Medical Nemesis

The Expropriation of Health

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Introduction

The medical establishment has become a major threat to health. The disabling impact of professional control over medicine has reached the proportions of an epidemic. *Iatrogenesis,* the name for this new epidemic, comes from *iatros,* the Greek word for "physician," and *genesis,* meaning "origin." Discussion of the disease of medical progress has moved up on the agendas of medical conferences, researchers concentrate on the sick-making powers of diagnosis and therapy, and reports on paradoxical damage caused by cures for sickness take up increasing space in medical dope-sheets. The health professions are on the brink of an unprecedented housecleaning campaign. "Clubs of Cos," named after the Greek Island of Doctors, have sprung up here and there, gathering physicians, glorified druggists, and their industrial sponsors as the Club of Rome has gathered "analysts" under the aegis of Ford, Fiat, and Volkswagen. Purveyors of medical services follow the example of their colleagues in other fields in adding the stick of "limits to growth" to the carrot of ever more desirable vehicles and therapies. Limits to professional health care are a rapidly growing political issue. In whose interest these limits will work will depend to a large extent on who takes the initiative in formulating the need for them: people organized for political action that challenges status-quo professional power, or the health

professions intent on expanding their monopoly even further.

The public has been alerted to the perplexity and uncertainty of the best among its hygienic caretakers. The newspapers are full of reports on *volte-face* manipulations of medical leaders: the pioneers of yesterday's so-called breakthroughs warn their patients against the dangers of the miracle cures they have only just invented. Politicians who have proposed the emulation of the Russian, Swedish, or English models of socialized medicine are embarrassed that recent events show their pet systems to be highly efficient in producing the same pathogenic—that is, sickening—cures and care that capitalist medicine, albeit with less equal access, produces. A crisis of confidence in modern medicine is upon us. Merely to insist on it would be to contribute further to a self-fulfilling prophecy, and to possible panic.

This book argues that panic is out of place. Thoughtful public discussion of the iatrogenic pandemic, beginning with an insistence upon demystification of all medical matters, will not be dangerous to the commonweal. Indeed, what is dangerous is a passive public that has come to rely on superficial medical housecleanings. The crisis in medicine could allow the layman effectively to reclaim his own control over medical perception, classification, and decision-making. The laicization of the Aesculapian temple could lead to a delegitimizing of the basic religious tenets of modern medicine to which industrial societies, from the left to the right, now subscribe.

My argument is that the layman and not the physician has the potential perspective and effective power to stop the current iatrogenic epidemic. This book offers the lay reader a conceptual framework within which to assess the seamy side of progress against its more publicized benefits.

It uses a model of social assessment of technological progress that I have spelled out elsewhere[1] and applied previously to education[2] and transportation,[3] and that I now apply to the criticism of the professional monopoly and of the scientism in health care that prevail in all nations that have organized for high levels of industrialization. In my opinion, the sanitation of medicine is part and parcel of the socio-economic inversion with which Part IV of this book deals.

The footnotes reflect the nature of this text. I assert the right to break the monopoly that academia has exercised over all small print at the bottom of the page. Some footnotes document the information I have used to elaborate and to verify my own preconceived paradigm for optimally limited health care, a perspective that did not necessarily have any place within the mind of the person who collected the corresponding data. Occasionally, I quote my source only as an eyewitness account that is incidentally offered by the expert *author*, while refusing to accept what he says as expert *testimony* on the grounds that it is hearsay and therefore ought not to influence the relevant public decisions.

Many more footnotes provide the reader with the kind of bibliographical guidance that I would have appreciated when I first began, as an outsider, to delve into the subject of health care and tried to acquire competence in the political evaluation of medicine's effectiveness. These notes refer to library tools and reference works that I have learned to appreciate in years of single-handed exploration. They also list readings, from technical monographs to novels, that have been of use to me.

Finally, I have used the footnotes to deal with my own

[1] *Tools for Conviviality* (New York: Harper & Row, 1973).
[2] *Deschooling Society*, Ruth N. Anshen, ed. (New York: Harper & Row, 1971).
[3] *Energy and Equity* (New York: Harper & Row, 1974).

parenthetical, supplementary, and tangential suggestions and questions, which would have distracted the reader if kept in the main text. The layman in medicine, for whom this book is written, will himself have to acquire the competence to evaluate the impact of medicine on health care. Among all our contemporary experts, physicians are those trained to the highest level of specialized incompetence for this urgently needed pursuit.

The recovery from society-wide iatrogenic disease is a political task, not a professional one. It must be based on a grassroots consensus about the balance between the civil liberty to heal and the civil right to equitable health care. During the last generations the medical monopoly over health care has expanded without checks and has encroached on our liberty with regard to our own bodies. Society has transferred to physicians the exclusive right to determine what constitutes sickness, who is or might become sick, and what shall be done to such people. Deviance is now "legitimate" only when it merits and ultimately justifies medical interpretation and intervention. The social commitment to provide all citizens with almost unlimited outputs from the medical system threatens to destroy the environmental and cultural conditions needed by people to live a life of constant autonomous healing. This trend must be recognized and eventually be reversed.

Limits to medicine must be something other than professional self-limitation. I will demonstrate that the insistence of the medical guild on its unique qualifications to cure medicine itself is based on an illusion. Professional power is the result of a political delegation of autonomous authority to the health occupations which was enacted during our century by other sectors of the university-trained bourgeoisie: it cannot now be revoked by those who conceded it; it can only be delegitimized by popular

agreement about the malignancy of this power. The self-medication of the medical system cannot but fail. If a public, panicked by gory revelations, were browbeaten into further support for more expert control over experts in health-care production, this would only intensify sickening care. It must now be understood that what has turned health care into a sick-making enterprise is the very intensity of an engineering endeavor that has translated human survival from the performance of organisms into the result of technical manipulation.

"Health," after all, is simply an everyday word that is used to designate the intensity with which individuals cope with their internal states and their environmental conditions. In *Homo sapiens,* "healthy" is an adjective that qualifies ethical and political actions. In part at least, the health of a population depends on the way in which political actions condition the milieu and create those circumstances that favor self-reliance, autonomy, and dignity for all, particularly the weaker. In consequence, health levels will be at their optimum when the environment brings out autonomous personal, responsible coping ability. Health levels can only decline when survival comes to depend beyond a certain point on the heteronomous (other-directed) regulation of the organism's homeostasis. Beyond a critical level of intensity, institutional health care—no matter if it takes the form of cure, prevention, or environmental engineering—is equivalent to systematic health denial.

The threat which current medicine represents to the health of populations is analogous to the threat which the volume and intensity of traffic represent to mobility, the threat which education and the media represent to learning, and the threat which urbanization represents to competence in homemaking. In each case a major institutional endeavor has turned counterproductive. Time-con-

suming acceleration in traffic, noisy and confusing communications, education that trains ever more people for ever higher levels of technical competence and specialized forms of generalized incompetence: these are all phenomena parallel to the production by medicine of iatrogenic disease. In each case a major institutional sector has removed society from the specific purpose for which that sector was created and technically instrumented.

Iatrogenesis cannot be understood unless it is seen as the specifically medical manifestation of *specific counterproductivity*. Specific or paradoxical counterproductivity is a negative social indicator for a diseconomy which remains locked within the system that produces it. It is a measure of the confusion delivered by the news media, the incompetence fostered by educators, or the time-loss represented by a more powerful car. Specific counterproductivity is an unwanted side-effect of increasing institutional outputs that remains internal to the system which itself originated the specific value. It is a social measure for objective frustration. This study of pathogenic medicine was undertaken in order to illustrate in the health-care field the various aspects of counterproductivity that can be observed in all major sectors of industrial society in its present stage. A similar analysis could be undertaken in other fields of industrial production, but the urgency in the field of medicine, a traditionally revered and self-congratulatory service profession, is particularly great.

Built-in iatrogenesis now affects all social relations. It is the result of internalized colonization of liberty by affluence. In rich countries medical colonization has reached sickening proportions; poor countries are quickly following suit. (The siren of one ambulance can destroy Samaritan attitudes in a whole Chilean town.) This process, which I shall call the "medicalization of life," deserves articulate political recognition. Medicine could

become a prime target for political action that aims at an inversion of industrial society. Only people who have recovered the ability for mutual self-care and have learned to combine it with dependence on the application of contemporary technology will be ready to limit the industrial mode of production in other major areas as well.

A professional and physician-based health-care system that has grown beyond critical bounds is sickening for three reasons: it must produce clinical damage that outweighs its potential benefits; it cannot but enhance even as it obscures the political conditions that render society unhealthy; and it tends to mystify and to expropriate the power of the individual to heal himself and to shape his or her environment. Contemporary medical systems have outgrown these tolerable bounds. The medical and paramedical monopoly over hygienic methodology and technology is a glaring example of the political misuse of scientific achievement to strengthen industrial rather than personal growth. Such medicine is but a device to convince those who are sick and tired of society that it is they who are ill, impotent, and in need of technical repair. I will deal with these three levels of sickening medical impact in the first three parts of this book.

The balance sheet of achievement in medical technology will be drawn up in the first chapter. Many people are already apprehensive about doctors, hospitals, and the drug industry and only need data to substantiate their misgivings. Doctors already find it necessary to bolster their credibility by demanding that many treatments now common be formally outlawed. Restrictions on medical performance which professionals have come to consider mandatory are often so radical that they are not acceptable to the majority of politicians. The lack of effectiveness of costly and high-risk medicine is a now widely discussed fact from which I start, not a key issue I want to dwell on.

Part II deals with the directly health-denying effects of medicine's social organization, and Part III with the disabling impact of medical ideology on personal stamina: under three separate headings I describe the transformation of pain, impairment, and death from a personal challenge into a technical problem.

Part IV interprets health-denying medicine as typical of the counterproductivity of overindustrialized civilization and analyzes five types of political response which constitute tactically useful remedies that are all strategically futile. It distinguishes between two modes in which the person relates and adapts to his environment: autonomous (i.e., self-governing) coping and heteronomous (i.e., administered) maintenance and management. It concludes by demonstrating that only a political program aimed at the limitation of professional management of health will enable people to recover their powers for health care, and that such a program is integral to a society-wide criticism and restraint of the industrial mode of production.

PART I
Clinical Iatrogenesis

1

The Epidemics of Modern Medicine

During the past three generations the diseases afflicting Western societies have undergone dramatic changes.[1] Polio, diphtheria, and tuberculosis are vanishing; one shot of an antibiotic often cures pneumonia or syphilis; and so many mass killers have come under control that two-thirds of all deaths are now associated with the diseases of old age. Those who die young are more often than not victims of accidents, violence, or suicide.[2]

These changes in health status are generally equated with a decrease in suffering and attributed to more or to better medical care. Although almost everyone believes that at least one of his friends would not be alive and well except for the skill of a doctor, there is in fact no evidence of any direct relationship between this mutation of sickness and the so-called progress of medicine.[3] The changes are

[1] Erwin H. Ackerknecht, *History and Geography of the Most Important Diseases* (New York: Hafner, 1965).

[2] Odin W. Anderson and Monroe Lerner, *Measuring Health Levels in the United States, 1900–1958,* Health Information Foundation Research Series no. 11 (New York: Foundation, 1960). Marc Lalonde, *A New Perspective on the Health of Canadians: A Working Document* (Ottawa: Government of Canada, April 1974). This courageous French-English report by the Canadian Federal Secretary for Health contains a multicolored centerfold documenting the change in mortality for Canada in a series of graphs.

[3] René Dubos, *The Mirage of Health: Utopian Progress and Biological Change* (New York: Anchor Books, 1959), was the first to effectively expose the delusion of producing "better health" as a dangerous and infectious medically sponsored disease. Thomas McKeown and Gordon McLachlan, eds., *Medical History and*

dependent variables of political and technological transformations, which in turn are reflected in what doctors do and say; they are not significantly related to the activities that require the preparation, status, and costly equipment in which the health professions take pride.[4] In addition, an expanding proportion of the *new* burden of disease of the last fifteen years is itself the result of medical intervention in favor of people who are or might become sick. It is doctor-made, or *iatrogenic*.[5]

After a century of pursuit of medical utopia,[6] and contrary to current conventional wisdom,[7] medical services

Medical Care: A Symposium of Perspectives (New York: Oxford Univ. Press, 1971), introduce the sociology of medical pseudo-progress. John Powles, "On the Limitations of Modern Medicine," in *Science, Medicine and Man* (London: Pergamon, 1973), 1:1–30, gives a critical selection of recent English-language literature on this subject. For the U.S. situation consult Rick Carlson, *The End of Medicine* (New York: Wiley Interscience, 1975). His essay is "an empirically based brief, theoretical in nature." For his indictment of American medicine he has chosen those dimensions for which he had complete evidence of a nature he could handle. Jean-Claude Polack, *La Médecine du capital* (Paris: Maspero, 1970). A critique of the political trends that seek to endow medical technology with an effective impact on health levels by a "democratization of medical consumer products." The author discovers that these products themselves are shaped by a repressive and alienating bourgeois class structure. To use medicine for political liberation it will be necessary to "find in sickness, even when it is distorted by medical intervention, a protest against the existing social order."

[4] Daniel Greenberg, "The 'War on Cancer': Official Fiction and Harsh Facts," *Science and Government Report*, vol. 4 (December 1, 1974). This well-researched report to the layman substantiates the view that American Cancer Society proclamations that cancer is curable and progress has been made are "reminiscent of Vietnam optimism prior to the deluge."

[5] *Dorland's Illustrated Medical Dictionary*, 25th ed. (Philadelphia: Saunders, 1974): "Iatrogenic (*iatro*—Gr. physician, *gennan*—Gr. to produce). Resulting from the activity of physicians. Originally applied to disorders induced in the patient by autosuggestion based on the physician's examination, manner, or discussion, the term is now applied to any adverse condition in a patient occurring as the result of treatment by a physician or surgeon."

[6] Heinrich Schipperges, *Utopien der Medizin: Geschichte und Kritik der ärztlichen Ideologie des 19. Jh.* (Salzburg: Müller, 1966). A useful guide to the historical literature is Richard M. Burke, *An Historical Chronology of Tuberculosis*, 2nd ed. (Springfield, Ill.: Thomas, 1955).

[7] For an analysis of the agents and patterns that determine the epidemic spread of modern misinformation throughout a scientific community, see Derek J. de Solla Price, *Little Science, Big Science* (New York: Columbia Univ. Press, 1963).

have not been important in producing the changes in life expectancy that have occurred. A vast amount of contemporary clinical care is incidental to the curing of disease, but the damage done by medicine to the health of individuals and populations is very significant. These facts are obvious, well documented, and well repressed.

Doctors' Effectiveness—An Illusion

The study of the evolution of disease patterns provides evidence that during the last century doctors have affected epidemics no more profoundly than did priests during earlier times. Epidemics came and went, imprecated by both but touched by neither. They are not modified any more decisively by the rituals performed in medical clinics than by those customary at religious shrines.[8] Discussion of the future of health care might usefully begin with the recognition of this fact.

The infections that prevailed at the outset of the industrial age illustrate how medicine came by its reputation.[9] Tuberculosis, for instance, reached a peak over two generations. In New York in 1812, the death rate was estimated to be higher than 700 per 10,000; by 1882, when Koch first isolated and cultured the bacillus, it had already declined to 370 per 10,000. The rate was down to 180 when the first sanatorium was opened in 1910, even though "consumption" still held second place in the mortality tables.[10] After World War II, but before antibi-

[8] On the clerical nature of medical practice, see "Cléricalisme de la fonction médicale? Médecine et politique. Le 'Sacerdoce' médical. La Relation thérapeutique. Psychanalyse et christianisme," *Le Semeur*, suppl. 2 (1966–67).

[9] J. N. Weisfert, "Das Problem des Schwindsuchtskranken in Drama und Roman," *Deutscher Journalistenspiegel* 3 (1927): 579–82. A guide to tuberculosis as a literary motive in 19th-century drama and novel. E. Ebstein, "Die Lungenschwindsucht in der Weltliteratur," *Zeitschrift für Bücherfreunde* 5 (1913).

[10] René and Jean Dubos, *The White Plague: Tuberculosis, Man and Society* (Boston: Little, Brown, 1953). On the social; literary, and scientific aspects of 19th-century tuberculosis; an analysis of its incidence.

otics became routine, it had slipped into eleventh place with a rate of 48. Cholera,[11] dysentery,[12] and typhoid similarly peaked and dwindled outside the physician's control. By the time their etiology was understood and their therapy had become specific, these diseases had lost much of their virulence and hence their social importance. The combined death rate from scarlet fever, diphtheria, whooping cough, and measles among children up to fifteen shows that nearly 90 percent of the total decline in mortality between 1860 and 1965 had occurred before the introduction of antibiotics and widespread immunization.[13] In part this recession may be attributed to improved housing and to a decrease in the virulence of micro-organisms, but by far the most important factor was a higher host-resistance due to better nutrition. In poor countries today, diarrhea and upper-respiratory-tract infections occur more frequently, last longer, and lead to higher mortality where nutrition is poor, no matter how much or how little medical care is available.[14] In England, by the middle of the nineteenth century, infectious epidemics had been replaced by major malnutrition syndromes, such as rickets and pellagra. These in turn peaked and vanished, to be replaced by the diseases of early childhood and, somewhat later, by an increase in duodenal ulcers in

[11] Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago: Univ. of Chicago Press, 1962). The New York epidemic of 1832 was a moral dilemma from which deliverance was sought in fasting and prayer. By the time of the epidemics of 1866, the culture that had produced New York slums had as well produced chloride of lime.

[12] W. J. van Zijl, "Studies on Diarrheal Disease in Seven Countries," *Bulletin of the World Health Organization* 35 (1966): 249–61. Reduction in diarrheal diseases is brought about by a better water supply and sanitation, never by curative intervention.

[13] R. R. Porter, *The Contribution of the Biological and Medical Sciences to Human Welfare*, Presidential Address to the British Association for the Advancement of Science, Swansea Meeting, 1971 (London: the Association, 1972), p. 95.

[14] N. S. Scrimshaw, C. E. Taylor, and John E. Gordon, *Interactions of Nutrition and Infection* (Geneva: World Health Organization, 1968).

young men. When these declined, the modern epidemics took over: coronary heart disease, emphysema, bronchitis, obesity, hypertension, cancer (especially of the lungs), arthritis, diabetes, and so-called mental disorders. Despite intensive research, we have no complete explanation for the genesis of these changes.[15] But two things are certain: the professional practice of physicians cannot be credited with the elimination of old forms of mortality or morbidity, nor should it be blamed for the increased expectancy of life spent in suffering from the new diseases. For more than a century, analysis of disease trends has shown that the environment is the primary determinant of the state of general health of any population.[16] Medical geography,[17]

[15] John Cassel, "Physical Illness in Response to Stress," Antología A7, mimeographed (Cuernavaca: CIDOC (Centro Intercultural de Documentación), 1971).

[16] One of the clearest early statements on the paramount importance of the environment is J. P. Frank, *Akademische Rede vom Volkselend als der Mutter der Krankheiten* (Pavia, 1790; reprint ed., Leipzig: Barth, 1960). Thomas McKeown and R. G. Record, "Reasons for the Decline in Mortality in England and Wales During the Nineteenth Century," *Population Studies* 16 (1962): 94–122. Edwin Chadwick, *Report on the Sanitary Condition of the Labouring Population of Great Britain, 1842*, ed. M. W. Flinn (Chicago: Aldine, 1965), concluded a century and a half ago that "the primary and most important measures and at the same time the most practical, and within the recognized providence of public administration, are drainage, the removal of all refuse from habitations, streets, and roads, and the improvement of the supplies of water." Max von Petterkofer, *The Value of Health to a City: Two Lectures Delivered in 1873*, trans. Henry E. Sigerist (Baltimore: Johns Hopkins, 1941), calculated a century ago the cost of health to the city of Munich in terms of average wages lost and medical costs created. Public services, especially better water and sewage disposal, he argued, would lower the death rate, morbidity, and absenteeism and this would pay for itself. Epidemiological research has entirely confirmed these humanistic convictions: Delpit-Morando, Radenac, and Vilain, *Disparités régionales en matière de santé*, Bulletin de Statistique du Ministère de la Santé et de la Sécurité Sociale No. 3, 1973; Warren Winkelstein, Jr., "Epidemiological Considerations Underlying the Allocation of Health and Disease Care Resources," *International Journal of Epidemiology* 1, no. 1 (1972): 69–74; F. Fagnani, *Santé, consommation médicale et environnement: Problèmes et méthodes* (Paris: Mouton, 1973).

[17] N. D. McGlashan, ed., *Medical Geography: Techniques and Field Studies* (New York: Barnes & Noble, 1973). Jacques May and Donna McLelland, eds., *Studies in Medical Geography*, 10 vols. (New York: Hafner, 1961–71). Daniel Noin, *La Géographie démographique de la France* (Paris: PUF, 1973). J. Vallin, *La Mortalité en*

the history of diseases,[18] medical anthropology,[19] and the social history of attitudes towards illness[20] have shown that food,[21] water,[22] and air,[23] in correlation with the level of

France par tranches depuis 1899 (Paris: PUF, 1973). L. D. Stamp, *The Geography of Life and Death* (Ithaca, N.Y.: Cornell Univ. Press, 1965). E. Rodenwaldt et al., *Weltseuchenatlas* (Hamburg, 1956). John Melton Hunter, *The Geography of Health and Disease*, Studies in Geography no. 6 (Chapel Hill: Univ. of North Carolina Press, 1974).

[18] Erwin H. Ackerknecht, *Therapeutics: From the Primitives to the Twentieth Century* (New York: Hafner, 1973). A simple overview. J. F. D. Shrewsbury, *A History of the Bubonic Plague in the British Isles* (Cambridge: Cambridge Univ. Press, 1970). An outstanding example of history written by a bacteriologist and epidemiologist.

[19] For an introduction to the literature, see Steven Polgar, "Health and Human Behaviour: Areas of Interest Common to the Social and Medical Sciences," *Current Anthropology* 3 (April 1962): 159–205. Polgar gives a critical evaluation of each item and the responses of a large number of colleagues to his evaluation. See also Steven Polgar, "Health," in *International Encyclopedia of the Social Sciences* (1968), 6:330–6; Eliot Freidson, "The Sociology of Medicine: A Trend Report and Bibliography," *Current Sociology*, 1961–62, nos. 10–11, pp. 123–92.

[20] Paul Slack, "Disease and the Social Historian," *Times Literary Supplement*, March 8, 1974, pp. 233–4. A critical review article. Catherine Rollet and Agnès Souriac, "Épidémies et mentalités: Le Choléra de 1832 en Seine-et-Oise," *Annales Économies, Sociétés, Civilisations*, 1974, no. 4, pp. 935–65.

[21] Alan Berg, *The Nutrition Factor: Its Role in National Development* (Washington, D.C.: Brookings Institution, 1973). Hans J. Teuteberg and Günter Wiegelmann, *Der Wandel der Nahrungsgewohnheiten unter dem Einfluss der Industrialisierung* (Göttingen: Vandenhoeck & Ruprecht, 1972), deal with the impact of industrialization on the quantity, quality, and distribution of food in 19th-century Europe. With the transition from subsistence on limited staples to either managed or chosen menus, the traditional regional cultures of eating, fasting, and surviving hunger were destroyed. A badly organized rich mine of bibliographic information. In the wake of Marc Bloch and Lucien Febvre, some of the most valuable research on the significance of food to power structures and health levels was done. For an orientation on the method used, consult Guy Thuillier, "Note sur les sources de l'histoire régionale de l'alimentation au XIX[e] siècle," *Annales Économies, Sociétés, Civilisations*, 1968, no. 6, pp. 1301–19; Guy Thuillier, "Au XIX[e] siècle: L'Alimentation en Nivernais," *Annales*, 1965, no. 6, pp. 1163–84. For a masterpiece consult François Lebrun, *Les Hommes et la mort en Anjou au 17[e] et 18[e] siècles: Essai de démographie et psychologie historiques* (Paris: Mouton, 1971); A. Poitrineau, "L'Alimentation populaire en Auvergne au XVIII[e] siècle," in *Enquêtes*, pp. 323–31. Owsei Temkin, *Nutrition from Classical Antiquity to the Baroque*, Human Nutrition Monograph 3, New York, 1962. For the transformation of bread into a substance machines can produce, see Siegfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (New York: Norton, 1969), especially pts. 4:2, 4:3 (on meat). Also Fernand Braudel, "Le Superflu et l'ordinaire: Nourriture et boissons," in *Civilisation matérielle et capitalisme* (Paris: Colin, 1967), pp. 134–98.

[22] I. D. Carruthers, *Impact and Economics of Community Water Supply: A Study of Rural Water Investment in Kenya*, Wye College, Ashford, Kent, 1973; on the impact

sociopolitical equality[24] and the cultural mechanisms that make it possible to keep the population stable,[25] play the

of water supply on health. On the improvement of rural water supplies during the 19th century: Guy Thuillier, "Pour une histoire régionale de l'eau en Nivernais au XIX[e] siècle," *Annales Économies, Sociétés, Civilisations*, 1968, no. 1, pp. 49 ff. The improvement of water supplies changed people's attitude towards their own bodies: Guy Thuillier, "Pour une histoire de l'hygiène corporelle. Un exemple régional: le Nivernais," *Revue d'histoire économique et sociale* 46, no. 2 (1968): 232–53; Lawrence Wright, *Clean and Decent: The Fascinating History of the Bathroom and the Water Closet and of Sundry Habits, Fashions and Accessories of the Toilet, Principally in Great Britain, France and America* (Toronto: Univ. of Toronto Press, 1967). New patterns for laundry developed: Guy Thuillier, "Pour une histoire de la lessive au XIX[e] siècle," *Annales*, 1969, no. 2, pp. 355–90.

[23] Lester B. Lave and Eugene P. Seskin, "Air Pollution and Human Health," *Science* 169 (1970): 723–33. Jean-Paul Dessaive et al., *Médecins, climat et épidémies à la fin du XVIII[e] siècle* (Paris: Mouton, 1972).

[24] A synthetic, well-documented argument to this point is Emanuel de Kadt, "Inequality and Health," Univ. of Sussex, January 1975. The original and longer version of this paper was written in 1972 as the introductory chapter of a book, *Salud y bienestar*, which should have been published in Santiago, Chile, in 1973. John Powles, "Health and Industrialisation in Britain: The Interaction of Substantive and Ideological Change," prepared for a Colloquium on the Adaptability of Man to Urban Life, First World Congress on Environmental Medicine and Biology, Paris, July 1–5, 1974. C. Ferrero, "Health and Levels of Living in Latin America," *Milbank Memorial Fund Quarterly* 43 (October 1965): 281–95. A decline in mortality is not to be anticipated from more expenditures on health care but from a different allocation of funds within the health sector combined with social change.

[25] Emily R. Coleman, "L'Infanticide dans le haut moyen âge," trans. A. Chamoux, *Annales Économies, Sociétés, Civilisations*, 1974, no. 2, pp. 315–35. Suggests that infanticide in the Middle Ages was demographically significant. Ansley J. Coale, "The Decline of Fertility in Europe from the French Revolution to World War II," in S. J. Behrman et al., *Fertility and Family Planning* (Ann Arbor: Univ. of Michigan Press, 1970). Marital fertility declined everywhere before the proportion of the population who married increased. Discrimination against the illegitimate combined with restricted access to marriage may have served to control population. This hypothesis is reinforced in J.-L. Flandrin, "Contraception, mariage et relations amoureuses dans l'Occident chrétien," *Annales*, 1969, no. 6, pp. 1370–90. Demographic data suggest no contraception within marriage for 17th and 18th-century France, but very low rates of illegitimacy. Contraception in marriage was near heresy, conception outside marriage a scandal. Flandrin suggests that during the 19th century sexual behavior between spouses began to be modeled on traditional behavior outside marriage. Contraception seems to have become acceptable first among peasant families rich enough to keep infant mortality low: see M. Leridon, "Fécondité et mortalité infantile dans trois villages bavarois: Une Analyse de données individualisées du XIX[e] siècle," *Population* 5 (1969): 997–1002. Although physicians in England opposed its spread, they seemingly applied it effectively in

decisive role in determining how healthy grown-ups feel and at what age adults tend to die. As the older causes of disease recede, a new kind of malnutrition is becoming the most rapidly expanding modern epidemic.[26] One-third of humanity survives on a level of undernourishment which would formerly have been lethal, while more and more rich people absorb ever greater amounts of poisons and mutagens in their food.[27]

Some modern techniques, often developed with the help of doctors, and optimally effective when they become part of the culture and environment or when they are applied independently of professional delivery, have also effected changes in general health, but to a lesser degree. Among these can be included contraception, smallpox vaccination of infants, and such nonmedical health measures as the treatment of water and sewage, the use of soap and scissors by midwives, and some antibacterial and insecticidal procedures. The importance of many of these practices was first recognized and stated by doctors—often courageous dissidents who suffered for their recommendations[28]

their own lives: J. A. Banks, "Family Planning and Birth Control in Victorian Times," paper read at the Second Annual Conference, of the Society for the History of Medicine, Leicester Univ., 1972. The Catholic Church seems to have made contraception an issue only insofar as it affected the industrial middle classes: see John Thomas Noonan, *Contraception: A History of Its Treatment by the Catholic Theologians and Canonists* (Cambridge: Harvard Univ. Press, 1965). Philippe Ariès, "Les Techniques de la mort," in *Histoire des populations françaises et de leurs attitudes devant la vie depuis le XVIII^e siècle* (Paris: Seuil, 1971), p. 373.

[26] So far, world hunger and world malnutrition have increased with industrial development. "One third to one half of humanity are said to be going to bed hungry every night. In the Stone Age the fraction must have been much smaller. This is the era of unprecedented hunger. Now, in the time of the greatest technical power, starvation is an institution." Marshall Sahlins, *Stone Age Economics* (Chicago: Aldine, 1972), p. 23.

[27] J. E. Davies and W. F. Edmundson, *Epidemiology of DDT* (Mount Kisco, N.Y.: Future, 1972). A good example of paradoxical disease control from Borneo: Insecticides used in villages to control malaria vectors also accumulated in cockroaches, most of which are resistant. Geckoes fed on these, became lethargic, and fell prey to cats. The cats died, rats multiplied, and with rats came the threat of epidemic bubonic plague. The army had to parachute cats into the jungle village (*Conservation News*, July 1973).

[28] A good example of medical persecution of innovators is given by G. Gortvay and I. Zoltan, *I. Semmelweis, His Life and Work* (Budapest: Akademiai Kiado,

—but this does not consign soap, pincers, vaccination needles, delousing preparations, or condoms to the category of "medical equipment." The most recent shifts in mortality from younger to older groups can be explained by the incorporation of these procedures and devices into the layman's culture.

In contrast to environmental improvements and modern nonprofessional health measures, the specifically medical treatment of people is never significantly related to a decline in the compound disease burden or to a rise in life expectancy.[29] Neither the proportion of doctors in a population nor the clinical tools at their disposal nor the number of hospital beds is a causal factor in the striking changes in over-all patterns of disease. The new techniques for recognizing and treating such conditions as pernicious anemia and hypertension, or for correcting congenital malformations by surgical intervention, redefine but do not reduce morbidity. The fact that the doctor population is higher where certain diseases have become rare has little to do with the doctors' ability to control or eliminate them.[30] It simply means that doctors

1968), a critical biography of the first gynecologist to use antiseptic procedures in his wards. In 1848 he reduced mortality from puerperal fever by a factor of 15 and was thereupon dismissed and ostracized by his colleagues, who were offended at the idea that physicians could be carriers of death. Morton Thompson's novel *The Cry and the Covenant* (New York: New American Library, 1973) makes Semmelweis come alive.

[29] Charles T. Stewart, Jr., "Allocation of Resources to Health," *Journal of Human Resources* 6, no. 1 (1971): 103–21. Stewart classifies resources devoted to health as treatment, prevention, information, and research. In all nations of the Western Hemisphere, prevention (e.g., potable water) and education are significantly related to life expectancy, but none of the "treatment variables" are so related.

[30] Reuel A. Stallones, in *Environment, Ecology, and Epidemiology*, Pan-American Health Organization Scientific Publication no. 231 (Washington, September 30, 1971), shows there is a strong positive correlation in the U.S.A. between a high proportion of doctors in the general population and a high rate of coronary disease, while the correlation is strongly negative for cerebral vascular disease. Stallones points out that this says nothing about a possible influence of doctors on either. Morbidity and mortality are an integral part of the human environment and unrelated to the efforts made to control any specific disease.

deploy themselves as they like, more so than other professionals, and that they tend to gather where the climate is healthy, where the water is clean, and where people are employed and can pay for their services.[31]

Useless Medical Treatment

Awe-inspiring medical technology has combined with egalitarian rhetoric to create the impression that contemporary medicine is highly effective. Undoubtedly, during the last generation, a limited number of specific procedures have become extremely useful. But where they are not monopolized by professionals as tools of their trade, those which are applicable to widespread diseases are usually very inexpensive and require a minimum of personal skills, materials, and custodial services from hospitals. In contrast, most of today's skyrocketing medical expenditures are destined for the kind of diagnosis and treatment whose effectiveness at best is doubtful.[32] To make this point I will distinguish between infectious and noninfectious diseases.

In the case of infectious diseases, chemotherapy has played a significant role in the control of pneumonia, gonorrhea, and syphilis. Death from pneumonia, once the "old man's friend," declined yearly by 5 to 8 percent after sulphonamides and antibiotics came on the market. Syphilis, yaws, and many cases of malaria and typhoid can be cured quickly and easily. The rising rate of venereal

[31] Alain Letourmy and François Gibert, *Santé, environnement, consommations médicales: Un Modèle et son estimation à partir des données de mortalité; Rapport principal* (Paris: CERÈBE (Centre de Recherche sur le Bien-être), June 1974). Compares mortality rates in different regions of France; they are unrelated to medical density, highly related to the fat content of the sauces typical of each region, and somewhat less to alcohol consumption.

[32] The model study on this matter at present seems to be A. L. Cochrane, *Effectiveness and Efficiency: Random Reflections on Health Services*, Nuffield Provincial Hospitals Trust, 1972. See also *British Medical Journal*, 1974, 4:5. A. Querido, *Efficiency of Medical Care* (New York: International Publications, 1963).

disease is due to new mores, not to ineffectual medicine. The reappearance of malaria is due to the development of pesticide-resistant mosquitoes and not to any lack of new antimalarial drugs.[33] Immunization has almost wiped out paralytic poliomyelitis, a disease of developed countries, and vaccines have certainly contributed to the decline of whooping cough and measles,[34] thus seeming to confirm the popular belief in "medical progress."[35] But for most other infections, medicine can show no comparable results. Drug treatment has helped to reduce mortality from tuberculosis, tetanus, diphtheria, and scarlet fever, but in the total decline of mortality or morbidity from these diseases, chemotherapy played a minor and possibly insignificant role.[36] Malaria, leishmaniasis, and sleeping sickness indeed receded for a time under the onslaught of chemical attack, but are now on the rise again.[37]

[33] Jacques M. May, "Influence of Environmental Transformation in Changing the Map of Disease," in M. Taghi Farvar and John P. Milton, eds., *The Careless Technology* (Garden City, N.Y.: Natural History Press, 1972), pp. 19–34. May warns that mosquito resistance to insecticides on the one hand and parasite resistance to chemotherapeutic agents on the other may have created an unanswerable challenge to human adaptation.

[34] Henry J. Parish, *A History of Immunization* (Edinburgh: Livingstone, 1965). Consult historical introduction for literature. The effectiveness of prevention in relation to any specific disease must be distinguished from its contribution to the volume of disease: J. H. Alston, *A New Look at Infectious Disease* (London: Pitman, 1967), shows how infections are replaced by new ones, without reduction in over-all volume. Keith Mellanby, *Pesticides and Pollution* (New York: Collins, 1967), in an easily understandable way demonstrates how the engineering mechanisms designed to reduce one infection foster others.

[35] República de Cuba, Ministerio de la Salud Pública, *Cuba: Organización de los servicios y nivel de salud* (Havana, 1974), introduction by Fidel Castro. An impressive demonstration of the shift in mortality and morbidity patterns over one decade, during which major infections on the whole island were significantly affected by a public-health campaign. Nguyen Khac Vien, "25 Années d'activités médico-sanitaires," *Études vietnamiennes* (Hanoi), no. 25, 1970.

[36] G. O. Sofoluwe, "Promotive Medicine: A Boost to the Economy of Developing Countries," *Tropical and Geographical Medicine* 22 (June 1970): 250–4. During the 30 years between 1935 and 1968, most curative measures used for parasitic diseases and infections of the skin and respiratory organs and for diarrhea have left "the pattern of morbidity on the whole unchanged."

[37] In Farvar and Milton, eds., *The Careless Technology*, several authors make this

The effectiveness of medical intervention in combatting noninfectious diseases is even more questionable. In some situations and for some conditions, effective progress has indeed been demonstrated: the partial prevention of caries through fluoridation of water is possible, though at a cost not fully understood.[38] Replacement therapy lessens the direct impact of diabetes, though only in the short run.[39] Through intravenous feeding, blood transfusions, and surgical techniques, more of those who get to the hospital survive trauma, but survival rates for the most common types of cancer—those which make up 90 percent of the cases—have remained virtually unchanged over the last twenty-five years. This fact has consistently been clouded by announcements from the American Cancer Society reminiscent of General Westmoreland's proclamations from Vietnam. On the other hand, the diagnostic value of the Papanicolaou vaginal smear test has been proved: if the tests are given four times a year, early intervention for cervical cancer demonstrably increases the five-year survival rate. Some skin-cancer treatment is highly effective. But there is little evidence of effective treatment of most other cancers.[40] The five-year survival rate in breast-cancer cases is 50 percent, regardless of the frequency of medical check-ups and regardless of the treatment used.[41] Nor is there evidence that the rate differs from that among untreated women. Although practicing doctors and the publicists of the medical establishment stress the importance of early detection and treatment of this and several other types of cancer, epidemiologists have begun to doubt that early intervention can alter the rate of survival.[42] Surgery and chemotherapy for rare congenital and rheumatic heart disease have increased the chances for an active life for some of those who suffer from degenerative conditions.[43] The medical treatment of common cardiovascular disease[44] and the intensive treatment of heart

point specifically for malaria, Bancroftian filariasis (Hamon), schistosomiasis (van der Schalie), and genito-urinary infections (Farvar).

[38] Bruce Mitchel, *Fluoridation Bibliography*, Council of Planning Librarians Exchange Bibliography no. 268, (Waterloo, Ont., March 1972). Covers the debate and especially the social scientist's perception of people's behavior regarding fluoridation in Canada.

[39] C. L. Meinert et al., "A Study of the Effects of Hypoglycemic Agents on Vascular Complications in Patients with Adult-Onset Diabetes. II. Mortality Results, 1970," *Diabetes* 19, suppl. 2 (1970): 789–830. G. L. Knatterud et al., "Effects of Hypoglycemic Agents on Vascular Complications in Patients with Adult-Onset Diabetes," *Journal of the American Medical Association* 217 (1971): 777–84. Cochrane, *Effectiveness and Efficiency*, comments on the last two. They suggest that giving tolbutamide and phenformin is definitely disadvantageous in the treatment of mature diabetics and that there is no advantage in giving insulin rather than a diet.

[40] H. Oeser, *Krebsbekämpfung: Hoffnung und Realität* (Stuttgart: Thieme, 1974). This is so far, to my knowledge, the most useful introduction for the general physician or layman to a critical evaluation of world literature on the effectiveness of cancer treatment. See also N. E. McKinnon, "The Effects of Control Programs on Cancer Mortality," *Canadian Medical Association Journal* 82 (1960): 1308–12. K. T. Evans, "Breast Cancer Symposium: Points in the Practical Management of Breast Cancer. Are Physical Methods of Diagnosis of Value?" *British Journal of Surgery* 56 (1969): 784–6.

[41] Edwin F. Lewison, "An Appraisal of Long-Term Results in Surgical Treatment of Breast Cancer," *Journal of the American Medical Association* 186 (1963): 975–8. "The most impressive feature of the surgical treatment of breast cancer is the striking similarity and surprising uniformity of long-term end results despite widely differing therapeutic techniques as reported from this country and abroad." The same can be said today.

[42] Robert Sutherland, *Cancer: The Significance of Delay* (London: Butterworth, 1960), pp. 196–202. Also Hedley Atkins et al., "Treatment of Early Breast Cancer: A Report after Ten Years of Clinical Trial," *British Medical Journal*, 1972, 2:423–9; also p. 417. D. P. Byar and Veterans Administration Cooperative Urological Research Group, "Survival of Patients with Incidentally Found Microscopic Cancer of the Prostate: Results of Clinical Trial of Conservative Treatment," *Journal of Urology* 108 (December 1972): 908–13. Random comparison of four treatments (placebo, estrogen, placebo and orchiectomy, and estrogen and orchiectomy) reveals no significant differences among them, nor in comparison with radical prostatectomy. For a broad survey of analogous research on cancer in various sites, see note 40 above.

[43] Ann G. Kutner, "Current Status of Steroid Therapy in Rheumatic Fever," *American Heart Journal* 70 (August 1965): 147–9. Rheumatic Fever Working Party of the Medical Research Council of Great Britain and Subcommittee of Principal Investigators of the American Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association, "Treatment of Acute Rheumatic Fever in Children: A Cooperative Clinical Trial of ACTH, Cortisone and Aspirin," *British Medical Journal*, 1955, 1:555–74.

[44] Albert N. Brest, "Treatment of Coronary Occlusive Disease: Critical Review," *Diseases of the Chest* 45 (January 1964): 40–45. Malcolm I. Lindsay and

disease,[45] however, are effective only when rather exceptional circumstances combine that are outside the physician's control. The drug treatment of high blood pressure is effective and warrants the risk of side-effects in the few in whom it is a malignant condition; it represents a considerable risk of serious harm, far outweighing any proven benefit, for the 10 to 20 million Americans on whom rash artery-plumbers are trying to foist it.[46]

Doctor-Inflicted Injuries

Unfortunately, futile but otherwise harmless medical care is the least important of the damages a proliferating medical enterprise inflicts on contemporary society. The pain, dysfunction, disability, and anguish resulting from technical medical intervention now rival the morbidity due to traffic and industrial accidents and even war-related activities, and make the impact of medicine one of the most rapidly spreading epidemics of our time. Among murderous institutional torts, only modern malnutrition injures more people than iatrogenic disease in its various manifestations.[47] In the most narrow sense, iatrogenic disease includes only illnesses that would not have come

Ralph E. Spiekerman, "Re-evaluation of Therapy of Acute Myocardial Infarction," *American Heart Journal* 67 (April 1964): 559–64. Harvey D. Cain et al., "Current Therapy of Cardiovascular Disease," *Geriatrics* 18 (July 1963): 507–18.

[45] H. G. Mather et al., "Acute Myocardial Infarction: Home and Hospital Treatment," *British Medical Journal*, 1971, 3:334–8.

[46] Combined Staff Clinic, "Recent Advances in Hypertension," *American Journal of Medicine* 39 (October 1965): 634–8.

[47] For some of the standard textbooks see Robert H. Moser, *The Disease of Medical Progress: A Study of Iatrogenic Disease*, 3rd ed. (Springfield, Ill.: Thomas, 1969). David M. Spain, *The Complications of Modern Medical Practices* (New York: Grune & Stratton, 1963). H. P. Kümmerle and N. Goossens, *Klinik und Therapie der Nebenwirkungen* (Stuttgart: Thieme, 1973 [1st ed., 1960]). R. Heintz, *Erkrankungen durch Arzneimittel: Diagnostik, Klinik, Pathogenese, Therapie* (Stuttgart: Thieme, 1966). Guy Duchesnay, *Le Risque thérapeutique* (Paris: Doin, 1954). P. F. D'Arcy and J. P. Griffin, *Iatrogenic Disease* (New York: Oxford Univ. Press, 1972).

about if sound and professionally recommended treatment had *not* been applied.[48] Within this definition, a patient could sue his therapist if the latter, in the course of his management, failed to apply a recommended treatment that, in the physician's opinion, would have risked making him sick. In a more general and more widely accepted sense, clinical iatrogenic disease comprises all clinical conditions for which remedies, physicians, or hospitals are the pathogens, or "sickening" agents. I will call this plethora of therapeutic side-effects *clinical iatrogenesis*. They are as old as medicine itself,[49] and have always been a subject of medical studies.[50]

Medicines have always been potentially poisonous, but their unwanted side-effects have increased with their power[51] and widespread use.[52] Every twenty-four to thirty-

[48] For the evolution of jurisprudence related to this kind of torts see M. N. Zald, "The Social Control of General Hospitals," in B. S. Georgopoulos, ed., *Organization Research on Health Institutions* (Ann Arbor: Univ. of Michigan, Institute for Social Research, 1972). See also Angela Holder, *Medical Malpractice Law* (New York: Wiley, 1974).

[49] Such side-effects were studied by the Arabs. Al-Razi (A.D. 865–925), the medical chief of the hospital of Baghdad, was concerned with the medical study of iatrogenesis, according to Al-Nadim in the *Fihrist*, chap. 7, sec. 3. At the time of Al-Nadim (A.D. 935), three books and one letter of Al-Razi on the subject were still available: *The Mistakes in the Purpose of Physicians*; *On Purging Fever Patients Before the Time Is Ripe*; *The Reason Why the Ignorant Physicians, the Common People, and the Women in Cities Are More Successful Than Men of Science in Treating Certain Diseases and the Excuses Which Physicians Make for This*; and the letter: "Why a Clever Physician Does Not Have the Power to Heal All Diseases, for That Is Not Within the Realm of the Possible."

[50] See also Erwin H. Ackerknecht, "Zur Geschichte der iatrogenen Krankheiten," *Gesnerus* 27 (1970): 57–63. He distinguishes three waves, or periods, since 1750 when the study of iatrogenesis was considered important by the medical establishment. Erwin H. Ackerknecht, "Zur Geschichte der iatrogenen Erkrankungen des Nervensystems," *Therapeutische Umschau/Revue thérapeutique* 27, no. 6 (1970): 345–6. A short survey of medical awareness of the side-effects of drugs on the central nervous system, starting with Avicenna (980–1037) on mercury.

[51] L. Meyler, *Side Effects of Drugs* (Baltimore: Williams & Wilkins, 1972). *Adverse Reactions Titles*, a monthly bibliography of titles from approximately 3,400 biomedical journals published throughout the world; published in Amsterdam since 1966. *Allergy Information Bulletin*, Allergy Information Association, Weston, Ontario.

[52] P. E. Sartwell, "Iatrogenic Disease: An Epidemiological Perspective," *International Journal of Health Services* 4 (winter 1974): 89–93.

six hours, from 50 to 80 percent of adults in the United States and the United Kingdom swallow a medically prescribed chemical. Some take the wrong drug; others get an old or a contaminated batch, and others a counterfeit;[53] others take several drugs in dangerous combinations;[54] and still others receive injections with improperly sterilized syringes.[55] Some drugs are addictive, others mutilating, and others mutagenic, although perhaps only in combination with food coloring or insecticides. In some patients, antibiotics alter the normal bacterial flora and induce a superinfection, permitting more resistant organisms to proliferate and invade the host. Other drugs contribute to the breeding of drug-resistant strains of bacteria.[56] Subtle kinds of poisoning thus have spread even faster than the bewildering variety and ubiquity of nostrums.[57] Unnecessary surgery is a standard procedure.[58] *Disabling nondiseases*

[53] Pharmaceutical Society of Great Britain, *Indentification of Drugs and Poisons* (London: the Society, 1965). Reports on drug adulteration and analysis. Margaret Kreig, *Black Market Medicine* (Englewood Cliffs, N.J.: Prentice-Hall, 1967), reports that an increasing percentage of articles sold by legitimate professional pharmacies are inert counterfeit drugs indistinguishable in packaging and presentation from the trademarked product.

[54] Morton Mintz, *By Prescription Only*, 2nd ed. (Boston: Beacon Press, 1967). (For a fuller description of this book, see below, note 98, p. 67.) Solomon Garb, *Undesirable Drug Interactions, 1974–75*, rev. ed. (New York: Springer, 1975). Includes information on inactivation, incompatibility, potentiation, and plasma binding, as well as on interference with elimination, digestion, and test procedures.

[55] B. Opitz and H. Horn, "Verhütung iatrogener Infektionen bei Schutzimpfungen," *Deutsches Gesundheitswesen* 27/24 (1972): 1131–6. On infections associated with immunization procedures.

[56] Harry N. Beaty and Robert G. Petersdorf, "Iatrogenic Factors in Infectious Disease," *Annals of Internal Medicine* 65 (October 1966): 641–56.

[57] Every year a million people—that is, 3 to 5 percent of all hospital admissions—are admitted primarily because of a negative reaction to drugs. Nicholas Wade, "Drug Regulation: FDA Replies to Charges by Economists and Industry," *Science* 179 (1973): 775–7.

[58] Eugene Vayda, "A Comparison of Surgical Rates in Canada and in England and Wales," *New England Journal of Medicine* 289 (1973): 1224–9, shows that surgical rates in Canada in 1968 were 1.8 times greater for men and 1.6 times greater for women than in England. Discretionary operations such as tonsillectomy and adenoidectomy, hemorroidectomy, and inguinal herniorrhaphy were two or more times higher. Cholecystectomy rates were more than five times greater. The main determinants may be differences in payment of health services and available hospital beds and surgeons. Charles E. Lewis, "Variations in the Incidence of Surgery," *New England Journal of Medicine* 281 (1969): 880–4, finds three- to fourfold variations in regional rates for six common surgical procedures in the U.S.A. The number of surgeons available was found to be the significant predictor in the incidence of surgery. See also James C. Doyle, "Unnecessary Hysterectomies: Study of 6,248 Operations in Thirty-five Hospitals During 1948," *Journal of the American Medical Association* 151 (1953): 360–5. James C. Doyle, "Unnecessary Ovariectomies: Study Based on the Removal of 704 Normal Ovaries from 546 Patients," *Journal of the American Medical Association* 148 (1952): 1105–11. Thomas H. Weller, "Pediatric Perceptions: The Pediatrician and Iatric Infectious Disease," *Pediatrics* 51 (April 1973): 595–602.

result from the medical treatment of nonexistent diseases and are on the increase:[59] the number of children disabled in Massachusetts through the treatment of cardiac nondisease exceeds the number of children under effective treatment for real cardiac disease.[60]

Doctor-inflicted pain and infirmity have always been a part of medical practice.[61] Professional callousness, negli-

[59] Clifton Meador, "The Art and Science of Nondisease," *New England Journal of Medicine* 272 (1965): 92–5. For the physician accustomed to dealing only with pathologic entities, terms such as "nondisease entity" or "nondisease" are foreign and difficult to comprehend. This paper presents, with tongue in cheek, a classification of nondisease and the important therapeutic principles based on this concept. Iatrogenic disease probably arises as often from treatment of nondisease as from treatment of disease.

[60] Abraham B. Bergman and Stanley J. Stamm, "The Morbidity of Cardiac Nondisease in School Children," *New England Journal of Medicine* 276 (1967): 1008–13. Gives one particular example from the "limbo where people either perceive themselves or are perceived by others to have a nonexistent disease. The ill effects accompanying some nondiseases are as extreme as those accompanying their counterpart diseases . . . the amount of disability from cardiac nondisease in children is estimated to be greater than that due to actual heart disease." See also J. Andriola, "A Note on Possible Iatrogenesis of Suicide," *Psychiatry* 36 (1973): 213–18.

[61] Clinical iatrogenesis has a long history. Plinius Secundus, *Naturalis Historia* 29.19: "To protect us against doctors there is no law against ignorance, no example of capital punishment. Doctors learn at our risk, they experiment and kill with sovereign impunity, in fact the doctor is the only one who may kill. They go further and make the patient responsible: they blame him who has succumbed." In fact, Roman law already contained some provisions against medically inflicted torts, "damnum injuria datum per medicum." Jurisprudence in Rome made the doctor legally accountable not only for ignorance and recklessness but for bumbling. A doctor who operated on a slave but did not properly follow up his convalescence had to pay the price of the slave and the

gence, and sheer incompetence are age-old forms of malpractice.[62] With the transformation of the doctor from an artisan exercising a skill on personally known individuals into a technician applying scientific rules to classes of patients, malpractice acquired an anonymous, almost respectable status.[63] What had formerly been considered an abuse of confidence and a moral fault can now be rationalized into the occasional breakdown of equipment and operators. In a complex technological hospital, negligence becomes "random human error" or "system breakdown," callousness becomes "scientific detachment," and incompetence becomes "a lack of specialized equipment." The depersonalization of diagnosis and therapy has changed malpractice from an ethical into a technical problem.[64]

loss of the master's income during his protracted sickness. Citizens were not covered by these statutes, but could avenge malpractice on their own initiative.

[62] Montesquieu, *De l'esprit des lois*, bk. 29, chap. 14, b (Paris: Pléiade, 1951). The Roman laws ordained that physicians should be punished for neglect or lack of skill (the Cornelian laws, *De Sicariis*, inst. iv. tit. 3, de lege Aquila 7). If the physician was a person of any fortune or rank, he was only condemned to deportation, but if he was of low condition he was put to death. In our institutions it is otherwise. The Roman laws were not made under the same circumstances as ours: in Rome every ignorant pretender meddled with physic, but our physicians are obliged to go through a regular course of study and to take degrees, for which reason they are supposed to understand their profession. In this passage the 17th-century philosopher demonstrates an entirely modern optimism about medical education.

[63] For German internists, the time the patient can spend face-to-face with his doctor has now been reduced to 1.7 minutes per visit. Heinrich Erdmann, Heinz-Günther Overrath, and Wolfgang and Thure Uxkull, "Organisationsprobleme der ärztlichen Krankenversorgung: Dargestellt am Beispiel einer medizinischen Universitätsklinik," *Deutsches Ärzteblatt–Ärztliche Mitteilungen* 71 (1974): 3421–6. In general practice, this time was (in 1963) about 3 minutes. See T. Geyer, *Verschwörung* (Hilchenbach: Medizinpolitischer Verlag, 1971), p. 30.

[64] For the broader issue of genetic rather than individual damage, see John W. Goffman and Arthur R. Tamplin, "Epidemiological Studies of Carcinogenesis by Ionizing Radiation," in *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability*, Univ. of California, July 1970, pp. 235–77. The presumption is all too common that where uncertainty exists about the magnitude of carcinogenic effects, it is appropriate to continue the exposure of humans to the risk. The authors show that it is neither appropriate nor good public-health practice to demand human epidemiological evidence before stopping exposure. The argument against ionizing radiation from nuclear

In 1971, between 12,000 and 15,000 malpractice suits were lodged in United States courts. Less than half of all malpractice claims were settled in less than eighteen months, and more than 10 percent of such claims remain unsettled for over six years. Between sixteen and twenty percent of every dollar paid in malpractice insurance went to compensate the victim; the rest was paid to lawyers and medical experts.[65] In such cases, doctors are vulnerable only to the charge of having acted against the medical code, of the incompetent performance of prescribed treatment, or of dereliction out of greed or laziness. The problem, however, is that most of the damage inflicted by the modern doctor does not fall into any of these categories.[66] It occurs in the ordinary practice of well-trained men and women who have learned to bow to prevailing professional judgment and procedure, even though they know (or could and should know) what damage they do.

The United States Department of Health, Education, and Welfare calculates that 7 percent of all patients suffer compensable injuries while hospitalized, though few of them do anything about it. Moreover, the frequency of reported accidents in hospitals is higher than in all industries but mines and high-rise construction. Accidents are the major cause of death in American children. In

generation of electrical energy can be applied to all medical treatment in which there is uncertainty about genetic impact. The competence of physicians to establish levels of tolerance for entire populations must be questioned on theoretical grounds.

[65] For data and further bibliography see U.S. House of Representatives, Committee on Interstate and Foreign Commerce, *An Overview of Medical Malpractice*, 94th Cong., 1st Sess., March 17, 1975.

[66] The maltreatment of patients has become an accepted routine; see Charles Butterworth, "Iatrogenic Malnutrition," *Nutrition Today*, March–April 1974. One of the largest pockets of unrecognized malnutrition in America and Canada exists, not in rural slums or urban ghettos, but in the private rooms and wards of big-city hospitals. J. Mayer, "Iatrogenic Malnutrition," *New England Journal of Medicine* 284 (1971): 1218.

proportion to the time spent there, these accidents seem to occur more often in hospitals than in any other kind of place. One in fifty children admitted to a hospital suffers an accident which requires specific treatment.[67] University hospitals are relatively more pathogenic, or, in blunt language, more sickening. It has also been established that one out of every five patients admitted to a typical research hospital acquires an iatrogenic disease, sometimes trivial, usually requiring special treatment, and in one case in thirty leading to death. Half of these episodes result from complications of drug therapy; amazingly, one in ten comes from diagnostic procedures.[68] Despite good intentions and claims to public service, a military officer with a similar record of performance would be relieved of his command, and a restaurant or amusement center would be closed by the police. No wonder that the health industry tries to shift the blame for the damage caused onto the victim, and that the dope-sheet of a multinational pharmaceutical concern tells its readers that "iatrogenic disease is almost always of neurotic origin." [69]

Defenseless Patients

The undesirable side-effects of approved, mistaken, callous, or contraindicated technical contacts with the medical system represent just the first level of pathogenic medicine. Such *clinical iatrogenesis* includes not only the damage that doctors inflict with the intent of curing or of exploiting the patient, but also those other torts that result from the doctor's attempt to protect himself against the

[67] George H. Lowrey, "The Problem of Hospital Accidents to Children," *Pediatrics* 32 (December 1963): 1064–8.

[68] J. T. McLamb and R. R. Huntley, "The Hazards of Hospitalization," *Southern Medical Journal* 60 (May 1967): 469–72.

[69] "La maladie iatrogène est presque toujours à base névrotique": L. Israel, "La Maladie iatrogène," in *Documenta Sandoz*, n.d.

possibility of a suit for malpractice. Such attempts to avoid litigation and prosecution may now do more damage than any other iatrogenic stimulus.

On a second level,[70] medical practice sponsors sickness by reinforcing a morbid society that encourages people to become consumers of curative, preventive, industrial, and environmental medicine. On the one hand defectives survive in increasing numbers and are fit only for life under institutional care, while on the other hand, medically certified symptoms exempt people from industrial work and thereby remove them from the scene of political struggle to reshape the society that has made them sick. Second-level iatrogenesis finds its expression in various symptoms of social overmedicalization that amount to what I shall call the expropriation of health. This second-level impact of medicine I designate as *social iatrogenesis*, and I shall discuss it in Part II.

On a third level, the so-called health professions have an even deeper, culturally health-denying effect insofar as they destroy the potential of people to deal with their human weakness, vulnerability, and uniqueness in a personal and autonomous way. The patient in the grip of contemporary medicine is but one instance of mankind in the grip of its pernicious techniques.[71] This *cultural iatrogen-*

[70] The distinction of several levels of iatrogenesis was made by Ralph Audy, "Man-made Maladies and Medicine," *California Medicine*, November 1970, pp. 48–53. He recognizes that iatrogenic "diseases" are only one type of man-made malady. According to their etiology, they fall into several categories: those resulting from diagnosis and treatment, those relating to social and psychological attitudes and situations, and those resulting from man-made programs for the control and eradication of disease. Besides iatrogenic clinical entities, he recognizes other maladies that have a medical etiology.

[71] "Das Schicksal des Kranken verkörpert als Symbol das Schicksal der Menschheit im Stadium einer technischen Weltentwicklung": Wolfgang Jacob, *Der kranke Mensch in der technischen Welt*, IX. Internationaler Fortbildungskurs für praktische und wissenschaftliche Pharmazie der Bundesapothekerkammer in Meran (Frankfurt am Main: Werbe- und Vertriebsgesellschaft Deutscher Apotheker, 1971).

esis, which I shall discuss in Part III, is the ultimate backlash of hygienic progress and consists in the paralysis of healthy responses to suffering, impairment, and death. It occurs when people accept health management designed on the engineering model, when they conspire in an attempt to produce, as if it were a commodity, something called "better health." This inevitably results in the managed maintenance of life on high levels of sublethal illness. This ultimate evil of medical "progress" must be clearly distinguished from both clinical and social iatrogenesis.

I hope to show that on each of its three levels iatrogenesis has become medically irreversible: a feature built right into the medical endeavor. The unwanted physiological, social, and psychological by-products of diagnostic and therapeutic progress have become resistant to medical remedies. New devices, approaches, and organizational arrangements, which are conceived as remedies for clinical and social iatrogenesis, themselves tend to become pathogens contributing to the new epidemic. Technical and managerial measures taken on any level to avoid damaging the patient by his treatment tend to engender a self-reinforcing iatrogenic loop analogous to the escalating destruction generated by the polluting procedures used as antipollution devices.[72]

I will designate this self-reinforcing loop of negative institutional feedback by its classical Greek equivalent and call it *medical nemesis*. The Greeks saw gods in the forces of nature. For them, nemesis represented divine vengeance

[72] James B. Quinn, "Next Big Industry: Environmental Improvement," *Harvard Business Review* 49 (September–October 1971): 120–30. He believes that environmental improvement is becoming a dynamic and profitable series of markets for industry that pay for themselves and in the end will represent an important addition to income and GNP. Implicitly the same argument is being made for the health-care field by the proponents of no-fault malpractice insurance.

visited upon mortals who infringe on those prerogatives the gods enviously guard for themselves. Nemesis was the inevitable punishment for attempts to be a hero rather than a human being. Like most abstract Greek nouns, Nemesis took the shape of a divinity. She represented nature's response to *hubris*: to the individual's presumption in seeking to acquire the attributes of a god. Our contemporary hygienic hubris has led to the new syndrome of medical nemesis.[73]

By using the Greek term I want to emphasize that the corresponding phenomenon does not fit within the explanatory paradigm now offered by bureaucrats, therapists, and ideologues for the snowballing diseconomies and disutilities that, lacking all intuition, they have engineered and that they tend to call the "counterintuitive behavior of large systems." By invoking myths and ancestral gods I should make it clear that my framework for analysis of the current breakdown of medicine is foreign to the industrially determined logic and ethos. I believe that the *reversal of nemesis* can come only from within man and not from yet another managed (heteronomous) source depending once again on presumptious expertise and subsequent mystification.

Medical nemesis is resistant to medical remedies. It can be reversed only through a recovery of the will to self-care among the laity, and through the legal, political, and institutional recognition of the right to care, which imposes limits upon the professional monopoly of physicians. My final chapter proposes guidelines for stemming medical nemesis and provides criteria by which the medical enterprise can be kept within healthy bounds. I do not suggest any specific forms of health care or

[73] The term was used by Honoré Daumier (1810–79). See reproduction of his drawing "Némésis médicale" in Werner Block, *Der Artzt und der Tod in Bildern aus sechs Jahrhunderten* (Stuttgart: Enke, 1966).

sick-care, and I do not advocate any new medical philosophy any more than I recommend remedies for medical technique, doctrine, or organization. However, I do propose an alternative approach to the use of medical organization and technology together with the allied bureaucracies and illusions.