ments indicate that cold agglutinin and Mycoplasma pneumoniae antibodies are distinct.[12] That the 19S but not the 7S component of Mycoplasma pneumoniae antibody can be absorbed with I red blood cell antigen suggests a common specificity of these Mycoplasma pneumoniae antibodies and cold agglutinins.[13] Although direct evidence is lacking for Mycoplasma pneumoniae containing I antigen or an antigenic configuration similar to I antigen, absorption experiments with antibody to this organism and I erythrocytes suggest that possibility. Thus anti-I-cold agglutinins might be expected to form as a result of direct antigenic stimulation.[14] This facet of Mycoplasma pneumoniae infections is rich with experimental possibilities which might provide clues to understanding the pathogenesis of Mycoplasma pneumoniae infection and the accompanying serological phenomena.

Since Mycoplasma pneumoniae causes acute respiratory tract disease, does it play a role in chronic respiratory diseases of man, alone or in concert with other microorganisms? That mycoplasma infections of domestic fowl and other animals cause serious and chronic respiratory diseases provides a basis for suggesting that mycoplasma infections of the human respiratory tract might have a similar consequence. In some patients with Mycoplasma pneumoniae pneumonia there are a protracted course, delayed resolution of radiographic findings and residual abnormalities of the lungs and pleura. In patients with chronic bronchitis, Mycoplasma pneumoniae infections produce exacerbations, with worsening of pulmonary function.[15] The importance of mycoplasma infection as a cause of chronic respiratory disease of man remains largely unexplored, but it also seems a highly productive and informative pathway to pursue. The recognition of Mycoplasma pneumoniae as the etiologic agent of primary atypical pneumonia, its identification as a Mycoplasma and the delineation of other diseases it can cause will encourage an era of further investigation rather than conclude one, as all important discoveries do.

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A Review of Illich's *Medical Nemesis*

AT A TIME when the governor of the most populous state, the leader of the "New Generation of Politicians," espouses the health philosophy of the newest charismatic guru, Ivan Illich, the medical profession and society should take a hard look at the guru's latest pronouncement, *Medical Nemesis—The Expropriation of Health* (Pantheon Books, Random House, 1976).

In Greek mythology, Prometheus was employed by Zeus to fashion men from clay and instruct them in the arts of living. He stole fire from heaven and for his presumption or *hubris* (overwhelming pride), he was chained to a rock to suffer everlasting torture. Nemesis engineered the gods' revenge on Prometheus and on all those mortals who aspired to more than mortal power. Thus Nemesis has demanded retribution from every nation of the ancient and modern worlds when hubris exceeds humility.[1] Illich argues that modern man's confidence in the curative magic of medicine amounts to hubris and that Nemesis has

taken her inevitable toll in the proliferation of diseases caused by medical procedures and poisons (iatrogenesis), in the growing burden of medical expenses to all societies (capitalistic and communistic), and in the loss of ability of individual persons and families to cope with the reality of pain, suffering and death—a loss that reduces the fitness for survival of the race as a whole.[2] "Nemesis for the masses is now the inescapable blacklash of industrial progress. Modern Nemesis is the material monster born from the industrial dream. It has spread as far and as wide as universal schooling, mass transportation, industrial wage labour, and the medicalization of health." Thus Illich brings into focus his overriding philosophy of anti-industrialization as written in *Deschooling Society* (1971), *Tools for Conviviality* (1973) and *Energy and Equity* (1974).

The crux of Illich's ideas are summarized as follows:

"Increasing and irreparable damage accompanies present industrial expansion in all sectors. In medicine, this damage appears as iatrogenesis. Iatrogenesis is clinical when pain, sickness and death result from medical care; it is social when health policies reinforce an industrial organization that generates ill health; it is cultural and symbolic when medically sponsored behaviour and delusions restrict the vital autonomy of people by undermining their competence in growing up, caring for each other, and aging, or when medical intervention cripples personal responses to pain, disability, impairment, anguish and death."

"The most dramatic medical interventions: radical surgery, dialysis, organ transplants add untold agony to the patient's life and use up most societies' resources at a rate all out of proportion to the benefit they provide." This seems easy to refute when one considers pacemakers, cardiac prosthetic valves, prosthetic hip joints, positive pressure breathing machines, ventriculocardiac shunts and many other examples—leaving out entirely the advances in such areas as infection control with antibiotics, blood products, hyperalimentation and anticonvulsants. One must not only consider the length of life but the quality of life judged by the productivity and comfort of the individual person as well as the burden to his family and to society as a whole. This "caring" function in distinction to the "curing" function enables physicians to relieve, to support, to rehabilitate, to make life not only tolerable but rich and useful even in the presence of continuing disease.

Illich states, "That in every society, the dominant image of death determines the prevalent concept of health." And, "The well being of men and women increases with their ability to assume personal responsibility for pain, impairment, and in their attitude to death." Thus, he concludes, "Pain, sickness and death are seen (tragically to Illich) as contributing less and less to the real quality of life. The editor of the *British Medical Journal*[3] perhaps puts it best: "Few having read the horrors of deathbed scenes in the 19th century letters and fiction (including Tolstoy's own Ivan Ilyitch) could agree that death then was a calm, natural event which has since been subjected to 'medicalization' robbing the modern individual of dignity at the end of his life."

While Illich is critical of medicine and doctors in general, doctors must be one of the most self-critical professions, constantly examining and challenging traditional beliefs. They are well aware of the limitations, knowing full well that the mortality of life is 100 percent.[4]

What, then, are Illich's solutions to the problem. He exhorts for a return to personal responsibility for health care and turning medical technology and professional activity over to laymen. He wants people to drop out and to organize for a less destructive way of life in which they have more control of their environment. He would shift full burden of responsible use of drugs and procedures onto the sick person and his next of kin. Legislation would define each man's right to his own health, subject only to limitations imposed by respect to his neighbor's rights. In other words, Illich suggests a step backward—but neither organic nor cultural evolution can retrace its steps. Without the destruction of industrial society and of millions of people, this is not possible in the real world.

Yet Illich makes points, which are coming into focus more and more, regarding the finite resources that each society has in caring for its people. Technological medicine, and its batteries of machines, has to be restricted. There is simply not enough money to make it feasible for all who might benefit from it. In fact, it is always being rationed and probably always will be because of the cost. Therefore, priorities must be developed and physicians must lead the way. When the public has been fully informed, it and the profession must decide what they want from medicine and

how much they are willing to pay for it. Then the professionals can tell them what they can, in fact, have for the money. Fully realizing the finite level of resources, an active program of health education becomes one of the dominant priorities that society must accept, concentrating on adjusting the individual person's habits and life-style so as to avoid factors known to predispose toward serious disease. If everyone would stop smoking, the incidence of cancer would go down by 30 percent in a generation; but how can this be accomplished?

Illich's style is difficult. He uses exotic language, confusing in phraseology and sentence structure. He believes that citing a reference for every thought somehow makes his statements more authoritative and scholarly, when in fact he does not hesitate to use his footnotes as documentation for the frankly biased opinions of others to support his own bias.[5] There are 634 footnotes in the 275-page volume. His arguments are on a high, abstract plane and when brought down to the reality of everyday care of the individual patient beset with his woes and problems, illnesses and death, they become obscure and not meaningful. Nevertheless, the book is the kind of stuff that social planners and politicians will leap upon because it means inaction and a step backwards. Consequently it must be understood for its possible ramifications in the future of American health care.

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