

ON THE HOSPITAL AS A COMMONS

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We are witnessing the beginnings of a major technological revolution, one far more important for the human than either the agricultural or industrial revolutions. Since World War II, science and technology have become more and more centered on mankind itself, on human beings. This is easily seen in the loss of center-stage by physics and, to an extent, chemistry, along with the ascendancy of biochemistry, molecular biology and genetics. The human race is reaching for unprecedented knowledge, technological control and power over itself. We are on the threshold of consciously directing our own future evolutionary development. In the past, much of our technology was based on physics and chemistry and directed to changing things -- for "the good of humans." Past technologies, based on chemistry (pharmaceuticals, for example) and medicine, were applied directly to humans, but on an ad hoc, non-systematic basis. But the latest scientific discoveries and their technological applications allow, and even mandate, humans to intervene directly in the human composite with little or no mediation by either the physical or social environment (Brungs, 1989).

The contemporary community hospital and the traditional agricultural commons bear a striking resemblance. Just as peasants long ago had private holdings for individual use and commonfields for collective use, physicians today have their own private offices for personal use and hospital facilities for common use. Indeed, physicians who at one time may have maintained a private office at some distance from the hospital now locate in close proximity to the hospital where they admit their patients. This consolidation in one location has created a campus for health care delivery with the hospital at the center which physically resembles traditional agriculture with the commonfields at the core of food production.

This article comments at some length on this resemblance and other similarities, taking note of Hiatt's (1975) use of the term "medical commons," but pushes well beyond his simple analogy to grazing animals and common pasture. In this regard, four principal attributes of commonfield agriculture are identified and matched to contemporary arrangements in the management of the facilities of the community hospital.

This article also extends the one of the author's own remarks regarding the industrial workplace in general wherein he pointed to several notable parallels between the modern workplace and the contemporary natural-resource commons (see O'Boyle, 1994). In this regard, four sets of characteristics of the natural-resource commons are distinguished and made relevant to the community hospital. His immediate purpose is to reinforce the position that, properly considered, the community hospital is indeed a commons.

Last, and probably most controversial of all, the authors hypothesize that, just as a sea change of social values in the post-medieval period transformed agriculture forevermore as manifested most dramatically by the enclosing of the commons, so too a sea change of values today is changing health care as seen most strikingly in humans who are fabricated or retrofitted, inviting a wave of mergers and acquisitions in the past several years which is reminiscent of the enclosing of the commons.

The underlying premise herein is that the history of commonfield agriculture with its revolution in social values, and the natural-resource commons, teach much that applies to health-care delivery and may lead to a better understanding of the way in which the community hospital¹ functions in that system and what the future may hold in a social order with much different values and major breakthroughs in science and technology.

SIMILARITIES BETWEEN TRADITIONAL COMMONFIELD AGRICULTURE AND THE CONTEMPORARY COMMUNITY HOSPITAL

Commonfield agriculture was used for centuries to manage critical natural resources in such distinct and distant places as the Himalayas, Switzerland, the Andes, Japan, Vietnam, the Middle East, West Africa, India, and colonial New England. Possibly best known was the English system of commonfield agriculture which originated sometime prior to the 10th century, achieved its widest influence between the 10th century and the 14th century, and disappeared almost everywhere in England before the end of the 19th century. Today only one commonfield township in England survives (Campbell and Godoy, 1992).

Central Attributes of Commonfield Agriculture.

Thirsk (1964) identifies four central characteristics of commonfield agriculture. First, the private holdings of individual cultivators are scattered among the unenclosed commonfields. Second, the commonfields are used at times by individual cultivators as farmland for raising crops and at other times, usually during fallow years, by the various cultivators as common pasture to graze their animals. Third, the commonfields are used collectively for gathering peat, timber, and firewood. Fourth, the entire system is regulated and supervised by a collective of cultivators. Among the four characteristics, the first predominates in the sense that the other three are responses to the problem of farming in subdivided fields (Dahlman, 1980).

The “Medical Commons.”

Howard Hiatt (1975) is the first health educator and public health analyst to use the term “the medical commons” in connection with the modern health care delivery system.² Hiatt borrowed the concept and language from Garrett Hardin (1968) who coined the now well-known phrase “tragedy of the commons.” Hardin (1985) himself uses “the medical commons” and appears to attribute the term to Hiatt.³

Hiatt and Hardin are most alike in their Malthusian prediction of the ruination of both commons.

Harden (1968):

The only way we can preserve and nurture other and more precious freedoms is by relinquishing the freedom to breed, and that very soon. “Freedom is the recognition of necessity” - and it is the role of education to reveal to all the necessity of abandoning the freedom to breed. Only so, can we put an end to this aspect of the tragedy of the commons.

Hiatt (1975):

The total resources available for medical care can be viewed as analogous to the grazing area on Hardin's commons, and the practices drawing on those resources to Hardin's grazing animals. . . . The dilemma confronting us is how we can place additional stress on the medical commons without bringing ourselves closer to ruin.

Open Access.

Clearly the alarm sounded by Harden is premised on the so-called “open access regime” in which tragedy is inevitable as long as human beings retain the freedom to choose the number and spacing of their children. Hiatt (1975) also identifies freedom as the culprit -- freedom to access health care and to do everything possible to promote individual well-being -- and foresees the same tragic consequences for health care delivery.

This freedom is preserved as long as personal ability to pay is not a requirement for access. In the case of health care, however, insurance, government regulation, charity facilities, and the generosity of caregivers provide open access to those in need of care whether they can personally afford the care or not. It follows that Hiatt's concern reflects a very old principle in economics to the effect that any good or service that is essentially free will be overused.

Economic resources in an open-access regime, whether they are *owned* by some private individual, private group, or public group, are *controlled and managed* by no one. There are no effective limits that self-serving users respect in utilizing these resources and consequently natural resources are wasted. In the extreme this lack of restraint leads to the tragedy of the commons.

The dominant social value in the open-access regime is unbounded freedom which serves only individual self-interest. Cutthroat competition and collusion from time to time organize economic affairs but collusive agreements tend to dissolve due to the additional benefits available to the self-serving individual who breaks the agreement. Libertarianism is the central ideology. In the extreme, open access leads to anarchy which in turn severely disrupts normal operations. The unrestrained open-access regime is inherently unstable.

This instability has fueled the long-standing and heated public debate over health-care financing and forces us to deal with the dilemma of a system which under open access has become unbearably costly to both the private sector and the public sector and which under restricted access excludes some of those who need care. Thus, the problem today may be characterized as the dilemma of the medical commons.

Other Similarities to Commonfield Agriculture.

There are several other similarities between English commonfield agriculture and the community hospital which are worth noting. First, and self-evidently, commonfield agriculture had one overriding objective: to help meet human physical need. Food in some instances may be a

thing desired but most fundamentally it is required to sustain human life. So, too, with the community hospital: the services provided therein may at times be desired such as with some cosmetic surgery, for instance, but overwhelmingly those services are required to sustain human life and to restore humans to physical well-being. Even so, there are revolutionary changes taking place in medicine which are raising profoundly important questions as to what it is to be human and to be a person, and those changes are having a powerful impact on the community hospital. More about this later in the article.

Second,⁴ neither commonfield agriculture nor the community hospital was/is an egalitarian institution. Commonfield agriculture in England had its lords and peasants just as the community hospital has its physicians and orderlies. In matters relating to the utilization of the commonfields, the lord of the manor was more influential than the peasant farmer. Similarly, when it comes to deciding how the facilities of the community hospital are to be used, the admitting physician has a much larger role than the typical orderly.

Third, commonfield agriculture was characterized by two activating principles -- competition and cooperation -- that were crucial to organizing affairs and by sharp inequalities between peasants and strong intragroup rivalries. The same two principles govern the functioning of the community hospital and rivalries among physicians on the medical staff are commonplace. These rivalries threaten at times the cooperation necessary to deliver services effectively and efficiently.

To elaborate, the education, training, and acquired skills of the contemporary physician are directed significantly to managing patients in acute crises, which effectively reinforces the physician's individuality and through successful crisis-management experiences bolsters his/her self-confidence. This, in turn, makes many physicians highly competitive -- a personality trait which is explicitly supported as early as the first year of medical school wherein other students are seen as rivals -- and at times less than fully cooperative. A major responsibility of the administrator of the community hospital is to intervene in such rivalries so that a proper balance between competition and cooperation is restored, and the institution continues to serve the needs of its patients. Medical staff meetings today in the community hospital serve the same overall purpose of wrestling with logistical problems as did village assemblies long ago in commonfield agriculture.

Fourth, both commonfield agriculture and the community hospital operate(d) effectively, producing what is needed if not always producing it efficiently. As mentioned earlier, commonfield agriculture persisted for centuries in England precisely because the system produced the needed food supplies. Only recently, however, has this view of the productivity of commonfield agriculture emerged. Allen (1991 and 1982) asserts that there were major gains in productivity in English commonfield agriculture in the seventeenth and eighteenth centuries, and that the main effect of enclosure was not an improvement in productivity but a redistribution of the agricultural income in favor of landlords.⁵

Employment⁶ at community hospitals between 1972 and 1992 increased from 2.1 million in 1972 to 3.6 million at the same time expenses, excluding new construction, have climbed from \$25.5 billion to \$248.1 billion (Statistical Abstract, 1994). Simply put, community hospitals are tremendous revenue-generators.

Fifth, and last, the bounty of commonfield agriculture per se was one significant reason for consolidation and enclosure.⁷ Observe the very recent consolidation of many solo physician practices into managed care systems and the huge wave of mergers and acquisitions involving community hospitals. Moves have been taking place in such numbers and with such speed recently that it is difficult to accurately represent the scope of this activity. To illustrate, between January 1993 and May 1994, hospitals valued at \$12.3 billion changed ownership (Lutz, 1994b). In January 1994 HealthTrust, an investor-owned chain of hospitals, acquired another chain Epic Healthcare Group for \$1 billion (Lutz, 1994a). Columbia/HCA Healthcare, in turn, will acquire HealthTrust in 1995, increasing its size to 311 hospitals from 195 giving the combined systems estimated annual revenues of approximately \$15 billion and making it the 51st largest capitalized company in the U.S. (Lutz, 1994c and 1994a; Japsen and Burda, 1995). Expectations are that by early 1995 ten investor-owned health-care companies will have merged into three (Lutz, 1994c). Significantly, for our purposes here, Columbia/HCA and other such companies have been described as “moving toward privatizing what has been largely a community-owned enterprise that enjoys significant tax benefits” (Lutz, 1994b).

This consolidation and merger-acquisitions activity recalls the consolidation and enclosure movement in commonfield agriculture in two related ways. First, exclusion from the commons has the same effect on the excluded physicians as on the excluded peasant farmers -- a loss of income to those who control the new holdings. Among the physicians who stand to lose are those on the staffs of the nation's 1,300 teaching hospitals who, because of managed-care agreements, may not get the patient referrals they are used to (Lutz, 1994b).

Second, improved efficiency was the argument used after the fact to justify enclosing the commonfields. The same general argument is being advanced today to justify the current wave of mergers and acquisitions in health care. It is only within the last several years that researchers have established that it was redistribution of agricultural income not greater productivity that prodded the enclosure movement. We would not be startled to discover that the same reason in fact applies to what is happening in health care. See Figure 1 for a summary of the similarities between traditional commonfield agriculture and the contemporary community hospital.

SIMILARITIES BETWEEN THE CONTEMPORARY NATURAL-RESOURCES COMMONS AND THE CONTEMPORARY COMMUNITY HOSPITAL

Oakerson (1992) argues that there are four sets of attributes that characterize the contemporary natural-resource commons: (1) physical attributes and technology; (2) decision-making arrangements; (3) mutual choice of strategies and patterns of interaction; and (4) outcomes.⁸ In the following, we attempt to demonstrate the ways in which a community hospital resembles a natural-resource commons.⁹

1. *Physical Attributes and Technology.*

With regard to the first set of attributes, Oakerson asserts that there are three considerations. First, the natural-resource commons is characterized by the capacity to support multiple users. Second, access to the commons is restricted. Third, physical boundaries determine the optimum scale necessary for efficiency. The first two may be thought of as limits.

In the case of the natural-resource commons, the capacity to support multiple users means that some limits must be established to align use with nature's bounty in order to keep the commons from being stripped bare. Thus use by various individuals must be constrained by the natural replenishment or maintenance of the resource.

So too with the community hospital in that its own staff, especially its clinical staff, may be exhausted by one admitting physician or several who without considering the requirements of their professional colleagues make extreme or excessive demands on the staff. Under those circumstances, the productivity of the hospital suffers because of the demoralization and turnover that commonly follow exhaustion. The community hospital is a delicate human ecological system which is as fragile as the eco-system of the natural-resource commons. To protect that system, it is necessary to limit the individual freedom of the medical staff and their natural competitiveness. Otherwise, the community hospital may be stripped bare.

The Oregon Plan, for example, imposes such a limit -- on the poor. Limits on use, or *rationing*, are inevitable. Indeed, in an unfettered market system the function of price is to ration whatever good or service is produced. The only other way to ration goods and services is to constrain individual freedom by means of the coercive power of government.

In the 1960s our society agreed to provide open access to health care for the poor, and over the last 15 years that decision has proven to be extremely costly, contributing significantly to budget crises throughout the public sector. Virtually every public official knows that unless access to the health care system is limited, government deficits will add further to the public debt increasing further the burden of debt service. In 1980, the federal debt totalled \$908.5 billion and net interest payments amounted to \$52.5 billion. By 1994, both figures had quadrupled: \$203.4 billion in interest was paid on a federal debt of \$4.7 trillion (Statistical Abstract, 1994).

The second consideration in the first set of attributes identified by Oakerson relates to the problem of open-access. Given the potentially devastating effects of open access to the medical commons, as suggested previously by Hiatt (1975), some limit on access must be imposed. The difference between this limit and the first is that, with the first, a limit is imposed on use itself whereas, with the second, a limit is imposed on the number of users. Oakerson argues that exclusion can be implemented by denying access either (1) to selected individuals whether they are members of the immediate community or not, or (2) to everyone who is not a member of the

immediate community and the number of users can be increased as the natural bounty of the commons permits.

Limits may be imposed on the number of licensed physician users in two main ways. First, starting a practice is expensive. For that reason, many physicians begin as employees of other physicians or physician groups and later become partners. However, if none of the physicians practicing at a given hospital are willing to hire others, a limit effectively is imposed on the number of physicians using the hospital. Second, specialists require referrals from primary-care physicians in order to survive. Without those referrals the physician cannot be a user of the commons for long. With only a few patients, specialist income falls, skills deteriorate due to lack of use, fewer referrals are forthcoming, and income falls even further.

A third attribute of the natural-resource commons is indivisibility which means that the commons is of such physical dimensions that it cannot be divided among private property holders without impairing its bounty either by permanently impeding some of the forces of nature or by installing management systems that because of the reduced scale of operations are redundant and wasteful. Oakerson allows that, while there may be some ambiguity as to the precise physical boundaries that define a natural resource as indivisible, there is no ambiguity as to central role of boundaries in defining such a commons.

With regard to the community hospital, this attribute has to do with scale of operations and utilization of physical capital. Optimal scale refers to a scope of operations such that any scaling down or scaling up renders the enterprise less productive. In the industrial workplace, optimal scale means operating with a plant size that achieves the lowest unit cost possible.

Conventional economics asserts that in the long run the forces of competition inexorably sweep the firm along toward its optimal scale. That being the case, the more competitive the healthcare marketplace for a given community hospital, the more efficient it becomes and the more likely it is classifiable as a commons.

However, if one is inclined toward a point of view linked to the Austrian economist Joseph Schumpeter, the “perennial gale of creative destruction” blows across the healthcare industry with effects similar to a tornado roaring across the natural-resource commons. Optimal size, therefore, is highly problematical because of the very rapid pace of change, including technological change, in healthcare. The authors suggest that at any point in time relatively few community hospitals achieve optimal scale and along that attribute, therefore, few in that sense actually are a commons. Nevertheless, possibly many more will become a commons in the future as a consequence of greater administrative rationalization.

2. *Decision-Making Arrangements.*

Oakerson's second set of attributes refers to decision-making arrangements governing the operations of the commons which, as with the first set of attributes, is threefold. First, there are

operational rules regulating the use of the commons. Second, there are rules establishing the conditions under which collective choice is to be made. Third, there exist outside the commons external decision structures that determine how the commons is organized and utilized. Oakeron sees these three attributes as nested: operational rules within collective-choice rules which are nested within external arrangements.

As to operational rules, specific limits are put in place to protect the commons from overuse. Uses that are less depleting are preferred to others that are more depleting. Compatible uses are favored over conflicting uses. In the natural-resource commons, specific limits relate to duration and type of use, along with the amount that can be appropriated under different uses.

Examples of such rules in the community hospital abound. For instance, there are rules governing how patients are to be admitted and discharged, how drugs are to be ordered, stored, dispensed, and administered, how hazardous waste is to be disposed, how floors are to be washed and polished, how food is to be prepared, and how instruments are to be accounted for.

To the extent that such operational rules contribute toward efficiency, orderliness, tranquility, and the safety of the humans in the hospital, most especially the patients, the community hospital resembles a commons. To the extent that the rules get in the way of achieving those objectives, the hospital fails as a commons. The key difference is whether the work is consistently rationalized or not. If it is, the hospital is a commons.

Rules governing the conditions under which collective choice is to be made refer to how the natural-resource commons is to be used by persons acting not as atomistic individuals but as members of the collective.

Collective choice is governed by: (a) the ability of the individual user to accommodate self-interest to the interest of the other users; (b) the remedies available to the individual user who is harmed by the actions of other users; (c) the willingness of the individual user to adapt his/her behavior to the collective decision; and (d) the opportunity for the individual user to stymie collective decision-making by means of a veto. The following elaborates on each of these four points.

(a) Ability to subordinate self. In the community hospital, everyone is required more or less to strike a balance between his/her individuality and sociality. Some of this is determined by the management's ability to identify and hire or admit to the medical staff the kind of person who is able to fit into the hospital culture and to alter the culture in order to convince and help their individual employees and physician-colleagues to come together as a group or team. Some of this is determined by the individual and depends greatly on the life experiences of that individual. Today, more so than in the past, some of this may be driven by market forces that bring the management, employees, and medical staff to a realization that the survival of the hospital depends on each individual's ability to take into account the concerns of others.

(b) Remedies available. As with other types of business organizations, the community hospital has available numerous internal systems, some formal, others informal, for addressing the problem of any harm that may befall one person at the hands of another. To enumerate three: the suggestion box, the open-door policy of the chief executive, and the grievance process.

(c) Willingness to adapt. Willingness to adapt is closely related to ability to subordinate self. Any deficiency with regard to a person's ability to take into account the interests of others makes the task of adapting individual behavior to the collective decision more difficult. Opportunities for meaningful participation in the decision-making process by the individual, along with the information and the authority needed to act effectively, are key to bringing the need of the individual into congruence with the purposes of the group. The quality circle is one mechanism for achieving such congruence as is the regular meeting for an operating unit. Another is creating a teamwork environment by such outside activities as a walk-a-thons and participation in, say, the local Mardi Gras parade. Others techniques include uniforms and explicitly linking some rewards and recognition to group performance as opposed to individual performance.

(d) Opportunity to stymie. The fourth consideration is a problem in virtually every workplace in that every employee has some opportunity to frustrate the will of the group either overtly or covertly. An openly hostile and aggressive individual may be able to intimidate other members of the group to the point where they do not implement what has been decided collectively. A passive-aggressive person may be able to set in place barriers to the implementation process either stalling group action or completely frustrating it. The key question is not so much whether such a veto is available as whether the individual is willing to use it.

The opportunity to stymie is delimited to the extent that individuals are willing to adapt. In a community hospital, with many highly individualistic and competitive physicians on the medical staff, getting them to adapt can be very demanding.

Given the complexities involved in managing collective choice effectively, it is problematical as to whether a given community hospital at any given time is classifiable as a commons. Additionally, a given hospital may at one time exhibit this attribute and at some other time may not, especially with different employees and senior managers following a merger/acquisition. Only an on-site assessment would suffice to make the required determination.

The last of the three attributes in the second set is the one within which the other two are nested: external decision arrangements. These arrangements may be constitutional, legislative, or bureaucratic, in that the natural-resource commons may require a change in the (state) constitution to permit it to exist, new legislation to let it operate, or the oversight of a rules-making bureaucracy in order to function on a day-to-day basis.

Oakerson enumerates two other types of external arrangements -- one that is conflict resolving and the other is economic. By conflict resolving is meant third-party arrangements, such as courts of law, to resolve disputes between and among users. External arrangements in the

economic order refer to the competitive forces of the marketplace that effectively set parameters within which the commons is required to operate in order to survive.

All five types of external arrangements apply in straight-forward manner to the community hospital. A newly formed hospital first must establish itself in the eyes of the law as an operating entity. A vast, changing, and continuously growing set of local, state, and federal statutes, such as building codes, health and safety regulations, and wage and hours laws, provide direction to and set parameters for decision-making. Typically these statutes are backed by a bureaucratic enforcement arm. As to external control of decision-making in the area of conflict resolution, note the impact of such federal agencies as the Equal Employment Opportunity Commission and the Center for Disease Control. The role of competition in organizing the operations of the community hospital has become so well known and documented of late in part because of the flurry of merger/acquisition activity that no further elaboration is required here.

3. Mutual Choice of Strategies.

Oakerson's third set of attributes includes mutual choice of strategies and consequent patterns of interaction among decision makers. By this set he means the patterns regarding the choices made by the individual members of a group, which develop in the context of the physical characteristics of the commons and the relevant technology along with decision-making arrangements available to determine how the commons is to be used.

In a natural-resource commons, individual restraint is necessary to preserve nature's bounty. In an ordinary exchange between an individual buyer and an individual seller, the burdens and the benefits for both parties generally occur simultaneously with the actual exchange itself in quid-pro-quo fashion. In other words, for the burden assumed by each party a direct benefit is returned by the other party. This quid-pro-quo reinforcement of reciprocity is absent in a natural-resource commons in that the burden of restraint practiced by the individual user supplies benefits to other users with no immediate benefit returned to that individual user who, in turn, derives benefits at some later date from the burden of the restraint practiced by the other users.

In managing the natural-resource commons, the challenge is to eliminate the "free-rider" -- the user who receives benefits without assuming the burdens of using the commons -- because such users plunder and ultimately destroy the commons. Concealment, deceit, intimidation, threats, and violence, according to Oakerson, are symptomatic of a breakdown of reciprocity in the natural-resource commons.

In the community hospital, "cooperative spirit" is more descriptive of the required pattern of interaction between and among individuals than is "reciprocity." Cooperative spirit means a disposition on the part of the individual to undertake certain tasks through collective action because the task cannot be completed at all or as well through individual action alone. As with the natural-resource commons, restraint is a requirement because unrestrained competition depletes the bounty of the medical commons.

The operative social value that enables the cooperative spirit to flourish in the community hospital is called, variously, “family,” “teamwork,” or “community.” Too much cooperation and too little competition, however, may dampen the creativity and drive of the individual, robbing the hospital of an edge of excellence. On the other hand, too little cooperation and too much competition could expose the commons to the excesses of the “free-rider,” robbing it of some of its bounty. For hospital administrators and managers, the especially difficult task is blending the cooperative spirit and the competitive spirit, both of which energize basic work processes, in ways that are mutually reinforcing rather than mutually debilitating. In this regard, a not-for-profit community hospital with a strong religious tradition may have a great advantage over a proprietary hospital. But this advantage can be lost through merger and acquisition.

4. Central Purpose.

The fourth and last set of attributes identified by Oakerson is outcome or purpose by which he means “physical outcomes subject to human evaluation.” He affirms that the study of outcomes is value-laden and that efficiency and equity, most commonly, are the proper evaluative criteria.

In the natural-resource commons, Oakerson defines efficiency in terms of overall rate of use. Inefficient use of the commons may take one of two chief forms: overutilization (an open commons) and underutilization (a closed commons). He defines equity in terms of distributive justice: Are individuals getting a fair return on their contribution? Inequity, he argues, undermines reciprocity which in turn leads to inefficient use of the commons. Pareto-optimality¹⁰ is recommended as the appropriate way to operationalize both the concept of efficiency and the concept of equity.

Clearly, for the community hospital, the overriding purpose is to serve the physical well-being of its patients. So too with the natural-resource commons and its users. Efficiency and equity as defined above must be subordinate to that overriding purpose, even for the private not-for-profit hospital and the public hospital. The problem of central purpose arises perhaps most forcefully with the proprietary hospital. Under what circumstances does reducing inputs in order to contain the cost of health care and improve the bottom line in fact contribute to less-than-satisfactory outcomes for patients? The answer cannot be generalized. It depends instead on the specifics within a particular institutional environment. One should bear in mind, however, the difference between a necessary condition and an overriding purpose. Efficiency and return on investment are necessary conditions. The well-being of patients is the central purpose. See Figure 2 for a summary of these similarities.

ENCLOSING THE MEDICAL COMMONS

Reinhardt (1992) describes the U.S. health care system as a paradox: technologically sophisticated with unsurpassed quality of care, needlessly expensive with access for some blocked by the cost of care. The care is widely and willingly embraced by patients no less than caregivers. Additionally, technological advances present options never before available and therefore new

questions and quandaries as to proper utilization. Confusion, uncertainty, and disagreement arising from a medical ethics that has not kept pace with technological change invites mismanagement of expensive health resources, further contributing to the cost of health care.

Hiatt (1975) views the medical commons and foresees ruin. Columbia/HCA sees bounty. Because of the system's internal contradictions, both are right. Thus, paradoxically, the medical commons is being stripped bare at the very same time it is being enclosed. Some are heavily burdened by the cost of care or access to care while others amass fortunes. These developments are close to the surface and plainly visible. Something else, however, has been taking place for some time which is profoundly important but out of sight, expanding those contradictions and further stressing the entire system.

Aaron (1991) among others identifies the symptoms, but does not supply a full interpretation of their meaning. The proliferation of technology, Aaron observes, is the main driving force behind escalating health care spending and plainly he, as with Hiatt (1975), is worried that the commons is being stripped bare. At the same time advances in technology have been reshaping the delivery of health care, they have been *transforming human life itself* for more than a generation. Driven by breakthroughs in biochemistry, molecular biology, and genetics, the new technology is achieving a three-fold control over human life and death, human potentialities, and human achievement (Brungs, 1989). As to control over human life and death, Brungs in 1976 identifies *in vitro* fertilization as an example of a new technology exerting control at the beginning of the life-continuum and lowering body temperature as a new method for controlling death at the end of the continuum. Examples of the second type of control -- over human potentialities -- include amniocentesis and freezing sperm and ova in what can be called "monitored mating." Predicting that control over human achievement would become the first to be developed on a wide scale, Brungs (1989) characterizes the third type as follows:

the predictable and reproducible use of neurosurgery, psychoactive drugs, and the like to control those capacities considered most human: speech, thought, choice, emotion, memory, imagination, creativity, and, perhaps, spiritual vision.

Just as in the post-medieval period a sea change in values wherein human individuality and self-interest replaced human sociality and the common good transformed agriculture forevermore as manifested most dramatically by the enclosing of the commons, so too a sea change in values wherein life that is cheapened and death that is both abolished and provisioned,¹¹ on the one hand, replace life that is precious and death that is accepted, on the other, is changing the health care system as manifested most dramatically by humans who are fabricated¹² or retrofitted.

By retrofitted human the authors refer to technological developments rooted in engineering and clinical areas such as cardio-vascular surgery, neurosurgery, orthopedics, urology, and pulmonary medicine which allow physicians to *permanently* retrofit humans with, artificial joints, shunts, catheters, stents, rods, and implantable defibrillators, not to mention prostheses, pacemakers, organs including human, animal, and artificial, and silicon gel implants. The central danger to human beings from fabrication and retrofitting is that they will see themselves and be

seen by others more as physical objects and less as human persons. Even though it still is more fantasy than reality, the cyborg -- a machine body with a human brain -- raises profound questions as to who we human beings are, what we are, and who we belong to.

Thus, there is a *technological revolution* taking place which is changing the material composite of living human beings and a *moral revolution* in which the value attached to human life itself is not the same for all. Without the second revolution, the first could not sweep across the medical commons with such impact on the cost of care, on patients some of whom cannot afford the care available, and on providers who literally on a daily basis are required to decide how these technological wonders are to be allocated.

Given, however, the sea change in moral values that has occurred in the last generation, the profusion of technological breakthroughs has created an enormous bounty in the medical commons, inviting enclosure. And thus from the perspective of a caregiver such as Hiatt, the medical commons is seen as being stripped bare and at the same time, paradoxically, from the perspective of the private investor such as Columbia/HCA, there are enormous fortunes to be made by enclosing the medical commons.

Until the medical commons becomes enclosed, simple opportunism is sufficient to amassing a fortune. Afterward, more aggressive behavior may be required for that purpose. If in addressing the dilemma of the medical commons managed care in fact drives physicians away from teaching, who will instruct future generations of medical students and what does such a possibility portend for those in need of care in the future whether they are able to pay or not? Finally, if we continue to eagerly embrace the latest technological advances, who will have the wisdom and courage to deal with a dilemma made even more bewildering?

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ENDNOTES

1. By community hospital we mean any nonfederal short-term (< 30 days) general or other special hospital, excluding hospital units or institutions whose facilities and services are available to the public. Included are hospitals that are directly affiliated with a medical school and wherein medical students, interns, residents, and fellows receive their medical education and training. This definition conforms to the American Hospital Association's definition of a community hospital (see American Hospital Association, 1988).

2. This view is affirmed by Hiatt and Weinstein (1985).

3. Hardin (1985) attributes the term to an unnamed physician who published an article in the New England Journal of Medicine in 1971. Hiatt's article appeared in 1975.

4. My source for the characteristics of English commonfield agriculture enumerated above is Campbell and Godoy (1992).

5. To the extent that Utopia is actually English history, Thomas More too recognized this redistribution effect, in the sixteenth century.

... for wherever it is found that the sheep of any soil yield a softer and richer wool than ordinary, there the nobility and gentry, and even those holy men the abbots, not contented with the old rents which their farms yielded, nor think it enough that they, living at their ease, do no good to the public, resolve to do it hurt instead of good. They stop the course of agriculture, destroying houses and towns, reserving only the churches, and enclose grounds that they may lodge their sheep in them. As if forests and parks had swallowed up too little of the land, those worthy countrymen turn the best inhabited places in solitudes, for when an insatiable wretch, who is a plague to his country, resolves to enclose many thousands of acres of ground, the owners as well as tenants are turned out of their possessions, by tricks, or by main force, or being wearied out with ill-usage, they are forced to sell them (More, 1901).

6. Includes full-time equivalents of part-time personnel.

7. Allen's (1982) empirical analysis of data from the 1760s in England indicates that "enclosure offered considerable scope for the redistribution of agricultural income."

8. This entire section on the attributes of the natural-resource commons derives from Oakerson (1992) and for that reason his work is cited only once.

9. A more conventional though somewhat dated economic perspective on the hospital as a complex organization is found in Harris (1977).

10. A point is reached wherein no one can be made better off without making someone else worse

off (Folland and others, 1993).

11. Over one-half of Americans today approve of some form of doctor-assisted suicide (Nuland, 1995). For more on the abolition of death and the provision of death compared to the acceptance of death, see O'Boyle (1982).

12. The authors trace “fabricated man” from Brungs (1989) and Keilholz (no date) back to Ramsey (1970) and from there back to Muller (1958). They are not aware that anyone else has used “retrofitted human.”

FIGURE 1. SIMILARITIES: TRADITIONAL COMMONFIELD AGRICULTURE AND THE CONTEMPORARY COMMUNITY HOSPITAL

Traditional Commonfield Agriculture

Contemporary Community Hospital

Private holdings of individual cultivators scattered among the unenclosed commonfields

Private offices of individual physicians located close to or on community hospital campus

Commonfields used at times by individual cultivators as farmland for raising crops and at other times by the cultivators as common pasture

Patients admitted by individual physicians who from time to time consult with other physicians on proper diagnosis and treatment

Commonfields used collectively for gathering peat, timber, and firewood

Common facilities such as operating room and nursery used collectively

System regulated and supervised by a collective of cultivators

Hospital controlled formally but not completely by physicians collectively

Both have one overriding objective: to help meet human material need

Neither one is an egalitarian institution

The activating principles of competition and cooperation govern both

For both, their bounty is one important reason for consolidation/enclosure

FIGURE 2. SIMILARITIES: NATURAL-RESOURCE COMMONS AND COMMUNITY HOSPITAL

- ▶ Physical attributes and technology
 - limit on use itself
 - limit on number of users
 - cannot divide or alter scale
without threatening bounty

 - ▶ Decision-making arrangements
 - operational rules
 - collective-choice rules
 - ability to subordinate self
 - internal remedies available
 - willingness to adapt
 - opportunity to stymie
 - external arrangements
 - constitutional
 - legislative
 - bureaucratic
 - conflict resolving
 - economic

 - ▶ Mutual choice of strategies dealing with “free-rider” problem
 - cooperative spirit necessary

 - ▶ Central purpose
 - efficiency and equity
 - human material need
 - return on investment
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