the agent of society, nor of the interests of medical science, the patient's family, the patient's co-sufferers, or future sufferers from the same disease. The patient alone counts when he is under the physician's care. By the simple law of bilateral contract (analogous, for example, to the relation of lawyer to client and its "conflict of interest" rule), he is bound not to let any other interest interfere with that of the patient in being cured. But manifestly more sublime norms than contractual ones are involved. We may speak of a sacred trust; strictly by its terms, the doctor is, as it were, alone with his patient and God.

There is one normal exception to this—that is, to the doctor's not being the agent of society vis-à-vis the patient, but the trustee of his interests alone—the quarantining of the contagious sick. This is plainly not for the patient's interest, but for that of others threatened by him. (In vaccination, we have a combination of both: protection of the individual and others.) But preventing the patient from causing harm to others is not the same as exploiting him for the advantage of others. And there is, of course, the abnormal exception of collective catastrophe, the analogue to a state of war. The physician who desperately battles a raging epidemic is under a unique dispensation that suspends in a nonspecifiable way some of the strictures of normal practice, including possibly those against experimental liberties with his patients. No rules can be devised

#### *Philosophical Reflections on Human Experimentation*

for the waiving of rules in extremities. And as with the famous shipwreck examples of ethical theory, the less said about it the better. But what is allowable there and may later be passed over in forgiving silence cannot serve as a precedent. We are concerned with non-extreme, non-emergency conditions where the voice of principle can be heard and claims can be adjudicated free from duress. We have conceded that there are such claims, and that if there is to be medical advance at all, not even the superlative privilege of the suffering and the sick can be kept wholly intact from the intrusion of its needs. About this least palatable, most disquieting part of our subject, I have to offer only groping, inconclusive remarks.

#### *The Principle of "Identification" Applied to Patients*

On the whole, the same principles would seem to hold here as are found to hold with "normal subjects": motivation, identification, understanding on the part of the subject. But it is clear that these conditions are peculiarly difficult to satisfy with regard to a patient. His physical state, psychic preoccupation, dependent relation to the doctor, the submissive attitude induced by treatment—everything connected with his condition and situation makes the sick person inherently less of a sovereign person than the healthy one. Juxtaposition of self-offering has almost to be ruled out; consent is marred \* by lower resistance or captive circumstance, and so on. In fact, all the factors that make the patient, as a category, particularly accessible and welcome for experimentation at the same time compromise the quality of the responding affirmation that must morally redeem the making use of them. This, in addition to the primacy of the physician's duty, puts a heightened onus on the physician-researcher to limit his undue power to the most important and defensible research objectives and, of course, to keep persuasion at a minimum.

Still, with all the disabilities noted, there is scope among patients for observing the rule of the "descending order of permissibility" that we have laid down for normal subjects, in vexing inversion of the utility order of quantitative abundance and qualitative "expendability." By the principle of this order, those patients who most identify with and are cognizant of the cause of research—members of the medical profession (who after all are sometimes patients themselves)—come first; the highly motivated and educated, also



least dependent, among the lay patients come next; and so on down the line. An added consideration here is seriousness of condition, which again operates in inverse proportion. Here the profession must fight the tempting sophistry that the hopeless case is expendable (because in prospect already expended) and therefore especially usable; and generally the attitude that the poorer the chances of the patient the more justifiable his recruitment for experimentation (other than for his own benefit). The opposite is true.

#### *Nondisclosure as a Borderline Case*

Then there is the case where ignorance of the subject, sometimes even of the experimenter, is of the essence of the experiment (the "double blind"-control group-placebo syndrome). It is said to be a necessary element of the scientific process. Whatever may be said about its ethics in regard to normal subjects, especially volunteers, it is an outright betrayal of trust in regard to the patient who believes that he is receiving treatment. Only supreme importance of the objective can exonerate it, without making it less of a transgression. The patient is definitely wronged even when not harmed. And ethics apart, the practice of such deception holds the danger of undermining the faith in the *bona fides* of treatment, the beneficial intent of the physician—the very basis of the doctor-patient relationship. In every respect, it follows that concealed experiment on patients—that is, experiment under the guise of treatment—should be the rarest exception, at best, if it cannot be wholly avoided.

This has still the merit of a borderline problem. This is not true of the other case of necessary ignorance of the subject—that of the unconscious patient. Drafting him for nontherapeutic experiments is simply and unqualifiedly impermissible; progress or not, he must never be used, on the inflexible principle that utter helplessness demands utter protection.

When preparing this paper, I filled pages with a casuistics of this harrowing field, but then scratched out most of it, realizing my dilettante status. The shadings are endless, and only the physician-researcher can discern them properly as the cases arise. Into his lap the decision is thrown. The philosophical rule, once it has admitted into itself the idea of a sliding scale, cannot really specify its own application. It can only impress on the practitioner a general maxim or attitude for the exercise of his judgment and consci-

ence in the concrete occasions of his work. In our case, I am afraid, it means making life more difficult for him.

It will also be noted that, somewhat at variance with the emphasis in the literature, I have not dwelt on the element of "risk" and very little on that of "consent." Discussion of the first is beyond the layman's competence; the emphasis on the second has been lessened because of its equivocal character. It is a truism to say that one should strive to minimize the risk and to maximize the consent. The more demanding concept of "identification," which I have used, includes "consent" in its maximal or authentic form, and the assumption of risk is its privilege.

#### *No Experiments on Patients Unrelated to Their Own Disease*

Although my ponderings have, on the whole, yielded points of view rather than definite prescriptions, premises rather than conclusions, they have led me to a few unequivocal yeses and noes. The first is the emphatic rule that patients should be experimented upon, if at all, *only* with reference to *their* disease. Never should there be added to the gratuitousness of the experiment as such the gratuitousness of service to an unrelated cause. This follows simply from what we have found to be the *only* excuse for infracting the special exemption of the sick at all—namely, that the scientific war on disease cannot accomplish its goal without drawing the sufferers from disease into the investigative process. If under this excuse they become subjects of experiment, they do so *because*, and only because, of *their* disease.

This is the fundamental and self-sufficient consideration. That the patient cannot possibly benefit from the unrelated experiment therapeutically, while he might from experiment related to his condition, is also true, but lies beyond the problem area of pure experiment. Anyway, I am discussing nontherapeutic experimentation only, where *ex hypothesi* the patient does not benefit. Experiment as part of therapy—that is, directed toward helping the subject himself—is a different matter altogether and raises its own problems, but hardly philosophical ones. As long as a doctor can say, even if only in his own thought: "There is no known cure for your condition (or: You have responded to none); but there is promise in a new treatment still under investigation, not quite tested yet as to effectiveness and safety; you will be taking a chance, but all things considered, I



• judge it in your best interest to let me try it on you"—as long as he can speak thus, he speaks as the patient's physician and may err, but does not transform the patient into a subject of experimentation. Introduction of an untried therapy into the treatment where the tried ones have failed is not "experimentation on the patient."

Generally, there is something "experimental" (because tentative) about every individual treatment, beginning with the diagnosis itself; and he would be a poor doctor who would not learn from every case for the benefit of future cases, and a poor member of the profession who would not make any new insights gained from his treatments available to the profession at large. Thus, knowledge may be advanced in the treatment of any patient, and the interest of the medical art and all sufferers from the same affliction as well as the patient may be served if something happens to be learned from his case. But this gain to knowledge and future therapy is incidental to the *bona fide* service to the present patient. He has the right to expect that the doctor does nothing to him just in order to learn.

In that case, the doctor's imaginary speech would run, for instance, like this: "There is nothing more I can do for you. But you can do something for me. Speaking no longer as your physician but on behalf of medical science, we could learn a great deal about future cases of this kind if you would permit me to perform certain experiments on you. It is understood that you yourself would not benefit from any knowledge we might gain; but future patients would." This statement would express the purely experimental situation, assumedly here with the subject's concurrence and with all cards on the table. In Alexander Bickel's words: "It is a different situation when the doctor is no longer trying to make [the patient] well, but is trying to find out how to make others well in the future."<sup>8</sup>

But even in the second case of the nontherapeutic experiment where the patient does not benefit, the patient's own disease is enlisted in the cause of fighting that disease, even if only in others. It is yet another thing to say or think: "Since you are here—in the hospital with its facilities—under our care and observation, away from your job (or, perhaps, doomed), we wish to profit from your being available for some other research of great interest we are presently engaged in." From the standpoint of merely medical ethics, which has only to consider risk, consent, and the worth of the objective, there may be no cardinal difference be-

tween this case and the last one. I hope that my medical audience will not think I am making too fine a point when I say that from the standpoint of the subject and his dignity there is a cardinal difference that crosses the line between the permissible and the impermissible, and this by the same principle of "identification" I have been invoking all along. Whatever the rights and wrongs of any experimentation on any patient—in the one case, at least that residue of identification is left him that it is his own affliction by which he can contribute to the conquest of that affliction, his own kind of suffering which he helps to alleviate in others; and so in a sense it is his own cause. It is totally indefensible to rob the unfortunate of this intimacy with the purpose and make his misfortune a convenience for the furtherance of alien concerns. The observance of this rule is essential, I think, to attenuate at least the wrong that nontherapeutic experimenting on patients commits in any case.

#### *On the Redefinition of Death*

My other emphatic verdict concerns the question of the redefinition of death—acknowledging "irreversible coma as a new definition for death."<sup>9</sup> I wish not to be misunderstood. As long as it is merely a question of when it is permitted to cease the artificial prolongation of certain functions (like heartbeat) traditionally regarded as signs of life, I do not see anything ominous in the notion of "brain death." Indeed, a new definition of death is not even necessary to legitimize the same result if one adopts the position of the Roman Catholic Church, which here for once is eminently reasonable—namely that "when deep unconsciousness is judged to be permanent, extraordinary means to maintain life are not obligatory. They can be terminated and the patient allowed to die."<sup>10</sup> Given a clearly defined negative condition of the brain, the physician is allowed to allow the patient to die his own death by *any* definition, which of itself will lead through the gamut of all possible definitions. But a disquietingly contradictory purpose is combined with this purpose in the quest for a new definition of death, in the will to *advance* the moment of declaring him dead: Permission not to turn off the respirator, but, on the contrary, to keep it on and thereby maintain the body in a state of what would have been "life" by the older definition (but is only a "simulacrum"



of life by the new)—so as to get at his organs and tissues under the ideal conditions of what would previously have been "vivisection."<sup>11</sup>

Now this, whether done for research or transplant purposes, seems to me to overstep what the definition can warrant. Surely it is one thing when to cease delaying death, but another when to start doing violence to the body; one thing when to desist from protracting the process of dying, but another when to regard that process as complete and thereby the body as a cadaver free for inflicting on it what would be torture and death to any living body. For the first purpose, we need not know the exact borderline with absolute certainty between life and death—we leave it to nature to cross it wherever it is, or to traverse the whole spectrum if there is not just one line. All we need to know is that coma is irreversible. For the second purpose we must know the borderline; and to use any definition short of the maximal for perpetrating on a *possibly* penultimate state what only the ultimate state can permit is to arrogate a knowledge which, I think, we cannot possibly have. *Since we do not know the exact borderline between life and death*, nothing less than the maximum definition of death will do—brain death plus heart death plus any other indication that may be pertinent—before final violence is allowed to be done.

It would follow then, for this layman at least, that the use of the definition should itself be defined, and this in a restrictive sense. When only permanent coma can be gained with the artificial sustaining of functions, by all means turn off the respirator, the stimulator, any sustaining artifice, and let the patient die; but let him die all the way. Do not, instead, arrest the process and start using him as a mine while, with your own help and cunning, he is still kept this side of what may in truth be the final line. Who is to say that a shock, a final trauma, is not administered to a sensitivity diffusely situated elsewhere than in the brain and still vulnerable to suffering? a sensitivity that we ourselves have been keeping alive? No fiat of definition can settle this question.<sup>12</sup> But I wish to emphasize that the question of possible suffering (easily brushed aside by a sufficient show of reassuring expert consensus) is merely a subsidiary and not the real point of my argument; this, to reiterate, turns on the indeterminacy of the boundaries between *life and death*, not between sensitivity and insensitivity, and bids us to lean toward a maximal rather than a minimal determination of death in an area of basic uncertainty.

There is also this to consider: The patient must be absolutely sure that his doctor does not become his executioner, and that no definition authorizes him ever to become one. His right to this certainty is absolute, and so is his right to his own body with all its organs. Absolute respect for these rights violates no one else's rights, for no one has a right to another's body. Speaking in still another, religious vein: The expiring moments should be watched over with piety and be safe from exploitation.

I strongly feel, therefore, that it should be made quite clear that the proposed new definition of death is to authorize *only* the one and *not* the other of the two opposing things: only to break off a sustaining intervention and let things take their course, not to keep up the sustaining intervention for a final intervention of the most destructive kind.

There would now have to be said something about nonmedical experiments on human subjects, notably psychological and genetic, of which I have not lost sight. But having overextended my limits of space by the most generous interpretation, I must leave this for another occasion. Let me only say in conclusion that if some of the practical implications of my reasonings are felt to work out toward a slower rate of progress, this should not cause too great dismay. Let us not forget that progress is an optional goal, not an unconditional commitment, and that its tempo in particular, compulsive as it may become, has nothing sacred about it. Let us also remember that a slower progress in the conquest of disease would not threaten society, grievous as it is to those who have to deplore that their particular disease be not yet conquered, but that society would indeed be threatened by the erosion of those moral values whose loss, possibly caused by too ruthless a pursuit of scientific progress, would make its most dazzling triumphs not worth having. Let us finally remember that it cannot be the aim of progress to abolish the lot of mortality. Of some ill or other, each of us will die. Our mortal condition is upon us with its harshness but also its wisdom—because Without it there would not be the eternally renewed promise of the freshness, immediacy, and eagerness of youth; nor, without it, would there be for any of us the incentive to number our days and make them count. With all our striving to wrest from our mortality what we can, we should bear its burden with patience and dignity.



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2. Wolfensberger, "Ethical Issues in Research with Human Subjects," p. 48.
3. *Proceedings*, p. 29.
4. *Die Braut von Korinth*: "Victims do fall here, /Neither lamb nor steer, / Nay, but human offerings untold."
5. *Proceedings*, pp. 50-51.
6. Socially, everyone is expendable relatively—that is, in different degrees; religiously, no one is expendable absolutely: The "image of God" is in all. If it can be enhanced, then not by any one being expended, but by someone expending himself.
7. This refers to captives of circumstance, not of justice. Prison inmates are with respect to our problem in a special class. If we hold to some idea of guilt, and to the supposition that our judicial system is not entirely at fault, they may be held to stand in a special debt to society, and their offer to serve—from whatever motive—may be accepted with a minimum of qualms as a means of reparation.
8. *Proceedings*, p. 33. To spell out the difference between the two cases: In the first case, the patient himself is meant to be the beneficiary of the experiment, and directly so; the "subject" of the experiment is at the same time its object, its end. It is performed not for gaining knowledge, but for helping him—and helping him in the *act* of performing it, even if

by its results it also contributes to a broader testing process currently under way. It is in fact part of the treatment itself and an "experiment" only in the loose sense of being untried and highly tentative. But whatever the degree of uncertainty, the motivating anticipation (the wager, if you like) is for success, and success here means the subject's own good. To a pure experiment, by contrast, undertaken to gain knowledge, the difference of success and failure is not germane, only that of conclusiveness and inconclusiveness. The "negative" result has as much to teach as the "positive." Also, the true experiment is an act distinct from the uses later made of the findings. And, most important, the subject experimented on is distinct from the eventual beneficiaries of those findings: He lets himself be used as a means toward an end external to himself (even if he should at some later time happen to be among the beneficiaries himself). With respect to his own present needs and his own good, the act is gratuitous.

9. "A Definition of Irreversible Coma," Report of the *Ad Hoc* Committee of Harvard Medical School to Examine the Definition of Brain Death, *Journal of the American Medical Association*, Vol. 205, No. 6 (August 5, 1968), pp. 337-40.
10. As rendered by Dr. Beecher in *Proceedings*, p. 50.
11. The Report of the *Ad Hoc* Committee no more than indicates this possibility with the second of the "two reasons why there is need for a definition": "(2) Obsolete criteria for the definition of death can lead to controversy in obtaining organs for transplantation." The first reason is relief from the burden of indefinitely drawn out coma. The report wisely confines its recommendations on application to what falls under this first reason—namely, turning off the respirator—and remains silent on the possible use of the definition under the second reason. But when "the patient is declared dead on the basis of these criteria," the road to the other use has theoretically been opened and will be taken (if I remember rightly, it has even been taken once, in a much debated case in England), unless it is blocked by a special barrier in good time. The above is my feeble attempt to help doing so.
12. Only a Cartesian view of the "animal machine," which I somehow see lingering here, could set the mind at rest, as in historical fact it did at its time in the matter of vivisection: But its truth is surely not established by definition.





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## CONTENTS

v Preface

PAUL A. FREUND viii Introduction to the Issue "Ethical Aspects of Experimentation with Human Subjects"

HANS JONAS 219 Philosophical Reflections on Experimenting with Human Subjects

HERRMAN L. BLUMGART 248 The Medical Framework for Viewing the Problem of Human Experimentation

HENRY K. BEECHER 275 Scarce Resources and Medical Advancement

PAUL A. FREUND 314 Legal Frameworks for Human Experimentation

TALCOTT PARSONS 325 Research with Human Subjects and the "Professional Complex"

MARGARET MEAD 361 Research with Human Beings: A Model Derived from Anthropological Field Practice

GUIDO CALABRESI 387 Reflections on Medical Experimentation in Humans

LOUIS L. JAFFE 406 Law as a System of Control

DAVID F. CAVERS 427 The Legal Control of the Clinical Investigation of Drugs: Some Political, Economic, and Social Questions

LOUIS LASAGNA 449 Special Subjects in Human Experimentation

GEOFFREY EDSALL 463 A Positive Approach to the Problem of Human Experimentation

JAY KATZ 480 The Education of the Physician-Investigator

FRANCIS D. MOORE 502 Therapeutic Innovation: Ethical Boundaries in the Initial Clinical Trials of New Drugs and Surgical Procedures

DAVID D. RUTSTEIN 523 The Ethical Design of Human Experiments

WILLIAM J. CURRAN 542 Governmental Regulation of the Use of Human Subjects in Medical Research: The Approach of Two Federal Agencies

595 Advisory Committee

596 Notes on Contributors

598 Recent Issues of Daedalus

## SPRING 1969: ETHICAL ASPECTS OF EXPERIMENTATION WITH HUMAN SUBJECTS

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