Whenever American technology has been used exclusively as an objective, impersonal, mechanical ordering of processes for the deliberate aim of maintaining and strengthening the technosociety, its effects have been destructive. Among its more deleterious consequences has been the reduction of the educational experience to an exclusive concern with objectivity, predictability, and efficiency. In the essay, the technocratic distortion of American education is analyzed from the viewpoint of the input-output value assumptions which underlie it. Several current educational policies and practices are examined against the degree to which these procedures have been technocratized.

ROBERT J. NASH

Education, Technology, and the Technocratic Distortion: A Critique

INTRODUCTION

Historically, American education has mirrored and transmitted the dominant value constellation of the larger culture. When the United States emerged from its earlier status as an agrarian society to become a powerful industrial state the educational system similarly metamorphosed. During the nineteenth and early twentieth centuries, formal educational institutions functioned not only to integrate immigrants into the democratic social order, but also to impart those necessary socio-economic skills, behaviors, values, and attitudes so crucial to the survival of a growing, bourgeois, industrial society.[1] In the middle of the twentieth century, as the industrial society began to experience profound technological transformation — a consequence of the impact of computers, electronics, and other highly sophisticated communicative techniques on the world of industry — the educational system underwent a parallel change. Its mission became a post-industrial one: to prepare a service-oriented, professional technical class capable of expanding and strengthening the technocratic social order.[2]

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*Portions of this article have been revised from an extended analysis of American enculturation to appear in *Educational Reconstruction: The Promise and the Challenge* Nobuo Shimahara, ed. (Columbus, Ohio: Charles E. Merrill, 1973).

[1]Clarence J. Karier, *Man, Society, and Education* (Glenview, Illinois: Scott, Foresman and Company, 1967), pp. 43-67.

[2]Ibid., pp. 68-94.

Technology, defined as an applicative body of scientific methods and materials designed to achieve certain industrial and commercial objectives, has had incomparably benign consequences for the modern world. Its well-known advantages include advances in communications media, medicine, material security and comfort, and much beneficial educational experimentation with diverse hardware. However, when technology has been used exclusively as an objective and impersonal, rational ordering of processes for the deliberate aim of maintaining and strengthening the technosociety, its human effects often have been deleterious. Among its more malignant consequences, American technology has fostered a technocratic perception of the world and an image of man which are fractured, reductive, coercive, and all-encompassing.

Several critics have described the technocratic world view as one which accentuates optimum organizational integration; an extensive rational control over all human endeavors; a preoccupation with technique, performance, competency, efficiency, predictability, and measurement; and a transmutation of the person to the functions he performs.[3] In such service-related professions as diverse as social work, medical care, and education, the current emphasis is on streamlining "operations" for greater efficiency and productivity. Systems managers and administrators strive endlessly to achieve an organizational philosophy which intensifies a commitment to tautness, functionality, modernization, and predictability. And "quality-control" experts struggle to maintain efficient effectiveness in each system by minimizing input while maximizing output. Especially in the field of education, the technocratic perspective is in the ascendancy. Some technological advocates are huckstering the value of such "scientifically tested principles" as systems analysis, behavior modification, and cost-benefit analysis.[4]

What follows is a critical examination of the technocratic distortion in American education that is resulting in a debilitating subordination of persons to the technological processes presumably meant to serve them. As the mode of production in this country has shifted from muscle and machine operation to automation and cybernetics, the American educational system has undergone an analagous shift. Its central purpose has been to produce the professional who could manage and adapt to the complex demands of the new technosociety. It is my contention, however, that the primary latent purpose of much contemporary American education is to foster and expand the productive values of the technocracy. At the base of the input-output model that so many writers are advanc-

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[3]Theodore Roszak, *The Making of a Counter Culture. Reflections on the Technocratic Society and Its Youthful Opposition* (Garden City, N.Y.: Anchor Books Edition, 1969), pp. 5-12. Also, Jacques Ellul, *The Technological Society* (New York: Vintage Edition, 1964).

[4]Lawrence P. Grayson, "Costs, Benefits, Effectiveness: Challenge to Educational Technology", *Science*, 175, No. 4027 (1972), pp. 1216-1222.

ing in their prescriptions for American education lie three values (objectivity, predictability, efficiency) which usually are left unexamined. It is my feeling that a critical analysis of these values is necessary to reveal the alienating potency implicit in the technocratic distortion of American education.

Objectivity As Technological Values[5]

Americans have long considered themselves to be a pragmatic, scientific-minded, tough-thinking people. Their outlook on the world has been grounded in the value of "hard-headed" business maneuvers, "realistic" appraisals of the hard facts, and a biting "practical" contempt for the "effete" intellectual. Traditionally, the American educational system has reinforced this perception of the world through its emphasis on technical, conventional, empirical, rational, and quantitative cognition rather than imaginative, speculative, aesthetic, and affective intelligence.[6]

Objectivity, in the sense of its more distorted associations with science, has become a dominant technological value. The natural scientist pursues objectivity methodologically. He believes the extent to which he can detach himself from his feelings, epistemological preconceptions, and *a priori* notions about the consequences of a given experiment, he can advance the quality of work he is undertaking. Whether or not all natural scientists have proceeded in this way has been the subject of considerable analysis in recent years.[7] What is important about the scientific pursuit of objectivity, however, is that its value has been transferred, in an undifferentiated manner, to a diversity of human activity. Whether one is listening to a Presidential news conference, attending a professional convention, observing a business briefing, witnessing a school board meeting, or participating in a faculty discussion, objectivity is regarded as the essence of reliability and truthfulness.

During the last few years, objectivity has obtruded with a vengeance into American education. Everywhere, educators are admonished to cast their teaching and subject matter in the mold of behavioral objectives, modularized instruction, rigorously defined achievement criteria, measureable outcomes, clearly specified competencies, and a quantifiable knowledge base. Often, all of this is legitimized by the frequent

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[5]The three values have been developed in another context with a colleague, Dr. Russell Agne. See, Robert J. Nash and Russell M. Agne, "The Ethos of Accountability — A Critique", *Teachers College Record,* 73, No. 3 (1972), pp. 357-370.

[6]Richard M. Jones, *Fantasy and Feeling in Education* (New York: Harper Colophon Edition, 1970).

[7]See Jacques Barzun, *Science: The Glorious Entertainment* (New York: Harper & Row, 1964). Also, Michael Polanyi, *Personal Knowledge* (Chicago: University of Chicago Press, 1959).

entreaties of administrators and politicians for educators to be objectively accountable.[8]

So thoroughly has the value of objectivity permeated America's educational institutions that the behaviorists are beginning to influence pedagogy at all levels. The behaviorist treats human behavior as an objective reality, separable and isolable from "internal states". Two simple operant conditioning principles follow from this basic proposition: First, the principle of reinforcement which stipulates that an organism will behave as expected when it is externally rewarded; and, second, the principle of learning by "successive approximation", which specifies that complicated behavior patterns are learned gradually in small, segmented, sequential steps that come closer and closer to an optimal level of performance.[9]

From these two rudimentary behaviorist principles, an entire learning architectonic is being erected in American education. In addition to the relentless charge to transform cognitive learning goals into observable, specific, and clearly defined behavioral objectives, educators are being importuned to translate all of their affective learning goals into the same kind of observable, measureable outcomes.[10] The absurd extreme to which this trend can be pushed already has been reached. Because "behavior modification" necessitates the teacher's spending much of his class time computing, specifying, graphing, reinforcing, and charting behavior, advertisements heralding "wrist counters for recording behavior" are finding their way into the professional journals.[11]

The ever-proximate danger of forcing the educational experience into learnings which are most conducive to measurement and objective assessment is that non-quantifiable, subjective learnings will be devalued and ignored. Personal learnings which often emanate from radical, unplanned, spontaneous experimentation in educational activities connected with the theatre, dance, religion, self-and social awareness encounters, and political and alternative living experiences run the risk of being underplayed or dismissed by educators because such activities are bevond the objective parameters of classification, assessment, and prediction structures.[12]

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[8]See Dwight W. Allen and Eli Seifman, eds., *The Teacher's Handbook* (Glenview, Illinois: Scott, Foresman and Company, 1971).

[9]A. Bandura. *Principles of Behavior Modification* (New York: Holt, Rinehart and Winston, 1969).

[10]See David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, *Taxonomy of Educational Objectives: Handbook II: Affective Domain* (New York: David McKay, Inc., 1964).

[11]Carl A. Pitts, ed., *Operant Conditioning in the Classroom. Introductory Readings in Educational Psychology* (New York: Thomas Y. Crowell Company, 1971), pp. 384-386.

[12]See Robert J. Nash, "Accountability — The Next Deadly Nostrum in Education?" *School and Society*, 99 No. 2337 (1971), pp. 501-504.

The central fallacy inherent in the technocratic distortion of objectivity is that the mind and external reality can be so severely dichotomized. Objectivity as a guiding technological value is flawed whenever it postulates an irreconcilable dualism between thinking and feeling, subjectivity and objectivity, and internal and external reality. Existential psychologists have demonstrated that the creation, investment, and confirmation of external meaning is a total process radiating from the subjective consciousness of the individual. One social scientist, Abraham Maslow, has even contended that the pursuit of objectivity is itself generated by special subjective (psychological) states which some personalities evince more than others.[13]

Ultimately, the drive toward greater objectivity in the educational setting becomes the informing spirit of the technosociety. In spite of some educators' tendencies to bury their normative assumptions beneath mountains of data, objectives, facts, evidence, statistics, and neutrality, their influence in the schools exerts a powerful, manipulative bias. Because, whatever their conscious, "value-free" intentions, contemporary educators manage to maintain the established interests of the technosociety. They fuel the system by providing assorted professionals who associate the objective with the factual, evidential, and concrete. These professionals believe that clear-cut, abstractable data, especially the quantified, rigidly specified kind, are superior to all other types — which they regard as ephemeral and fuzzy-minded. They stress clear-cut programs and proposals, asserted in a literal, explicit, scientized prose, cleansed of much of the contaminating influence of feelings and personality.[14] Finally, this new class of professionals learns to celebrate technological innovation while maintaining a relatively stable technocratic social structure. In this sense, American education becomes the mainstay of the whole technocratic social order by providing the insuperable experts, technicians, managers, and teachers needed to run the machine.[15]

Predictability As Technological Value

Americans have tended to seek certainty in their everyday affairs, just as they have sought absoluteness in their metaphysical systems. Despite their general disavowal of absolute, certain truths, Americans cling stubbornly to the illusion that "the law is the law", and "right is right".[16] Among the professional seekers of certainty in this century

[13]Abraham H. Maslow, *The Psychology of Science. A Reconnaissance* (Chicago: First Gateway Edition, 1969).

[14]See Leon M. Lessinger and Ralph W. Tyler, eds., *Accountability in Education* (Belmont, California: Wadsworth Publishing, 1971).

[15]See Edgar Z. Friedenberg, "Status and Role in Education", *The Humanist*, 28 No. 5 (1968), pp. 13-32.

[16]Clyde Kluckhoh, *Mirror for Man* (New York:McGraw-Hill Book Co., 1949), p. 199.

has been the scientist who has developed the capacity to predict and control key experimental variables. For the scientist, prediction is the basis of the hypothetico-deductive method; he tests a theory or proposition by deducing that in certain conditions covered by the proposition, the predicted events will occur. Most scientists consider prediction of a future event by deduction superior to an *ex post facto* induction.[17]

Because this scientific achievement has received the widest possible attention in the modern world, many thinkers in unrelated fields have sought to satisfy their hunger for certainty by aping slavishly the scientist's procedures. For many Americans, science has become the equivalent of power because of its ability to predict, control, and experiment. Consequently, some thinkers have transported wholesale the predictability theories of the scientist into an assortment of quasi-scientific fields. Behaviorism is an example of one such field because, often, its simplistic conceptions of prediction and control resemble the earlier Newtonian "billiard-table" (matter-in-motion) conception of science.[18] The behaviorist derives predictability in human affairs for basically the same reason that thinkers throughout history have pursued this elusive dream: man strives to attain certainty in the complex and confusing world of human variability so he can achieve a rational control over the affairs of men.

Predictability is a focal desideratum of the systems engineer. An organization is monistic to the extent that its total systems design imposes order and control upon all of its constituent parts. There is a sense, of course, when a systems design can be pluralistic; Ludwig Bertalanffy has shown that "open systems" operate potentially with continual inputs and outputs, ever-changing states, and complex interrelationships.[19] Also, John Gardner has speculated that "self-renewing systems" are those which enable participants to communicate openly with superiors and colleagues, all the while evoking and provoking responses for a system's direction, stabilization, and evolutionary changes.[20]

Unfortunately, the technosociety encourages the "closed systems" type of engineer who is characteristically intolerant of antagonistic forces. Charles Hampden-Turner has observed that systems engineers in the military, government, and education tend to view dissident forces as "loose screws" that need to be tightened or replaced. Often, these forces are seen as "an offense against the machine's logic" with its emphasis on minimal friction, smoothness of operation, and the maximum ratio of

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[17]Abraham Kaplan, *The Conduct of Inquiry. Methodology for Behavioral Science* (San Francisco, California: Chandler Publishing Co., 1964), pp. 9-11.

[18]See Arthur Koestler, *The Ghost in the Machine* (New York: Macmillan, 1968).

[19]Ludwig von Bertalanffy, *General System Theory. Foundations, Development, Applications* (New York: George Braziller, Inc., 1968).

[20]John W. Gardner, *Self-Renewal. The Individual and the Innovative Society* (New York: Harper Colophon Edition, 1964).

input to output of energy. Hampden-Turner maintains that the temptation for systems engineers to reduce persons to predictable, powerless functions within their systems — in order to control them — is tragically unavoidable.[21]

Once a society begins to develop large-scale technocratic organizations which seek to extend rational control over their various activities, its scientists, political leaders, administrators, and educators begin to construe systems models. Recently, there has been a spate of exhortative literature embellishing the systems model for educators. Amidst an outpouring of charts, graphs, boxes and arrows, educators are being advised to identify and rank needs, develop strategies, implement plans, assess outcomes, and administer controlling functions. One author assures her readers that a systems approach will deliver the American school from "its twilight hour".[22] Another writer speaks of "subsystems", "suprasystems", and "microsystems", and proceeds to devise a design for all instructional organizations which will "maximize output" by increasing the chances for "component" (human) predictability.[23]

In spite of the contributions made by the systems analyst to help educators plan, organize, communicate, and evaluate their programs, most systems experts have failed to understand Lewis Mumford's indentification of the central fallacy implicit in systems theory: its oversimplification.[24] Mumford held that life can never be reduced to a system. For example, educational institutions are being modified constantly by personal and cultural anomalies, discrepancies, contradictions, and compromises. The recent turbulence in higher education, as well as in public schools where community control and busing are still vigorous issues, demonstrates the futility of imposing a rigid systems design meant to minimize unpredictability and disorder. Mumford has even gone so far as to maintain that only in those systems where corruption, disorder, confusion, and unpredictability are rampant will institutions be able to escape "self-asphyxiation" and death.

Another misapplication of the predictability model has occurred whenever behavior modifiers attempt undiscriminatingly to extend their influence into the educational setting. In some areas, behavior modifiers have achieved impressive results in helping persons with severe behavioral disorders. Behavior modification therapy, used with schizophrenics,

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[21]Charles Hampden-Turner, *Radical Man. The Process of Psycho-Social Development* (New York: Anchor Books Edition, 1971), pp. 367-368.

[22]Shelley Umans, *The Management of Education. A Systematic Design for Educational Revolution* (Garden City, New York: Anchor Books Edition, 1971).

[23]Bela H. Banathy, *Instructional Systems* (Palo Alto, California: Fearon Publishers, 1968).

[24]Lewis Mumford, "The Fallacy Systems", *Saturday Review of Literature*, 32, No. 40 (1948), pp. 8-9.

autistics, chronic psychotics, and even afflictive discipline problems in classrooms, is proving to be impressively helpful.[25]

Behavior modification (shaping) is derived from the work of B. F. Skinner, who attempted to make practical use of the principles of positive reinforcement and successive approximation learning referred to earlier. Skinner sought to control his laboratory environment so tightly that he was able to reinforce the most extraordinary units of preferred behavior in pigeons. Deriving from Skinner's early success in modifying the behavior of animals, operant conditioners are now applying behavior shaping techniques in educational settings throughout the country. Through the manipuation of "pay schedules" in a "token economy", behavior modifiers in one community are rewarding children with toys and candy whenever they "settle down" and stop "causing trouble". In another community, young migrant workers who are earning high school equivalency certificates are being motivated through "contingency management engineering techniques". Whenever these students agree to study, or ask a question in class, they are rewarded with a specified number of "points", which they can then convert to money in order to pay for their lodging and meals.[26]

Aside from the debatable questions concerning the putative educational success of these experiments, behavior modification as a pedagogical technique raises a farrago of moral questions. Who has the right to reduce a human being to the equivalent of his behavior? When a person is converted into nothing more than his behavior, is he being denied his freedom? Is deliberate control of human behavior immoral because it limits an individual's ability to make choices (whether he wants to choose or not)? Is the imposition of control the very antithesis of choice; therefore, does control *ipso facto* dehumanize? Finally, should the schools enhance human motivation toward free, creative inquiry, imaginative and daring risk taking, and productive experimentation with the known? If students are perceived as reactive mechanisms, systematically being shaped by a history of reinforcements and predictable behavior congeries, then how can they ever achieve that free, creative inquiry, and imaginative, unpredictabe choice making which ought to be the central purpose of all educational experiences?[27]

Behavior modification demonstrates the central fallacy implicit in the technological value of predictability: no human endeavor ever yields anything certain. Scientists never will know all of the factors that

[25]Joseph Wolpe and Arnold Lazarus, *Behavior Therapy Techniques. A Guide to the Treatment of Neuroses* (New York: Pergamon Press, Inc., 1966).

[26]Lois Wilk, "Paying Children to Learn? St. Louis Gives It a Try", *Boston Sunday Globe*, November 7, 1971, p. B-8. Paula Dranov, "O.E.O. Migrant Program Off Shakily", *Boston Sunday Globe*, August 29, 1971, p. A-11.

[27]See Noam Chomsky, "The Case Against B. F. Skinner", *The New York Review of Books*, 17, No. 11 (1971), pp. 18-24.

determine human behavior, because they can never know every possible event that has happened or will occur in a person's life; neither can scientists ever establish exactly the complex psychological-psysiological-sociocultural interrelationships which cohere among those events. Consequently, when it comes to humans, behavior can never be predicted precisely or totally.[28]

The behavioral image of man ultimately is fractured because with his overresponse to the antecedent causes of behavior, the behaviorist tends to overlook each person's capacity to imagine the reason autonomously. Also, when the behaviorist perceives man only as a predictable, obedient actor, he misses or misinterprets those times when each man rebels creatively. Finally, when an image of man is limited only to a product of external conditioning and reinforcement, each person is denied the right to be a radiating center of meaning in the world.

In the end, the value of predictability provides the technosociety with its crucial, internal justification. If man's behavior is predictable within a monistic system, he can be controlled. And if man can be controlled, he can become a willing, powerless function within the technosociety. To the extent that man can be reduced to the functions he will perform for the technosociety, then the system will continue to survive and prosper — always conserving its basic strength, while expanding its rational control.

Efficiency As Technological Value

Americans often have advanced efficiency as a core technological value. They have evinced a concern with getting bigger, better, and more useful results from their available resources as cheaply and quickly as possible. Whether it has been automobiles, skyscrapers, or education, Americans have sought to bolster productivity with a minimum of waste, expense and effort.

The ascendancy of efficiency as a central American value has given rise to an assortment of related ideals — often taken from the world of business, industrial management, economics, and physics, and applied, with minimum qualification, to a cluster of professions. Consequently, idioms such as "quality control", "output performance", "trade-off", "system management", "productivity", "cost analysis", and "managerial support system", have become the common parlance in such professions as medicine, social work, and education.[29]

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[28]Garvin McCain and Erwin M. Segal, *The Game of Science* (Belmont, California: Wadsworth Publishing Co., Inc., 1969), pp. 161-162.

[29]For example, see James W. Guthrie and Edward Wynne, eds., *New Models for American Education* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971).

In economics, the internal efficiency of a system can be determined by identifying the ratio of the effective output to the total input. That is, efficiency increases when any change is introduced which causes this ratio to improve (when the productivity output is maximized and the input is minimized).[30] Recently, the desire for greater efficiency has been interposed into the educational experience by managerialists who seek to maximize both internal efficiency and external productivity. These "cost-effectiveness" managers are gaining a pivotal position in American education because of the defeat of local bond issues in many communities, and the concomitant need to reduce the cost of personnel, school construction, and instructional materials. The unintended, negative consequence of the managerial movement, however, has been a rebirth of the "cult of efficiency" — noteworthy because of the sycophantic deference some educators are paying to those managerialists who promise to save them money, time, and effort.[31]

The revival of the "cult of efficiency" has spawned several ominous trends in contemporary American education. One such trend, the performance contract, is modelled after the American business prototype. Briefly, a performance contract is an agreement by a private firm to produce (efficiently) specified results by a certain date, for a set fee. Thus, in a contract for educational services, the school has a guarantee that for the budgeted expenditure, students will acquire certain reading, writing, and computational skills, as measured by an independent auditor. Theoretically, the supplier of the services is supposed to have a strong incentive not only to meet but exceed the contractual requirements.[32]

The failures of performance contracting have been well documented. Almost from the outset, critics have questioned the use of incentive systems which tend to drive children relentlessly to do well on tests. Also, there is the corollary suspicion that to reward children on the basis of achieving higher test scores perverts the learning process by establishing as a central educational norm the mass-production of correct answers, rather than the joy of learning for its own sake. Most serious, however, is the scandal involving one performance company which allegedly taught children the answers to the test, thereby corroborating the predictions of critics who charged that performance contracting would result in large-scale cheating.[33]

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[30]See John Vaizey, *The Economics of Education* (London: Faber and Faber, 1962).

[31]See Raymond E. Callahan, *Education and the Cult of Efficiency* (Chicago: The University of Chicago Press, 1962).

[32]See "Excerpts from Texarkana's Formal Projection Application to the U.S. Office of Education", Leon Lessinger, *Every Kid A Winner. Accountability in Education* (Palo Alto, California: Science Research Associates, Inc., 1970), pp. 155-219.

[33]See Albert Shanker, "Appearance and Reality II: In Gary, Indiana", *The New York Times*, December 5, 1971, p. 7E. Fred M. Hechinger, "Negative Verdict on a Teaching Program", *The New York Times*, February 5, 1972, p. 9E.

Similarly, the quest for efficiency in American education has eventuated in a flood of concern with performance criteria, specificity and precision in defining objectives, computerized testing and instructional procedures, individualized learning techniques, and measurement methods. Hence, the Committee for Economic Development's Subcommittee on Efficiency in Education, in 1968-69, recommended the widespread adoption by public schools of a computerized instructional system produced by I.B.M. which could teach children the basic skills far more efficiently and cheaply than human instructors.[34] Also, Kittrell College in North Carolina is requiring each of its professors to organize their courses into "systematic, instructional units", containing "clearly stated behavioral objectives", so that instructors can teach more efficiently without the enervating, time-consuming effects of "courses with vague objectives . . . lectures . . . and nonsystematic approaches to learning".[35]

All of the above has given rise to a massive influx of "managerial support groups" on all levels of American education. Specially trained management educators are being employed to perform a variety of efficiency functions, among them, to determine "needs assessment"; assist teachers and supervisors to develop performance objectives; help school districts to write proposals; and assess all bids received from performance contractors. Managerialists spend most of their time keeping records, monitoring and determining cost effectiveness, managing contracts, and carrying on public relations.[36]

The fallacy implicit in efficiency as a central, technocratic ideal is the belief that persons ever can be reduced to the functional equivalents of the services they perform, the competencies they have mastered, or the techniques they have acquired. Any society that bases its image of man on technical criteria only runs the risk of producing moral retardates who ignore all but the technical implications of their work. In large reaches of the technosociety, it is not the man who is wanted; it is, rather, the function he can perform, certified by the credentials he holds. The function of such a technical role structure is to sever normal moral sensibilities, and to enable persons to be exploited as deployables, willing to pursue — in the name of efficiency and practicality — any technocratic objective. The final tragedy in such an arrangement is that technocratic man acquires a reflex readiness to produce things on order — as well as an unthinking willingness to submit to education only when it becomes training. The schools are producing a generation of students

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[34]See Charles E. Silberman, *Crisis in the Classroom. The Remaking of American Education* (New York: Random House, Inc., 1970), pp. 186-203.

[35]"Teachers Held Responsible for Students' Learning", *The Christian Science Monitor,* September 18, 1971, p. 11.

[36]See "An Introduction to Guaranteed Performance Contracting", *Michigan Department of Education Planning Publication,* March, 1971. Ian McNett, "Assessing College Effectiveness", *Change,* 3, (1971) pp. 13-14.

who seek further learning only when it validates and cultivates selected, utilitarian dimensions of the self.[37]

The technocratic managerialist represents the ultimate corruption of an efficiency-centered society bent on maintaining its control over persons and things. Whether he is a college president, businessman, scholar, scientist, or politician, the managerialist has undergone a similar training. During his experience in the schools, he has been encouraged to hone his skills, and develop his techniques. He has been trained to view the technosociety as an extension of what he accepted unquestioningly as ultimate reality. Throughout his education, he has been rewarded on the basis of his performance, measured always against a precalculated norm of efficient and utilitarian functionality. He leaves formal education as a man of "operational" mentality, who has mastered the specialty of managing complex organizations like business, government, or educational systems. He knows the art of projecting to the public the illusion of reform in his management, even though he is intent mainly on preserving the rigidity of powerful routines.[38]

He develops a hostility to myth, dream, metaphor, imagination, fantasy, and wonder because these are diametrically inapposite to "empirical realities". His paramount concern is to maintain a corporate, managerial professionalism, distinguished by its no-nonsense approach to extending total, rational, technocratic control over an organization. In the end, the managerialist becomes more adept at justifying the operations of the system than he does at subordinating and directing its operations to satisfying the needs of men. The managerialist, then, becomes the archetypal product of the technocratic distortion in American education. He also becomes the final arbiter and conserver of the technocratic status quo.[39]

Conclusion

The technocratic distortion in American education rages almost out of control. Its potential cooptative force is felt whenever one ponders, for even an instant, the blandishments of career, success, power, or affluence. So much of contemporary education seems to be prey to the pretentious clanking of the knights of the technosociety that the educational edifice in the western world fairly threatens to be devoured before their onrushing charge.

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[37]Michael Marion, "Beyond Credentialism: The Future of Social Selection", *Social Policy*, 2 No. 3 (1971) pp. 14-21.

[38]See William Irwin Thompson, *At the Edge of History. Speculations on the Transformation of Culture* (New York: Harper and Row, 1971), pp. 48-73.

[39]See Zbigniew Brzezinski, *Between Two Ages. America's Role in the Technetronic Era* (New York: The Viking Press Inc., 1970), pp. 9-23; 256-273.

However, throughout the interstices of educational establishments everywhere, there are those who refuse to live with the declared imperatives of the technosociety. Some educators are beginning to realize that technocratic life has a bogus quality which crushes the human drive for substance, truth, and meaning.[40] They understand that the technocratic distortion in American life substitutes techniques for purposeful thought; objectivity for spontaneity, radical subjective awareness and openness; and a pervasive political and bureaucratic manipulation for personal autonomy.[41] They propose, instead, that schools reaffirm vigorously a commitment to each person's inviolable human worth. Consequently, through their lively respect for the subjective depths of each individual, as well as through their casual (but definite) disinterest in the values of objectivity, predictability, and efficiency, they set the stage for the systematic subversion of the technocratic distortion so deeply ingrained in western education.[42]

Whether current "humanistic" experimentation in education will be successful in helping persons to escape from the detritus of technocratic distortion depends on educators' inclinations to subordinate technological mechnanism to human values.[43] "Open education", "classrooms without walls", "deschooled" social orders, open-access curricula, and "confluent" education will reverse the impact of the technocratic ethos in American life and education only when these experimental forms constitute and provoke coherent, systematic action programs — aimed at displacing the motivational and valuational underpinnings of the technosociety. To the extent that educators can develop human criteria which are generally independent of the technosociety, and which then can be used to appraise technocratic systems, then the technocratic distortion will give way to the humanistic restoration.[44]

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[40]George Isaac Brown, *Human Teaching for Human Learning. An Introduction to Confluent Education* (New York: Viking Compass Edition, 1972).

[41]Don Robertson and Marion Steele, *The Halls of Yearning. An Indictment of Formal Education, A Manifesto of Student Liberation* (New York: Harper Colophon Book, 1971).

[42]David Nyberg, *Tough and Tender Learning* (Palo Alto, California: National Press Books, 1971).

[43]See Philip Slater, *The Pursuit of Loneliness. American Culture At the Breaking Point* (Boston: Beacon Press, 1970), pp. 119-150.

[44]Ibid., p. 129.