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The Potential of Stewardly Technology: Norms for the Industrial Enterprise

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Nolan Van Gaalen joined the Dordt engineering department in 1983, after completing a M.Sc. degree in chemical engineering at the University of Alberta. Prior to that he attended Calvin College and the University of Michigan, where he received his B.Sc. degree. His technical interests are in the areas of thermodynamics and materials science.

It is generally recognized today that the world is in a fix. The problems include:

- structural inflation and unemployment;
- huge imbalances in consumption patterns and standards of living between rich and poor nations;
- the rapid consumption of both priced and non-priced scarcities running up against the earth's tolerance limits;
- the nuclear threat and other rumors of wars;
- the social problems of rootlessness and the disillusion with work and with life.

Perhaps what is most bothersome to those of us who are employed, well-fed, and of an analytic bent, is that these problems are apparently resistant to solution by our methods. In fact, they often appear to become more intractable the more we apply technical solutions to them. So to many observers, they seem ever more permanently insoluble. The solutions are complicated, of course, by the interrelation of all the aspects or symptoms of the problem. In a technical analysis, one must understand the function of each variable in turn in order to predict the behavior of the system in the future. All

we can do with the world system is to note a few of the more obvious relationships, but by and large it must be treated as an ever-changing, ever-progressing black box by those who wish to suggest changes in our present course in order to modify the outputs to a more desirable state. Furthermore, if we may continue to use a control system analogy, it appears to exhibit positive feedback: attempts to moderate the inflation rate, for example, can cause severe dislocations of employment, and attempts to give aid to the poor cause depressed prices for the donated commodities in the producing areas.

My intent in this paper is to examine some of the attitudes to these problems of industrial society, and then to suggest some norm-based alternatives to the current situation, including some ideas on the normative functioning of a particular industrial enterprise.

There are still some who label the problems as "non-problems" or as temporary phases on the way to a bright future. Robert Jastrow, in his article, "Science and the American Dream,"¹ writes that America, at

technology. Stephen Weiner, in a summary of the many recent reports dealing with technology, economics, and the role of higher education,³ shows that their message really is this:

America's economic and social problems are, at root, a consequence of our inability to beat foreign competitors senseless by means of triumphant science and technology.

Further, the reports are almost unanimous that "the future welfare of the United States depends on securing an advantage over others in science and technology" and having a technically sophisticated work force capable of developing new products. Weiner himself, however, recognizes that "the unfortunate net result seems to be a claim that America's problems are technological, not ones of human spirit, human relations, and human organization."

Some strongly suggest that a greater degree of corporate social responsibility is required. Just how this is defined and where it fits into the picture differs depending on

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least, is on the verge of the biggest boom in its history (and he doesn't mean the atomic bomb!). He believes that the new hi-tech industries will soon mature and take up the slack caused by the levelling off and decline in growth in the heavy manufacturing industries. This is also the hope of the so-called "Atari Democrats" who look for economic salvation via hi-tech industrial development. Earlier, Wayne Tinga² referred to still others.

Some, who take a dimmer view of the current situation, still tie their hopes for solution of the problems to science and

the proponent. Charles Pilliod, a former chairman of the board of Goodyear Tire and Rubber Co., writes, "First things should come first. The corporations first social responsibility is to remain financially healthy" for the benefit of employees who invest their talents and time, shareholders who invest their capital, and consumers who buy the products. After this, the community and world concerns should be tackled "with dispatch and the degree of magnanimity that the company's resources can afford."⁴

Later, he seems to imply a broadening of this very narrow definition of social respon-

sibility when he approvingly quotes B.R. Dorsey of Gulf: "The social responsibility of business need not mean a reduction of profit and profits need not mean the reduction of social responsibility." Another of Pilliod's statements, however, betrays the motives for actions in the public interest: "To be profitable in the long term, the corporation can only operate in the public interest, which may change over time." In his opinion, then, social responsibility will be necessary to retain the confidence of the public and so make a profit. Even the norms governing this will change. He ends with this confession of faith, quoted from G.B. Shaw:

I want to be completely used up when I die. The harder I work, the more I live. This is the only joy in life—the being used for a purpose recognized by yourself as a mighty one—being thoroughly used up when you are thrown on the scrap heap.

That this implies a certain attitude toward work is apparent—but just how many workers, in their hearts, really believe the profit principle is that mighty purpose? Note also the notion of disposability. Not too far removed from this is the idea that the worker is just a poorly designed machine subject to wearing out and replacement. The corporation would then presumably have some "social responsibility" to pay for that worker's sacrifice.

I could continue to sift through literature in defense of the profit motive, i.e., in defense of "more of the same," but let me now turn to two other approaches which are quite different from the foregoing conventional "wisdom."

First, and briefly, to E.F. Schumacher who diagnoses the problem as resulting from the modern society living on irreplaceable capital which it treats as income, and a technology which recognizes no self-limiting principle. Quoting from *Small is Beautiful*:

We must thoroughly understand the problem and begin to see the

possibility of evolving a new lifestyle, with new methods of production and patterns of consumption: a life-style designed for permanence. . . . In industry we can interest ourselves in the evolution of small scale technology, relatively non-violent technology, "technology with a human face," so that people have a chance to enjoy themselves while they are working, instead of working solely for their pay packet and hoping, usually forlornly, for enjoyment solely during their leisure time. In industry, again—and, surely, industry is the pace setter of modern life—we can interest ourselves in new forms of partnership between management and men, even forms of common ownership.⁵

In a chapter entitled "Buddhist Economics," Schumacher examines how the content (i.e., laws and definitions) of economics changes when the instructions from the background "meta-economics" are changed from those of western materialism. One of the requirements of the Buddhist Noble Eight-fold Path is the principle of Right Livelihood which implies, according to Schumacher, that there must be a distinctive Buddhist economics. What is the function of work in this world-view? "At least three-fold: to give a man a chance to utilize and develop his faculties; to enable him to overcome ego-centeredness by joining with others in a common task; and to bring forth goods and services needed for a becoming existence." Labor, then, is not seen as a necessary evil or disutility, where the employer wants output without employees, and the employee wants income without labor. In the dominant western view, the ideal is to reduce the work load, and this is done by automation or by division of labor into its minimum reduceable parts as determined by scientific management. (Incidentally, this has led to a high degree of job specialization and the advent of "work rules"

which have increasingly limited both managers and laborers in what may be done by a given person on a given job. Both unions and management are now trying to reverse this.)

Now preceding all of this, Schumacher says that his choice of the Buddhist point of view is purely incidental and that the teachings of Christianity, or Judaism, or any other of the great religions could have been used for his purpose. Further, he feels that

elimination, of human creativity and responsibility in modern technology." He shows how the driving forces of rationalism, the imperative of technological perfection, and the absolutized profit-principle are all at work to form the society in which we live today.

This forming process is spelled out clearly by Goudzwaard: First, everyone is serving gods in his life; secondly, everyone is transformed into an image of his god; and

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"the Sermon on the Mount gives pretty precise instructions on how to construct an outlook that could lead to an economics of survival," and he attempts to show this briefly. Since it is our purpose to discover what difference a Christian "meta-economics" and a Christian "meta-technology" would make, let us now turn, at last, to that issue.

We find in the work of Bob Goudzwaard^{6, 7} and in the work of Egbert Schuurman^{8, 9} just this kind of search. These men are agreed that the root of the problem is man's faith in progress, a false faith which man, in his desire to be at the center of reality, has derived from the Christian eschatology and secularized. Man, driven by his desire for power and control, applies science and an increasingly scientific, reductionistic technology to the world around him. This, Schuurman says, leads to "diminution, if not

thirdly, humankind creates and forms a structure of society in its own image. Thus when we choose progress by means of technique to be our god, we should not be surprised to find ourselves transformed and deformed into an extension of the machine. (Rather than the ideal situation where, as Russ Maatman indicated¹⁰, the machine is an enabling extension of humans). In fact, Goudzwaard says, this process is so far along that some workers no longer find the dehumanizing work situation as miserable, and no longer regard remaining responsibilities as undesirable burdens.

Given this diagnosis, what is the prognosis, the hope for healing? Simply changing the structure will not be enough. In this regard, both Schumacher and Goudzwaard quote Gandhi who makes light of the notion that we can have a structure so perfect that no one will need to be good. Yet within a

distorted and broken structure, we may not have the freedom to be properly obedient. Goudzwaard suggests that we must move in the direction of the disclosure, the opening, the unfolding of society and away from that of the narrow, uni-directional ("tunnel") society which we are now in danger of becoming. This change in direction is not impossible, given the "detecting," "liberating," and "directing" power of the Word of God.

Movement towards a proper unfolding (disclosure, development) of society will necessitate a challenge to the self-justifying claims of economic, technical, and scientific progress. These forces must no longer be the ultimate standards, but give way to the norms of morality and justice, technology, and economy.

Looking at the enterprise, then, which is our focus here, what do these norms imply?

Practice in accord with the norms of *morality and justice* will mean that employees and customers are treated as human subjects rather than as economic objects. Their responsibilities and the rights to enable fulfillment of these responsibilities are recognized in a manner which is a parallel to respect for the authority of their office. Charles Adams¹¹ has emphasized that the enterprise should exist for service in the community. I see this as a proper broadening of the morality and justice norm beyond the individual employees or customers, to a concern for the welfare of the larger community in which it functions.

The norm of *technology* implies that, in addition to a concern for the effective production of necessary and high quality goods, creativity must be fostered and labor of a cooperative and social nature must be provided for.

Practice in accord with the norm of *economy* will involve a management of productive possessions in such a way that they continue to bear fruit, i.e., are sustainable.

Applied together to an industrial enterprise, what may be the result? Adams has already mentioned an as yet fictitious enterprise called Sioux Solar which might some-

day be found serving the heating and energy conservation needs of this area. Let's use that model, building on it somewhat to show these norms for industrial enterprise in action.

As an enterprise, Sioux Solar is a work community—thus it cannot be "owned" as the capital goods used by the enterprise are. Everyone in this community bears some responsibility for the direction and practice of the enterprise. Shareholders who simply provide the capital are not active members of the enterprise, but they are members of the Sioux Solar Corporation, the legal entity through which they provide that capital. They have a right to call for an accounting of the use of the capital provided, that is, for the proper stewardship of these resources. Similarly, and parallel to this, the workers have a right to call for an accounting of what is done with their labor input. Thus, workers and providers of capital have responsibilities to promote stewardship.

Automation of tasks is done in ways in which the remaining work does not become monotonous or isolate workers from the enterprise. Work is done and structured in ways which allow for creativity in planning and in form-giving. Work is regarded as useful and fulfilling, and not as a disutility. (Some time ago, Gerald Vandezande¹² suggested that workers might voluntarily set up a "humane work fund" which, under their control, could be used to make the workplace more conducive to the achievement of goals like these.)

Technology at Sioux Solar must serve the production of durable goods in an environmentally and socially sound manner, concerned with quality and proper use of resources to meet real needs. Even competition has a place, providing the climate of self-testing by which both technological design and economic activity might be raised to higher levels of stewardship.

Through its Board of Directors, representing the community, workers, and providers of capital, Sioux Solar Corporation is encouraged to be obedient to the above norms

by following open-ended guidelines like those suggested by Christian Stewardship Services³ for stewardly investment:

- a) wise in the use of the earth's resources;
- b) gentle in the treatment of the environment;
- c) just in the employment of workers, so they can exercise co-responsibility on the job and co-decision-making authority;
- d) sensitive to the needs of people;
- e) careful in the utilization of technology;
- f) frugal in the consumption of energy;
- g) vigilant in the prevention of waste;
- h) fair in the determination of price;
- i) honest in the promotion of sales;
- j) equitable in the earning of profit.

For all this to take place on a broad scale, our society must give the "elbow room" to enterprises wishing to move in this direction. It is here, of course, that the overall structure is important, and yet it is here that we individually can support enterprises like this even though prices may be higher, or the business less efficient in purely dollars and cents terms. Goudzwaard makes the important point that in order to do these things, we must achieve a greater flexibility in the relationship between economics and the application and development of technology. (Technology must be freed from "the tyranny of scientific determinism and a compulsive drive for monetary efficiency.")

We must look for new methods of organization and management, and of support for responsible enterprises. New forms are being tried. Examples of this are the Scott Bader Commonwealth¹⁴ in England (operating effectively since 1951), the workers' co-ops (the most studied of these may be the Mondragon co-op¹⁵ in France, initiated by a Catholic parish priest in 1955), and other forms of employee-owned in-

dustries (even though these are often only seen as means of last resort to save an endangered business or plant).

And finally, a really radical suggestion from one of my colleagues: if we really believe in the work of a ("non-profit") enterprise and in the usefulness of its products and services to society, why not support it with gifts, as the larger community does in other areas of the Kingdom?

In conclusion, a dedication to disclosure of the fact that the earth is the Lord's does mean having our minds and wills transformed, allowing a fresh critique of the present situation and its roots, and perhaps most importantly, beginning a new attempt at obedience in a radically different direction.

Endnotes

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¹³Christian Stewardship Services, 445 Spadina Ave., Suite 210, Toronto, Ontario M5S-2G8.

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